

Handbook of Stemmatology

Handbook of Stemmatology



History, Methodology, Digital Approaches

Edited by
Philipp Roelli

DE GRUYTER

Publiziert mit Unterstützung des Schweizerischen Nationalfonds zur Förderung
der wissenschaftlichen Forschung

ISBN 978-3-11-067417-0
e-ISBN (PDF) 978-3-11-068438-4
e-ISBN (EPUB) 978-3-11-068439-1
<https://doi.org/10.1515/9783110684384>



This work is licensed under the Creative Commons Attribution 4.0 International Licence (CC BY 4.0).
For details go to <https://creativecommons.org/licenses/by/4.0/>

Library of Congress Control Number: 2020939075

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at <http://dnb.dnb.de>.

© 2020 Philipp Roelli, published by Walter de Gruyter GmbH, Berlin/Boston

Cover: The graphic on the cover is a stylometric plot of the contributions in this book, illustrating the vocabulary and style used by its authors. The groupings hint at the extent to which the topics in the book are shared between the authors across their respective fields. The plot was generated by the editor of the book with the R package *stylo* (cf. *The R Journal* 2016, vol. 8:1) using the distribution of the 500 most common words in the book. The resulting tree (Cosine Delta distance) was subsequently retouched with FigTree and Inkscape, thereby assigning one colour per chapter.

Typesetting: Meta Systems Publishing & Printservices GmbH, Wustermark
Printing and Binding: CPI books GmbH, Leck

www.degruyter.com

Contents

Introduction (Philipp Roelli) — 1

1 Textual traditions — 9

Elisabet Göransson (Ed.)

- 1.1 Literacy and literature since Antiquity (Gerd V. M. Haverling) — 11
- 1.2 Transmission of texts (Sinéad O’Sullivan) — 15
- 1.3 Book production and collection (Outi Merisalo) — 24
- 1.4 Textual traditions and early prints (Iolanda Ventura) — 32
- 1.5 Palaeography, codicology, and stemmatology (Peter A. Stokes) — 46

2 The genealogical method — 57

Odd Einar Haugen (Ed.)

- 2.1 Background and early developments (Gerd V. M. Haverling) — 59
- 2.2 Principles and practice (Paolo Chiesa) — 74
- 2.3 Criticism and controversy (Giovanni Palumbo) — 88
- 2.4 Neo-Lachmannism: A new synthesis? (Paolo Trovato) — 109

3 Towards the construction of a stemma — 139

Marina Buzzoni (Ed.)

- 3.1 Heuristics of witnesses (Gabriel Viehhauser) — 140
- 3.2 Indirect tradition (Caroline Macé) — 148
- 3.3 Transcription and collation (Tara Andrews) — 160
- 3.4 Data representation (Joris van Zundert) — 175

4 The stemma — 208

Tara Andrews (Ed.)

- 4.1 Definition of stemma and archetype (Philipp Roelli) — 209
- 4.2 The stemma as a computational model (Armin Hoenen) — 226
- 4.3 A typology of variation and error (Aidan Conti) — 242
- 4.4 Dealing with open textual traditions (Tuomas Heikkilä) — 254
- 4.5 The stemma as a historical tool (Caroline Macé) — 272

5 Computational methods and tools — 292

Joris van Zundert (Ed.)

- 5.1 History of computer-assisted stemmatology (Armin Hoenen) — 294
- 5.2 Terminology and methods (Sara Manafzadeh, Yannick M. Staedler) — 303
- 5.3 Computational construction of trees (Teemu Roos) — 315

- 5.4 Software tools (Armin Hoenen) — 327
- 5.5 Criticisms of digital methods (Jean-Baptiste Guillaumin) — 339

6 Editions — 357

Aidan Conti (Ed.)

- 6.1 Types of editions (Odd Einar Haugen) — 359
- 6.2 Text-critical analysis (Marina Buzzoni) — 380
- 6.3 Representing the critical text (Franz Fischer) — 405
- 6.4 Publication of digitally prepared editions (Tara Andrews) — 427

7 Philological practices — 437

Caroline Macé (Ed.)

