

RICERCHE  
FILOSOFIA

a cura di

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# UMANESIMO E DIGITALIZZAZIONE

TEORIA E REALIZZAZIONI PRATICHE

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GERHARD LAUER

## Method and Truth

### About the Importance of Being Methodologically Earnest

#### *Abstract*

Against the common notion in hermeneutics, that methods are of minor importance for scholarly research, I argue here in favour of the importance of methods in the humanities. First, I show that even before the invention of the computer, there was already a small scholarly tradition of method-driven approaches. Then I review recent examples of research, which make extensively use of computational methods and their methodology of modelling research questions. By a series of these examples taken from different fields of the humanities I show how specifically computational approaches transform the humanities towards a method-driven field of research. Finally, by systematising the results I defend the central role of methods in scholarly research and pledge for method-driven humanities.

#### *Keywords*

Methods, methodology of the humanities, quantitative approaches, formalisation, modelling, computational approaches

In his seminal book *Truth and Method* from 1960 Hans-Georg Gadamer outlines not less than a general theory about understanding in the humanities<sup>1</sup>. According to Gadamer, scholarly epistemology resembles a complex dialogue between texts and interpreter. Based on the general condition of being and interacting with the world, scholarly practices are similar to those practices of interpretation used whenever a reader over time goes in circle to a better understanding of what he or she is reading. Understanding depends not on methods but is existential and rooted in the *conditio humana*. In Gadamer's theoretical perspective meaning is an event, based on the very existence of humans in the world and not the result of methods, techniques, or scientific rigour. In other words, understanding is already given and does not depend on specific

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<sup>1</sup> H.-G. GADAMER, *Wahrheit und Methode. Grundzüge einer philosophischen Hermeneutik*, Mohr-Siebeck, Tübingen 1960.

methods nor methodology<sup>2</sup>. It is important to note that Gadamer moves the humanities close to general hermeneutics, where is little room for questions of methods. On the contrary, insights and understanding of texts could not be rule-based, it is already given. Room for questions of methods is only in subdisciplines such as heuristics.

Right from the beginning of his book Gadamer makes his anti-methodical point very clear, when he quotes Rilke's poem *Solang du Selbstgeworfnes fängt* from Rilke's *Die Gedichte* (1922):

Solang du Selbstgeworfnes fängst, ist alles  
Geschicklichkeit und läßlicher Gewinn -;  
erst wenn du plötzlich Fänger wirst des Balles,  
den eine ewige Mit-Spielerin  
dir zuwarf, deiner Mitte, in genau  
gekonntem Schwung, in einem jener Bögen  
aus Gottes großem Brücken-Bau:  
erst dann ist Fangen-Können ein Vermögen, -  
nicht deines, einer Welt<sup>3</sup>.

The ability to catch the meaning is something beyond methodological control and individual intention. Gadamer's title "Truth and Method" is therefore nothing less than a programmatic formula. Truth is an event; no methods and no methodology can elicit. The "and" in the title is more precisely an "or", an implicit critique on scientific notion, which claims that the power of sciences comes from the tools of measurements and the mathematical axiomatics – or in the words of the mathematician David Hilbert: "Alles, was Gegenstand des wissenschaftlichen Denkens überhaupt sein kann, verfällt, sobald es zur Bildung einer Theorie reif ist, der axiomatischen Methode und damit unmittelbar der Mathematik [Everything that can be the object of scientific thought at all, as soon as it is ripe for the formation of a theory, falls into the axiomatic method and thus directly into mathematics]"<sup>4</sup>. Gadamer's seminal work argues

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<sup>2</sup> J. MALPAS, *Hans-Georg Gadamer*, in E.N. ZALTA - U. NODELMAN (eds.), *The Stanford Encyclopedia of Philosophy* (winter 2022 edition), <https://plato.stanford.edu/archives/win2022/entries/gadamer/>.

<sup>3</sup> Finché riprendi la palla che ha lanciato la tua mano, / non è che abilità e conquista facile -; / solo se all'improvviso devi prendere / la palla che un'eterna tua compagna / di gioco scagliò al centro del tuo corpo / con ben mirato slancio potente, in uno di quegli archi / di ponte del grande architetto Iddio: / solo allora è virtù il saper prendere, - / virtù non tua, di un mondo. Translation by G. Baioni, in RAINER MARIA RILKE, *Poesie*, II, Einaudi, Torino 1995, pp. 254-55.

<sup>4</sup> D. HILBERT, *Axiomatisches Denken*, in ID., *Gesammelte Abhandlungen*, Bd. III: *Grundlagen der*

for the primacy of what no method could reach and is implicit critique of the scientific approaches.

Taken Gadamer's outline of hermeneutics as a prominent example for a common anti-methodological understanding of learned practices, many scholars are highly irritated by the advent of computers in the field of humanities because computers are algorithmic machines and inevitably stress the algorithmic steps to process meaning without a real understanding. They have methods, but not truth. Because computers do not understand but only process meaning, critiques argue that machines are of no help to contribute to any insights into literature and the arts. You can't count literature. The uneasiness with computers as a method-driven tool for scholarly work is often expressed, e.g., by the Scottish writer A.L. Kennedy. She compares computational analysis of literature with not less than hitting a painting with a fish, intentionally not a nice comparison. "The basic strategy in computational [in literary studies] is just the same", Kennedy wrote in 2016, "take hundreds or thousands of books, feed the text into a computer and subject it to statistical analysis"<sup>5</sup>. Computers with their methods of big number crunching are a simplification of the richness of the truth in literature and will never give you any meaning, Kennedy claims. In her harsh reaction on the growing number of computational approaches in literary studies, A.L. Kennedy argues that numbers of words and their distribution couldn't tell you anything about poetry, literature, and the arts in general. Kennedy concludes, the new research culture "has run out of anything sane to say about literature"<sup>6</sup>.

Even if this criticism is more expression of anger than based on arguments, the vehemence of Kennedy illustrates the profound irritation about computational approaches because they seem to make extensively use of methods, but not of meaning and understanding. Computers and poetry don't seem to go together, and computational literary studies is a contradiction in terms. To understand literature, you need meaning not methods. And Kennedy is not alone with her fundamental and openly harsh critique<sup>7</sup>, a critique following the old patterns of the so-called two

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*Mathematik, Physik, Verschiedenes, nebst einer Lebensgeschichte*, Springer, Berlin 1935 [1918], pp. 146-156, p. 156.

<sup>5</sup> A.L. KENNEDY, *It's like hitting a painting with a fish: can computer analysis tell us anything new about literature?*, in «The Guardian», 15.9.2016, <https://www.theguardian.com/books/2016/sep/15/what-is-the-point-of-cultural-analytics-computers-big-data-literature>.

<sup>6</sup> *Ibidem*.

<sup>7</sup> E.g. N.Z. DA, *The Computational Case against Computational Literary Studies*, «Critical Inquiry», 45 (2019), 3, pp. 601-639.



(scientific) cultures, where no bridge between the two cultures is possible, nor even desirable<sup>8</sup>. However, I do not think, that Kennedy is right. There are a couple of arguments why method-driven humanities such as computational literary studies is possible.

1. To avoid the many stereotypes when it comes to the two cultures debate it must first be remembered that before the advent of computer and internet, computational approaches are not new in fields like literary studies. For example, already in the 40s and 50s of the 20<sup>th</sup> century the American philologist Josephine Miles has studied the vocabulary of affection in Wordsworth poems based on counting words and the poetics of John Dryden by building a concordance of the writer's word use<sup>9</sup>. Both are method-driven approaches which use linguistic methods for questions in the field of literary studies. By no coincidence Miles became later a pioneer in computer-based research in English studies, although her techniques such as concordances and keywords in contexts are commonly used in philology since many centuries. But in Miles' research these methods play a prominent role and that makes her research to an outsider position at least in the field of English literary studies. From a hermeneutical point of view Miles overestimate her methods. Counting words is only a heuristics.