- 7.1 The New Testament (Christian-Bernard Amphoux) — 440
- 7.2 Classical Greek (Heinz-Günther Nesselrath) — 451
- 7.3 Mediaeval Romance Philology (Frédéric Duval) — 456
- 7.4 Mediaeval German (Ralf Plate) — 466
- 7.5 Ethiopic (Alessandro Bausi) — 479
- 7.6 Hebrew (Chaim Milikowsky) — 493
- 7.7 Chinese (Christopher Nugent) — 501
- 7.8 Early modern printed texts (Iolanda Ventura) — 512
- 7.9 Genetic maps in modern philology (Dirk van Hulle) — 524

8 Evolutionary models in other disciplines — 534

Armin Hoenen (Ed.)

- 8.1 Phylogenetics (Heather Windram, Christopher Howe) — 537
- 8.2 Linguistics (Dieter Bachmann) — 548
- 8.3 Anthropology (Jamshid Tehrani) — 568
- 8.4 Musicology (Cristina Urchueguía) — 576

Terminology in other languages — 587

References — 597

General Index — 667

Index of Manuscripts — 683

List of authors — 685

groups: manuscripts on paper dating to approximately 400–1000 AD discovered in and around the oasis town of Dunhuang in Gansu province at the end of the nineteenth century; and documents on bamboo, silk, wood, and other materials dating to the Han and earlier that have been unearthed more recently. These very different sets of documents have been the subject of a range of scholarly approaches. The Dunhuang manuscripts consist primarily of previously known Buddhist works, although other types of writings found there are strikingly diverse in terms of genre, language, and degree of representation in the received tradition. When creating a critical text of works with multiple exemplars from Dunhuang but not part of the received tradition, scholars in China will often use a version of the Bédier “best-text” method, though they typically make more changes to their “best text” than one would expect. The situation with Han and pre-Han excavated texts is more complex. Because of the massive bibliographical project undertaken in the Han described above, even excavated texts that appear to have counterparts transmitted by copying differ from those later collations dramatically. Indeed, it is these discoveries that have revealed the extent of the impact of Liu Xiang’s work. Some scholars in the West, such as Boltz (1995), have utilised a Lachmannian stemmatological approach to create an assumed semblance of an “original” text. Others, such as Kern (2002), have criticised such an approach, arguing that lengthy periods of oral and mixed oral/written transmission make attempts to create a true “original” misguided.

Regardless of the particular approach, recent theoretical and practical work on mediaeval European manuscript culture has been particularly influential for scholars working in the West (Boltz, Tian, Kern, Owen, Nugent, Richter, Meyer). The combination of traditional Chinese approaches and newer theoretical ideas coming from scholars working on European traditions looks to be a fruitful one, and many new avenues of scholarly exchange are sure to open up in coming years.

Further reading

Readers interested in exploring textual issues in the early and pre-imperial period would gain much from Kern (2002). For a fuller treatment, Richter (2013) is excellent as well. For the Song period, Lianbin Dai (2016) looks closely at the important case of Zhu Xi. For the Qing period, Sela’s new work (2018) is recommended. For those who can read Chinese, see Hu (1931), Wang (1972), and Guan (2013).

7.8 Early modern printed texts

Iolanda Ventura

This section deals with examples of methodologies used when editing Renaissance printed works from the nineteenth to the twenty-first centuries (see 1.4 for an assess-

ment of the technical and cultural revolution induced by the introduction of the printing press). These works can be divided into two main categories: works that circulated directly in printed form (and for which no manuscripts survive) and works preserved both as manuscripts and printed copies. Types of modern editions (see 6.1) include facsimile editions (7.8.1), diplomatic or critical editions based on one single printed copy or on several (7.8.2), and critical editions based on both printed books and manuscripts (7.8.3).

7.8.1 New life for old celebrities: The facsimile edition

A facsimile edition is an exact photostatic reproduction of one copy of a printed work. In contrast to a diplomatic edition (see 6.1.3), it does not offer a faithful and accurate transcription of the text but reproduces visually all external features of the text. Several reasons may be advanced to justify the choice of this technique. A first, obvious one is if the length of a work would make the transcription too long to complete in a reasonable amount of time (the possibility of OCRing early printed books, albeit not yet perfectly, will change this situation considerably). A second, no less important reason can be found *ex negativo* in the lack of interest in reproducing a text that is already clear and correct in its printed form (although an image of a text is, of course, less usable than a transcription).