Indeed, what makes Miles an outsider in literary studies is her methodological rigour, i.e., her counting of words and the interest even in the little words, function words like prepositions or pronouns, we usually do not care much about. While for interpretation the frequency of using pronouns or articles has at first glance little to say about the meaning of a literary work, Miles takes care of each of them and count each word disregarding their direct importance for interpretation. Her emphasis on this formalistic approach of word counting is irritating from a hermeneutical point of view, but she does so with good reasons. Linguistics and psycholinguistics in particular have shown that the use of function and of lexical words is not independent from individual psychological states as well as not independent from cultural norms at a certain point of time<sup>10</sup>. In a way, word-use is a kind of the author's fingerprint and of his time. Only the sum of the big as well as of the little words tells the full story about authors' styles like those of Wordsworth or Dryden. Although

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<sup>8</sup> C.P. SNOW, *Two Cultures and the Scientific Revolution*, University Press, Cambridge 1959.

<sup>9</sup> M. WIMMER, *Josephine Miles (1911-1985): Doing Digital Humanism with and without Machines*, in «History of Humanities», 4 (2019), 2, pp. 329-334.

<sup>10</sup> J.W. PENNEBAKER - L.A. KING, *Linguistic styles: Language use as an individual difference*, in «Journal of Personality and Social Psychology», 77 (1999), pp. 1296-1312.

the technique of word counting is as old as counting hapax legomena since Hellenistic time, here the prominence of this method makes the difference. For Miles word counting is not just a heuristics. Methods are in the centre of her research.

Miles is but just one example of the non-hermeneutical approaches in the humanities. Already in the 19<sup>th</sup> century, to add further examples, philologist and mathematicians like August de Morgan, Wincenty Lutosławski or Thomas Corwin Mendenhall studied authorship, the authorship of the epistles of Saint Paul, the order of Plato's dialogues or the authorship of Shakespeare's plays. They do so by analysing the arrangement of words according to their length and to the relative frequency of their occurrence. The list of early adopters goes on<sup>11</sup>, although, as Rens Bod has shown in his book *A New History of the Humanities: The Search for Patterns and Principles from Antiquity to the Present*<sup>12</sup>, this quantitative tradition is much smaller than the qualitative one, but a steady tradition. Today's stylometry by John Burrows, Hugh Craig, Maciej Eder, Peter Farey, David Holmes, Patrick Joula, Mike Kestemont or Jan Rybicki, to mention some of the pioneers, still follows this line of method-driven approaches based on word frequencies and word embeddings<sup>13</sup>. To phrase it differently, the small, but long-standing tradition of philology and the new computational approaches are more closely related than the history of hermeneutics commonly acknowledges.

Quantitative and formalistic approaches are, though, a small scholarly tradition, they demonstrate the importance of methods in the humanities. A good demonstration for the close relation between formalistic methods and humanities is also given by a methodological debate in 19<sup>th</sup> century art history. It was the Italian physician, politician and art historian Giovanni Morelli who published in 1880 in Leipzig his critical attempt on Italian artworks in the galleries of Munich, Dresden and Berlin<sup>14</sup>. What became soon the "Morellian method" and influenced also

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<sup>11</sup> P. GRZYBEK, *History and Methodology of Word Length Studies*, in P. GRZYBEK (ed.), *Contributions to the Science of Text and Language*, Springer, Dordrecht 2007, pp. 15-90.

<sup>12</sup> R. BOD, *A New History of the Humanities: The Search for Patterns and Principles from Antiquity to the Present*, Oxford University Press, Oxford 2013.

<sup>13</sup> E.g. H. CRAIG - A.F. KINNEY, *Shakespeare, Computers, and the Mystery of Authorship*, Cambridge University Press, Cambridge 2009.

<sup>14</sup> I. LERMOLIEFF [i.e. GIOVANNI MORELLI], *Die Werke italienischer Meister in den Galerien von München, Dresden und Berlin. Ein kritischer Versuch*, Seemann, Leipzig 1880. Morelli published under an anagrammatic pseudonym and invented an equally non-existent translator from Russian Johannes Schwarze, a resident of the imaginary Gorlaw, which is to say Gorle, near Bergamo. Morelli's method provoked fiercely opposition by the eminent art historian Wilhelm von Bode, who proposes a more hermeneutic approach.

Sigmund Freud, is an anti-hermeneutic method, which takes care of the “little words” in paintings, i.e. based on clues offered by trifling details such as the style how fingers or earlobes are painted rather than identities of composition and subject matter or other broad treatments<sup>15</sup>. Again, one thing stands out and illustrates the method-driven approaches. It is the formalisation of general problems like authorship attribution by breaking down the broad question, who painted what, to smaller steps of analyses, here by comparing the artistic fingerprint of painters such as Botticelli with, e.g., those of his disciples like Filippino Lippi. This formalisation includes that only the sum of detailed analyses forms in the end the answer to the general question about Botticelli’s unique style.

The formalisation of research problems, however, is only as valid as the arguments are for the method chosen. And this is where theories come into play. In today parlance this formal methodology, where methods and theories come together, is called “modelling”<sup>16</sup>. Morellian method is only a valid scholarly method as long as the painting of fingers and earlobes are good proxies for painters’ style. To support this notion theories about Renaissance painting, practices are necessary. For our discussion of the importance of scholarly methods such as the Morellian method it is worth to notice that modelling is inevitably connected with clearly methodologically defined steps. This is what Morelli has suggested. A today’s example for the usefulness of method-driven modelling is the success of digital editions in recent years. In part is the success based on the resemblance of long-standing detailed editorial practices with those used in actual algorithmic research. Since hundreds of years editions have been carefully planned and carried out in small steps, where every comma counts. For this reason, method-driven approaches such as digital editions dominate today’s edition philology. Briefly, there is more in scholarly tradition than hermeneutical approaches.

2. The role of methods in scholarship is of growing importance, the more the humanities deal with structured data. This is the case, since data are only a few keystrokes away. But data couldn’t be read without modelling. Any collection of data already includes model of the structure of data, e.g., whether data about films should include the number of male actors and female characters and the full text of screenplays. Anderson and

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<sup>15</sup> C. GINZBURG, *Morelli, Freud, and Sherlock Holmes: Clues and Scientific Method*, in U. Eco - T. SEBEOK (eds.), *The Sign of Three: Dupin, Holmes, Peirce*, Indiana University Press, Bloomington (Indiana) 1984, pp. 81-118.

<sup>16</sup> J. FLANDERS - F. JANNIDIS (eds.), *The Shape of Data in Digital Humanities. Modeling Texts and Text-based Resources*, Routledge, London 2018.

Daniels model the broader question how much women are underrepresented in films into a couple of methodological definite steps by using structures data about films<sup>17</sup>. They collect screenplays of roughly 2.000 blockbuster films and compiled the number of words spoken by male and female characters. It turns out that the films have a clear male majority of dialogues simply through counting the words used by male and female film characters. To identify the actors and actresses they mapped characters with at least 100 words of dialogue to a person's IMDb page and categorize the lines by gender. Across thousands of films in their structured dataset, Anderson and Daniels couldn't hardly find a subset that didn't over-index male. The structured data of IMDb, because they include the birthdays of the actors, also enables to proof whether there is a bias toward younger women in Hollywood or conversely, whether men enjoy a longer career. Their findings again could confirm the hypothesis that only few elder actresses enjoy a longer career. Obviously, the focus of this kind of data-driven research is on methods, which includes carefully collected and structured data and metadata and a methodology to measure the share of conversations in films. This formalistic approach always includes the notion that other metrics are possible like the Bechdel test suggests<sup>18</sup>. In contrast to common hermeneutics, the method-driven humanities make visible that more than one way to model research question is possible.

One of the consequences of formalising culture as data is the need to focus on issues of methods and methodology. Data-driven and method-driven are two sides of the same formalistic coin, the currency in all computational humanities studies. To shed light on the significance of the methodology from yet another discipline let's switch to computational literary history. Take research questions such as the one whether epochs are only a post-hoc construction by literary historians or whether literary texts differ along their historical contexts. Stylometry is one way to model this broad question. Because stylometry could mean many things, one must be precise, for example why to use a most frequency words analysis out of many other approaches to tackle the problem<sup>19</sup>.