The main contribution offered by the editor consists of an introduction providing readers with basic information about the author, the edited work, and its characteristics, and about the role it played in the history of the literary genres to which it belongs and/or in the history of its contemporary culture. The most important functions performed by facsimile editions are as follows. (i) They put works that are necessary for research at the disposal of scholars in a form closer to what could be accessed when those works were created and used. (ii) They compensate, although incompletely, for the lack of a critical edition, which may never be published. This is the case, for instance, with Avicenna's *Liber canonis* in the Latin translation made by Gerard of Cremona around 1150, which is still used and quoted, if not with the help of the printed versions scholars can find in a library, then according to the facsimile edition printed in Brussels in 1971 (Avicenna 1527, repr. 1971). This reprint presents the Latin version as published in a 1527 edition, which had corrections and improvements by one of the most illustrious Renaissance Arabists, Andrea Alpago (on Alpago, see Levi dalla Vida 1960). (iii) They allow readers to consult a precious old printed copy displaying relatively sophisticated production techniques. This is the case, for example, with Hartmann Schedel's *Chronik*. This universal chronicle, authored by the famous Nuremberg physician, humanist, and book collector Hartmann Schedel (1440–1514), was published in 1493 by Anton Koberger both in Latin and German. It was accompanied by a lavish corpus of illustrations consisting of some 1,800 coloured xylographs, which makes the work extremely valuable for ex-

perts both in the history of humanist historiography and of book illustration. The work was published as a facsimile in 2001 (Schedel 2001), in a version that reproduces the work and the illustrations exactly and can therefore be used as a substitute for the precious original.

Digital facsimile editions have now enhanced the accessibility of these early printed books. They are made available either in the framework of digitisation programmes for both manuscripts and early printed works run by single libraries, such as the Bayerische Staatsbibliothek, the Biblioteca Apostolica Vaticana, the Bibliothèque nationale de France, or the British Library, or in the framework of research projects that combine the study of a work or a group of works with the availability of digital editions on the Web. Digital reproductions offer several advantages compared to non-digital facsimile editions: (i) several printed copies of the same work can be displayed at the same time, allowing a comparison of form and content; (ii) digital facsimiles are searchable via library catalogues or search engines; (iii) most of them are accessible for free, whereas non-digital facsimiles are very expensive; and (iv) further material and tools for accessing, analysing, and understanding the work can be added. Among numerous projects, we can mention the website *Welt und Wissen auf der Bühne: Theatrum-Literatur der Frühen Neuzeit* (theatra.de), which allows the reader to access and download for free some two hundred works that use the metaphor of the theatre or of the garden as a model to represent encyclopedic knowledge, and to study them with the help of a large body of literature (albeit not updated since 2012).

7.8.2 Old wine in new barrels: Modern editions of Renaissance printed works

Renaissance works preserved only in print may differ greatly with respect to their connection to the author's original, to the number of editions, and, last but not least, to the versions of the text that were published. If, to name but one example, Johann Heinrich Alsted's *Encyclopaedia in septem tomos divisa* was printed only once in 1630 (Alsted 1989–1990), other works were printed several times, sometimes after being revised by their authors. Erasmus of Rotterdam's *Adagia*, for example, was printed thirteen times between 1508 (*editio princeps*, Venice: Aldus Manutius) and 1536 (Basle edition, printed by Hieronymus Frobenius). If, in the case of Alsted, a facsimile of the sole existing printed copy may suffice, in the case of Erasmus' best-seller or other relatively unstable texts, other editorial strategies will be called for.

When dealing with several different printed copies of the same early modern work, editors will need to select and collate these different copies, and to prepare an edition according to one or more printed witnesses. There are, again, several possibilities for an edition. (i) If based on one single printed copy, the edition corresponds, *mutatis mutandis*, to the monotypic edition of a *codex unicus* (see 6.1.3). (ii) The editor may use one printed copy as a base text, using one or more other

printed copies to correct and improve the quality of the text, and including their variant readings in a critical apparatus. This corresponds to a best-manuscript edition (see 6.1.3). (iii) Several, if not all, printed copies may be collated to produce a critical (reconstructive) edition (see 6.1.2).

All types of editions aim at facilitating the consultation and use of these early modern works by contemporary readers. Consequently, in the editions, a normalised orthography will usually be adopted, abbreviations will be expanded, punctuation (4.3.4) will be adapted, and the text will often be translated into a modern language. Commentaries and apparatuses of sources are valuable features of these editions, allowing the reconstruction of the author's library and of his authorities and references. All these elements represent a decisive step forwards compared to a mere facsimile edition, and provide a more reliable basis for the study of an author's culture. On the other hand, editorial emendations or conjectures (see 6.2.3) are reduced to a minimum and are basically meant to correct obvious misprints. As for the criteria used for the reconstruction of the text, they are relatively different from those used in editing texts preserved in manuscripts, as the paths of transmission of printed copies are obviously very different for several reasons. First of all, the author's work did not undergo a long process of changes and deterioration due to manual copying. His final original text is easier to detect, especially if the *editio princeps* was published during his lifetime or even under his supervision. Even if the author reworked his text and published it again, the collation of the different versions does not have to wrestle with variant readings caused by later, non-authorial innovations, but only with deliberate changes that are valuable for research and have to be documented and highlighted. This generally leads to a reduced number, and less problematic nature, of variant readings, and to a general tendency towards philological work that is descriptive rather than invasive.

Furthermore, if we do not have to struggle with authorial versions, the texts we deal with are more stable and, as soon as they reach a fixed form, obtain an authoritative status. As a consequence of this, if the text does not contain evident misprints, it is not necessary to correct it. It is also normally possible to detect easily the (mostly chronological) connections between the different printed copies, and our evidence is rarely lacunose (only rarely is a complete set of printed copies lost in its entirety), and the *editio princeps* acquires a central position around which later printed copies are clustered.

A practical consequence of this stability of the tradition and centrality of the oldest printed edition is the small size of the critical apparatus. Generally speaking, the apparatus is only used to record variant readings shown by other printed editions, or to record the presence of marginalia. In fact, editions relying on a single printed copy without being a facsimile are quite rare. One important exception is represented by the two modern editions of the 1543 print (published in Basle by Johann Oporinus) of Vesalius' *De humani corporis fabrica*, each with a French translation. The first modern edition was published completely in the print medium



Fig. 7.8-1: Anatomical illustration from Vesalius (1543, 47).

(Bakelants 1961); the second modern edition is still ongoing as an online project (www3.biusante.parisdescartes.fr/vesale/debut.htm). The reason for ignoring the second, updated, print edition of the *Fabrica* published in 1555 by the same Johann Oporinus, and for concentrating on the *editio princeps*, is that the 1543 edition has attracted more attention because of the revolutionary character of its anatomical illustrations (see fig. 7.8-1), even though the 1555 edition is more advanced from an epistemological and scientific perspective.

The majority of the editions based on several printed copies take as a starting point either the entire printed tradition or a relevant part of it, and use them to provide a complete overview of the transmission and a critical text. Usually, the evidence used by editors consists of the *editio princeps* in combination either with a wide chronological range of secondary printed copies, or with those that are chronologically close to the *editio princeps* or relevant for scholarship. Normally, *editiones descriptae*, that is, printed copies that, after a precise examination, turn out to be pure reprints of a previous print, are left aside. As for the establishment of the text, the general rule is to select either the *editio princeps* or the last edition supervised by the author as a base text, and to use the others to correct the first one, or, more often, just to record the differences, possible errors, and innovations featured in them. These general principles can be adapted to the specific situation of the edited text. The following three examples are ordered in an increasing level of complexity.

7.8.2.1 Iacopo Zabarella, *De virtutibus naturalibus*

A first, linear, example of a new edition of a printed work following the principles I have just listed, and taking into account some necessary adaptations, can be found in the recent publication of Iacopo Zabarella's (1532–1589) *De virtutibus naturalibus* (Valverde 2016: for the editorial criteria, see 1:46–48). The editor, Juan Valverde, relied on the two independent copies printed in the same year (1590) in Venice (by Paolo Meietti) and in Cologne (by Giovanni Battista Ciotti). He collated them against the edition which had been the most famous up to that point, namely the one published in Frankfurt by Lazarus Zetzner in 1607, which scholars had long used thanks to a facsimile reprint (see 7.8.1) issued in Frankfurt in 1966; the facsimile should not be discarded, but nevertheless needed to be improved on.