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<sup>17</sup> H. ANDERSON - M. DANIELS, *Film Dialogue from 2,000 screenplays, Broken Down by Gender and Age*, in «The Pudding», <https://pudding.cool/2017/03/film-dialogue/>.

<sup>18</sup> M. APPEL - T. GNAMBS, *Women in fiction: Bechdel-Wallace Test results for the highest-grossing movies of the last four decades*, in «Psychology of Popular Media», 41 (2022), pp. 1-5, <https://doi.org/10.1037/ppm0000436>.

<sup>19</sup> F. JANNIDIS - G. LAUER, *Burrows's Delta and Its Use in German Literary History*, in M. ERLIN - L. TATLOCK (eds.), *Distant Readings. Topologies of German Culture in the Long Nineteenth Century*, Camden House, Rochester 2014, pp. 29-54.

What this approach does, is to count the number of tokens of words, e.g., in a corpus of novels of the enlightenment before 1800 and of the realism before 1900. Function words like “and” or “I” are counted as well as lexical words such as “society” or “city”. By doing so, it is necessary to be aware about some linguistic laws on the distribution of the words we use, like the Zipf’s law, stating that the frequency of any word is inversely proportional to its rank in the frequency table. Or in other words, any methodological decision must be informed by theories, here theories of linguistics. This is also of importance if you decide which metrics you will use to measure the stylometric differences between the texts, because there are several statistical measurements such as Euclidian, Burrows’s or Cosine Delta<sup>20</sup>. It is as trivial as important to state that there is no such thing as a method without a theoretical framework. Specifically, when statistical measures come into play, a profound knowledge about the concept behind the measures is of utmost importance. In our example it turns out, that the novels from 1800 cluster more closely together independent from the author, than clustering with the novels from around 1900. Writing style in the epoch of the enlightenment differs significantly from the epoch of realism. Epochs are more than post hoc construction in literary history.

In a similar vein it is possible to examine whether male and female authors differ in the writing style around 1800. Based on a corpus of texts by male and female writers a most frequency words approach show that nearly all female writers cluster with other female writers and male with male writers<sup>21</sup>. Interestingly there are exceptions like Dorothea Schlegel. Her texts clusters with those of Goethe. Some knowledge about literary history is necessary to understand the results here. If you know that Dorothea Schlegel admired and imitated Goethe and was part of the intellectual circle later called romantic circle in Jena, it makes perfect sense that her writings clusters with Goethe and not with the middle-brow writing most women of her time adopted, mainly because the uneven educational possibilities of men and women around 1800. However, it is not enough to know the details of literary history, but necessary also to know the many ways how to visualize the data, whether dendrograms or cluster analysis are adequate visualisations for the research interest in question, because each data visualisation comes with a statistical pre-decision. In this sense is method-driven scholarships indeed often num-

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<sup>20</sup> S. EVERT ET AL., *Understanding and Explaining Delta Measures for Authorship Attribution*, in «Digital Scholarship in the Humanities», 32 (2017), 2, pp. ii4-ii16.

<sup>21</sup> F. JANNIDIS - G. LAUER, *Burrows’s Delta*, cit.

ber crunching, as Kennedy claims. But with the addendum that number crunching is the opposite of simple methods and trivial methodologies.

How influential theoretical clarification is right from the start for any following methodological decision, becomes particularly obvious when dealing with emotions in literature. What emotions are or whether emotions are discrete categories, is strongly debated in psychology<sup>22</sup>. Hence, any formalistic approach must make clear whether the used theories follow the notion of Paul Ekman's so-called basic emotion theory, Robert Plutchik's theory of mixed emotions, or James Russell's two-dimensional model of valence and arousal, to mention just the major theoretical concepts. Moreover, in computational literary studies it must be decided how to conceptualise the relation between the words used and the emotions behind the words. Since only few theories are based on empirical evidence, sentiment analysis comes to highly divergent results when analysing literary texts along their emotional structure<sup>23</sup>. Finally, the computational methods themselves differ widely in their methodology, for example whether they use fixed dictionaries of an emotion vocabulary or whether they use machine learning algorithms with a training set of emotion words. Only by systematic comparison of methods and methodologies as well as by critical evaluations of the outcome, it is possible to get solid ground for further research.