As for the decision to collate the two earliest printed copies, the editor's choice is motivated by the fact that, whereas the Venetian print is closer to the author and its text is more correct, the Cologne edition features some elements that cannot be neglected when we attempt to understand the development of the text in print. The two editions resulted from two independent projects, and their opening sections show significant differences: the Cologne edition includes a dedicatory letter addressed by Zabarella to Pope Sixtus V, whereas the Venetian edition includes a prologue by the author that had already been published in his *De naturalis scientiae constitutione* (Zabarella 1586, printed in Venice by Paolo Meietti). The Cologne edition contains the same mistakes that are found in the text of the Venetian one, but has been emended in a list of errata published as a separate sheet in the Venetian print. All in all, we can conclude that the Venetian and the Cologne prints were based on the same urtext but developed differently. As for the Frankfurt edition, the modern editor notes that it keeps almost all errors that were corrected in the Venetian errata list but at the same time introduces some others.

From the approach followed by the editor, we can conclude that he selected his material by considering two *editiones principes* exhibiting substantial differences but nonetheless possibly relying on the same urtext, and chose to follow the more correct text; and that he did not dismiss an edition that might now be considered superfluous but nonetheless deserves attention because it was – in a well-known facsimile – the basis on which scholarship had relied for several decades.

7.8.2.2 Erasmus, *Opera omnia*

The project of a critical edition of Desiderius Erasmus' (1466–1536) *Opera omnia* began in the early sixties, and has been run by the Dutch Royal Academy for Sciences and Arts since its inception (description on huygens.knaw.nl/erasmi-opera-omnia/?lang=en; see also brill.com/view/serial/ASD). Following Erasmus' choices, as well as the structure of the editions published in Basle between 1538 and 1540 and in Leiden between 1703 and 1706, the arrangement of the edition reproduces the canon (*ordo*) that divides his *œuvre* into nine classes dealing respectively with

(i) philology and pedagogy; (ii) proverbs (the *Adagia*); (iii) correspondence; (iv) morals and ethics; (v) religious instruction; (vi) the Greek text, annotations, and Latin translation of the New Testament; (vii) paraphrases of the New Testament; (viii) editions of or commentaries on patristic authors; and (ix) *apologiae*. According to the guidelines included in the general introduction in Erasmus (1969), the modern edition is to furnish a critical text based on prints and taking into account, whenever available, manuscripts. However, pre-eminence will be given, still according to the guidelines, to “the first edition authorized by Erasmus [which] will be the basis for the establishment of the text” (xviii); variant readings attested in “authoritative” editions will be recorded, whereas those derived from “reprints published without Erasmus’ knowledge” will be left out (xix–xx). Each print is to determine the orthography chosen for the edition, thus explaining the eventual inconsistencies. All in all, the general plan acknowledges Erasmus’ authority and control over the editions he could supervise. On the other hand, this plan does not intend to reduce the editorial work to the choice of one, fixed, stable edition for all works, nor to focus on the one print that constitutes the basis for the edition of each work. Rather, the goal of the editorial choices is to reconstruct in the edition the path followed by the writings before reaching a definitive printed form, and to show changes and updates made by Erasmus while reworking them. This concept of an evolutive edition, which places manuscripts and editions in a flow reflecting both Erasmus’ activity and the circulation of the texts before and after the appearance of the authorised versions, leads to some important consequences. (i) In principle, even when the Basle *editio princeps* of the *Opera omnia* plays an important role, the stages of development that preceded it have to be taken into account, if not in the edited text, then at least in the introduction to the work. (ii) The same goes for each authorised version selected as the basis for the edition, which implies that, although it remains the basis, earlier stages of the work cannot be neglected. (iii) If an earlier version is preserved, entirely or in part, that clearly differs from the one represented in the printed editions, it is included in the edition, albeit in a separate place. For example, the first redaction of the *Antibarbarorum liber* comprises the “original version” written by Erasmus and witnessed only in a manuscript preserved in Gouda. (iv) Later versions are recorded insofar as they still belong to Erasmus’ activity. The analysis of editions that do not belong to the horizon of Erasmus’ life and activity, as well as contaminations between “authentic” and non-authentic prints are outside the scope of the edition. (v) According to these principles, each editor establishes, after a careful analysis of the circumstances of the redaction and the phases and main features of circulation, his own array of printed versions and, if still available and relevant, manuscripts. This array constitutes the basis of the edition in terms of selected text and sources of variant readings; it, and the stages of the history of the text, are to be described in the introduction.

A concrete example is the edition of the well-known *Encomium moriae* (Erasmus 1979), a work whose history stretches between 1511, the probable date of the first

(unauthorised) edition, and 1532, the date of publication of the final version in Basle by Hieronymus Frobenius and Nicolaus Episcopius. It went through several revisions and additions of commentaries, partly by Gerardus Listrius and partly by Erasmus himself. Its editor, Clarence H. Miller, prepared it on the basis of the edition published in 1532. Seven other editions “in which Erasmus had a hand” (in Erasmus 1979, 39) are included (see also the *conspectus siglorum* on p. 66). They are selected with the main purpose of illustrating Erasmus’ activity in reworking the text, and to exemplify all kinds of additions and revisions he made to the original text.

On the other hand, the rather problematic case of the *Iulius exclusus*, edited in 2013 by Silvia Seidel Menchi (Erasmus 2013; see the introduction, 5–222), a work whose attribution to Erasmus has long been denied, and that circulated in manuscripts before and after the publication of the *editio princeps* in 1517 (Mainz: Peter Schöffel the Younger), led to different choices. The edition is, in fact, based on Basel, Universitätsbibliothek, A IX 64, namely the manuscript written by Bonifacius Amerbach and completed in 1516. Further witnesses are Basel, Universitätsbibliothek, A IX 64a, written by the same Amerbach, and the *editio princeps*. The witnesses are chosen according to their closeness to the archetype and to their contribution to the establishment of a fixed, authoritative text that was diffused through print and became the *vulgata*.

7.8.2.3 Girolamo Fracastoro, *De sympathia et antipathia liber I*

The critical edition of Girolamo Fracastoro’s *De sympathia et antipathia rerum liber I* published by Concetta Pennuto (2008) is remarkable in several respects. In order to understand this situation better, and to explain the methodology followed by the modern editor, a few words of explanation about the history of the text are necessary (see Pennuto 2008, xiii–xlvi). Girolamo Fracastoro (1478–1553) published the text for the first time in Venice in 1546 (printers: Tommaso and Giovan Maria Giunti). This edition is accompanied, in an appendix, by a list of *errata ita corrigenda* which did not enter the textual tradition immediately, and consequently did not influence the second and third prints (Lyon, 1550 and 1554; printers: Guillaume Gazeau and Jean de Tournes), but were integrated into the text only in 1555, when a new Venetian edition was brought out by the same Tommaso and Giovan Maria Giunti. This edition did not only, however, include Fracastoro’s corrections, but was also marred by several interventions (or, better, by deliberate linguistic manipulation) on the part of its editor, Paolo Ramusio (1532–1600; son of the Arabist Giovan Battista Ramusio). Despite this, the 1555 edition became the reference text, practically erasing the memory of the *editio princeps* from all other editions (all in all, there are twelve, stretching from 1546 to 1671). Only the Nuremberg edition, published in 1662 as a part of the *Theatrum sympathicum*, does not include any changes (i.e. neither the errata nor Ramusio’s “improvements”) and seems to go back to an “original” without any changes. Thus, the development of the text shows changes, updates, and innovations from several sides: the author, an editor, and the printed texts with

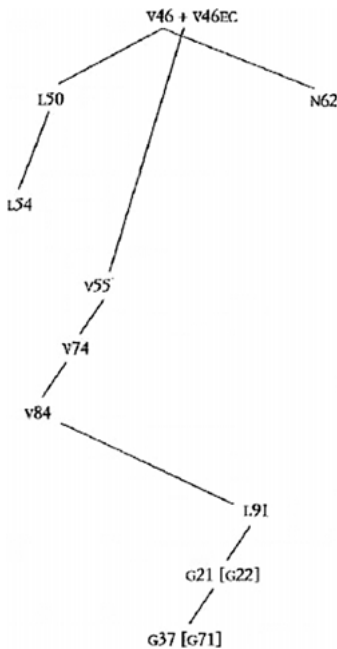


Fig. 7.8-2: Pennuto (2008, lxx).