Although methods are not simply given, but based on theoretically informed decision, it is possible by sentiment analysis to answer questions like whether fictionality is a quality of literary texts in contrast to factual text or only a practice. Andrew Piper could show based on empirically validated use of certain word-classes that fictional texts differ from factual by their uses of certain word-classes mainly related with emotions<sup>24</sup>. Emotions are also helpful to analyse and compare story plots. If you divide a novel into chapters and calculate for each chapter how positive, negative, or neutral the word-use is, you get a value for each chapter. If you then plot the values on the axis of narrated time, you get an emotional progression curve. Matthew Jockers has suggested that this curve could be understood as a plotline that roughly maps the course

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<sup>22</sup> E.g. L. FELDMAN BARRETT, *The Theory of Constructed Emotion: An Active Inference Account of Interoception and Categorization*, in «Social Cognitive and Affective Neuroscience», 12 (2017), 1, pp. 1-23, <http://doi.org/10.1093/scan/nsw154>.

<sup>23</sup> E. KIM - R. KLINGER, *A Survey on Sentiment and Emotion Analysis for Computational Literary Studies*, in «Zeitschrift für digitale Geisteswissenschaften», 4 (2019), [https://doi.org/10.17175/2019\\_008](https://doi.org/10.17175/2019_008).

<sup>24</sup> A. PIPER, *Fictionality*, in «Journal of Cultural Analytics», 2 (2016), 2, <https://doi.org/10.22148/16.011>.

of the story<sup>25</sup>. And plotlines are good measure to identify genres and patterns in storytelling<sup>26</sup>.

The list of examples could go on. They all underline the importance of methods at least in digital humanities as a complex issue, which can't be skipped by empathy and understanding with the cultural phenomenon in question. Instead, method is the prerequisite for any truth also in the humanities. But no method is simply given. Methods are always part of a larger theoretical framework to run research.

3. The more we use computer-assisted methods in the humanities, the more we will make use of Morellian-like methods. This does not mean that methods substitute a profound knowledge of the area in question, quite the contrary. And it does not mean that methods are just a methodology to be applied. In contrast, any methodological choice must be informed by theories and needs always in the end an interpretation of the analyses. Methods are models of theories; they do not replace them.

This comes with costs. Method-driven approaches in the humanities are less likely carried out by a single researcher. Instead, teams with a variety of expertise enable valid research in the humanities as it is the case already in many other sciences. A distributed intelligence is necessary because methods are no silver bullets, but the work of a variety of expertise about data, methods, and theories. Humanities are not getting simpler, and no fish will explain a painting. The importance of methods changes the word order of Gadamer's title into "Method and Truth" and that means more work to do in scholarship<sup>27</sup>.

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<sup>25</sup> M.L. JOCKERS, *A Novel Method to Detecting Plot*, <https://www.matthewjockers.net/2014/06/05/a-novel-method-for-detecting-plot/>.

<sup>26</sup> A. REAGAN ET AL., *The Emotional Arcs of Stories are Dominated by Six Basic Shapes*, in «EPJ Data Science», 5 (2016), 31, <https://www.doi.org/10.1140/epjds/s13688-016-0093-1>.

<sup>27</sup> G. LAUER, *Vom Wert der exakten Geisteswissenschaften*, in H. JOAS - J. NOLLER (eds.), *Geisteswissenschaften - was bleibt? Zwischen Theorie, Tradition und Transformation*, Karl Alber, Baden-Baden 2020, pp. 152-173.

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GIORGIO BARATTI è ricercatore e docente di Metodologia della Ricerca archeologica e di Etruscologia presso l'Università Cattolica del Sacro Cuore di Milano. Si occupa in particolare della ricostruzione delle dinamiche di popolamento dell'Italia preromana con un'attenzione specifica all'analisi dei contesti economici e produttivi e alle dinamiche d'insediamento, in rapporto all'evoluzione del territorio e dell'ambiente antico. Da più di trent'anni conduce scavi archeologici e indagini territoriali con particolare riguardo alla sperimentazione e applicazione di soluzioni digitali e avanzate di rilevamento e rappresentazione. Autore di numerose pubblicazioni inerenti alle indagini svolte e agli approcci metodologici alla ricerca.

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ENRICO GIANNICCHEDDA è un archeologo indipendente e docente a contratto di Metodologie archeologiche presso l'Università Cattolica del Sacro Cuore di Milano. Fra le sue pubblicazioni, *Archeologia della produzione*, con Tiziano Mannoni (1996); *Archeologia teorica* (2002 e 2016), *Quasi giallo. Romanzo di archeologia* (2018); *Fulmini e spazzatura. Classificare in archeologia* (2021); *Il tesoro di Dorak. Arceo inchiesta* (2023).

VITTORIO HÖSLE ha studiato filosofia, teoria della scienza, greco e sanscrito presso le università di Regensburg, Tubinga, Bochum e Friburgo. È stato professore incaricato presso la New School for Social Research di New York, l'Università di Essen e il Forschungsinstitut für Philosophie di Hannover. Dal 1999 è Paul Kimball Professor of Arts and Letters presso l'Università di Notre Dame (Indiana) ove insegna nei dipartimenti di Lingua e Cultura tedesca e russa, Filosofia e Scienze politiche. Dal 2013 è membro della Pontificia Accademia delle Scienze Sociali. Le sue numerose pubblicazioni toccano tematiche fondamentali di antropologia filosofica e mirano a una ripresa critica della tradizione idealista. Fra le più recenti: *Per una lettura non riduttiva di Platone* (2017); *Che cosa sono le scienze umane e a quale scopo si studiano* (2017); *Kritik der verstehenden Vernunft. Eine Grundlegung der Geisteswissenschaften* (2018); *A short History of German Philosophy* (2018); *Moral und Politik. Grundlagen einer politischen Ethik für das 21. Jahrhundert* (2019); *Globale Fliehkräfte. Eine geschichtsphilosophische Kartierung der Gegenwart* (2021); *Il dialogo filosofico: una poetica e un'ermeneutica* (2021).

MARILYN KELLY-BUCCELLATI è professoressa emerita di Storia dell'arte assira e Archeologia presso la State University di Los Angeles. Nei siti archeologici di Korucutepe (Turchia), Terqa e Urkesh (Siria) e Aradetis Orgora (Georgia) ha svolto vaste indagini stratigrafiche e iconografiche (in particolare su ceramiche e sigilli cilindrici). Le sue ricerche, documentate in un'ampia messe di pubblicazioni sia cartacee sia digitali, hanno permesso di appurare l'esistenza storica dell'antica città hurrita di Urkesh, ricostruirne lo sviluppo millenario e fissarne importanti caratteristiche socio-culturali. Nel 2021 è stata insignita insieme al marito Giorgio Buccellati, col quale coordina il progetto *Cybernetica Mesopotamica*, del premio Balzan.

GERHARD LAUER è Gutenberg Professor di Book and Reading all'Università di Magonza. È stato professore di Filologia germanica all'Università di Gottinga e successivamente di Digital Humanities all'Università di Basilea. Attualmente le sue ricerche si incentrano sulla letteratura elettronica e sulla lettura sperimentale. Fra le sue più recenti pubblicazioni:

l'edizione critica di W. von Humboldt, *Schriften zur Bildung* (2017); *Was macht die Digitalisierung mit den Hochschulen* (co-autore, 2020), *Lesen im digitalen Zeitalter* (2020); curatela del numero della rivista «Fabula» dedicato ai *Computational Folktale Studies* (2023). È membro di varie società scientifiche, fra cui la International Association for the Empirical Study of Literature and Media e la Alliance of Digital Humanities Associations.

MASSIMO MARASSI è professore ordinario di Filosofia teoretica nella facoltà di Lettere e Filosofia dell'Università Cattolica del Sacro Cuore di Milano. È vicepresidente della Stiftung Studia Humanitatis di Zurigo. Dirige la Rivista di Filosofia Neo-Scolastica. Si è occupato di storia dell'umanesimo, della neoscolastica tedesca, di ermeneutica, di filosofia trascendentale. Fra le sue pubblicazioni: *Metafisica e metodo trascendentale*, Milano 2004; *Metamorfosi della storia*, Milano 2004; *Ermeneutica*, Milano 2017; *Vico*, Milano 2023.

MARCO PASSAROTTI è professore ordinario di Linguistica computazionale all'Università Cattolica del Sacro Cuore di Milano, ove dirige il Centro Interdisciplinare di Ricerche per la Computerizzazione dei Segni dell'Espressione (CIRCSE). Le sue ricerche e le sue numerose pubblicazioni vertono sull'elaborazione computazionale, l'impiego e la disseminazione delle risorse linguistiche e degli strumenti per il trattamento automatico del latino come lingua storico-naturale. Dal 2006 dirige il *Treebank Project* dell'*Index Thomisticus*. Dal 2018 al 2023 è stato Principal Investigator del Progetto LiLa, finanziato con fondi ERC, il cui obiettivo è costruire una base di risorse linguistiche e strumenti di trattamento automatico del latino.

SMAIL RAPIC è professore ordinario di Filosofia presso l'Università di Wuppertal. Le sue ricerche vertono sulla filosofia dell'Illuminismo, sulla filosofia classica tedesca, sulla filosofia post-hegeliana e sulla teoria critica della società. Fra le sue numerose opere ricordiamo: *Erkenntnis und Sprachgebrauch. Lichtenberg und der Englische Empirismus* (1999); *Ethische Selbstverständigung. Kierkegaards Auseinandersetzung mit der Ethik Kants und der Rechtsphilosophie Hegels* (2007); *Subjektive Freiheit und Soziales System. Positionen der kritischen Gesellschaftstheorie von Rousseau bis zur Habermas/Luhmann-Kontroverse* (2008); *Normativität und Geschichte. Zur Auseinandersetzung zwischen Apel und Habermas* (2019).

MARCO SANNAZARO è professore ordinario di Archeologia cristiana e medievale presso l'Università Cattolica del Sacro Cuore e dirige la Scuola di Specializzazione in Beni Archeologici dello stesso ateneo. I suoi in-

teressi scientifici sono principalmente rivolti alle problematiche storico-archeologiche dell'Italia settentrionale tra tarda antichità e medioevo. Ha diretto campagne di scavo, curato mostre archeologiche e allestimenti museali. Attualmente dirige indagini di scavo nel sito UNESCO di Castelseprio (VA) e nel contesto bassomedievale di Tor dei Pagà (Vione, BS); è anche responsabile scientifico del progetto *Archeologia dell'edilizia storica in provincia di Bergamo. Ricerche per la valorizzazione e la programmazione urbanistica*, promosso dalla Fondazione Lemine.

NICOLETTA SCOTTI MUTH è docente di Storia della metafisica antica nella facoltà di Lettere e Filosofia dell'Università Cattolica del Sacro Cuore di Milano. Le sue pubblicazioni riguardano Platone e la tradizione platonica, la *Metafisica* di Aristotele, il rapporto fra le principali civiltà antiche dell'area mediterranea. È *principal editor* di *Ordine e storia*, opera multidisciplinare in più volumi di Eric Voegelin. Dal 2015 al 2022 è stata presidente della Eric-Voegelin-Gesellschaft di Monaco di Baviera.

MARYANNE WOLF è una scienziata neuro-cognitivista, paladina della causa dell'alfabetizzazione dei bambini. È Professor-in-Residence di Education presso la University of California di Los Angeles (UCLA), ove dirige il Center for Dyslexia, Diverse Learners, and Social Justice. In precedenza ha ricoperto vari insegnamenti presso la Tufts University. Ha al suo attivo oltre 170 pubblicazioni fra cui: *Dyslexia, Fluency, and the Brain* (2001); *Proust e il calamaro. Storia e scienza del cervello che legge* (2012); *Tales of Literacy for the 21st Century* (2016); *Lettore vieni a casa. Il cervello che legge in un mondo digitale* (2018). Dal 2020 è membro della Pontificia Accademia delle Scienze ed è membro onorario della United Sigma Intelligence Association.