their own errors and deviations. The consequences of such a state of the tradition for the modern editor can be summarised as follows. (i) She could not limit her work to the reconstruction of the author's original text, for this would be an artificial conflation formed by the text of the *editio princeps* and the insertion into it of the errata originally included in the appendix. (ii) She could not simply dismiss Ramusio's linguistic manipulations of the text as later interventions and, consequently, leave them out of the edition, for it is not certain whether they were the result of his own work or were inspired by written or oral contact and exchange between him and Fracastoro. Whatever their origin, they are part of the dynamic development of the text; therefore, they must be recorded, at least in the critical apparatus. (iii) As almost every printed copy showed variant readings of its own or, as we have seen in case of the one printed in Nuremberg, a distinctive connection to the *editio princeps*, the *editiones descriptae*, or those that could be considered as such, are almost non-existent. Therefore, all editions have to be taken into account. (iv) She could not limit her work to the establishment of a correct text according to one or more selected prints, including in the apparatus only errors and misprints from single editions that undermine the content, but had to put together two different, non-selective critical apparatuses, the first recording the "varianti d'autore" [author's variants] (i.e. the changes made by Fracastoro himself), and the second reflecting the historical development of the text: "un apparato storico evolutivo con le varianti chiaramente non d'autore" [an evolutive critical apparatus with the variants clearly

not from the author] (Pennuto 2008, xviii). (v) Last but not least, she had to produce a *stemma editionum* representing the textual development graphically (see fig. 7.8-2).

7.8.3 Editing printed texts beyond prints: Some examples of interaction between prints and manuscripts

For some editorial projects of Renaissance works, resorting only to printed copies is not enough. For the preparation of such editions, which I call “mixed”, the printed version of the work cannot constitute a reliable basis for an edition, because it does not deliver a complete text of the work or comprises one redaction of a work existing in several versions, or because the tradition of the work is also partially made up of manuscripts. In the following examples, I will simply sketch the methods followed by three scholars for integrating both printed copies and manuscripts in a single editorial project.

7.8.3.1 Bernardino Telesio, *Varii de naturalibus rebus libelli*

The first example is the edition of some minor works written by Bernardino Telesio (1509–1588) on subjects of natural philosophy (especially Aristotelian meteorology and biology), such as comets, the sea, lightning, colours, tastes, and respiration, published by Luigi de Franco (1981). These works (*De cometis et lacteo circulo*, *De mari*, *De fulmine*, *Quod animal universum ab unica substantia gubernatur*, *Contra Galenum*, *De usu respirationis*, *De coloribus*, *De saporibus*, and some others) were not unknown, as most of them had already been included in the 1590 printed edition supervised by Antonius Persius. Some others, neglected by Persius, had been made available as appendices in Francesco Fiorentino’s book on Telesio’s conception of nature (Fiorentino 1872–1874). Finally, the *De colorum generatione* had been published independently by Telesius (1570).

Almost all the works are preserved both in manuscripts (some of which are autographs) and in prints. In addition, they exhibit various stages of composition: *minutae* and sketches – which were sometimes later revised, with corrections introduced in the printed copy presented to the *revisore ecclesiastico* in order to obtain the *imprimatur* (de Franco 1981, xxi) – as well as final prints (de Franco 1981, xxxix–lvii).

In this distinctive case, the editor’s task was twofold: to establish a critical text and to represent the genesis and the development of the work from scratch to its final shape (de Franco 1981, xliii). I cannot discuss all the texts edited by de Franco and their methodologies here, and point only to two specific cases, those of the *De mari* and the *Quod animal universum*. The former work is preserved in five manuscripts and in two printed editions, both published in 1570, one including it in the anthology supervised by Persius, the other containing it independently. Of the five manuscript witnesses, the most relevant ones are the two drafts preserved in Napoli,

Biblioteca Nazionale, VIII.C.29. The first draft is the autograph submitted to the *revisore ecclesiastico*; it preserves a first redaction with some corrections. The second draft is, in fact, the final version, and corresponds to the text printed independently in 1570. The printed text edited by Persius adds three chapters compared to the previous version, which also figure as sketches (*minutae*) in the autograph copy. This situation led the modern editor to choose the independent print of 1570 as the basis for the edition and the Persius edition as the basis for the three added chapters, and to edit the text of the first draft as an appendix.

The second case, the *Quod animal universum*, is apparently simpler, but by no means less interesting (de Franco 1981, l–li). The work is preserved in print only thanks to Persius' edition. It might have circulated in manuscript form, but no copy of the complete text has survived. The printed text, however, cannot be considered a reliable basis, for it is disfigured by errors and unclear formulations as well as by further mistakes added either by mechanical factors or by unfortunate conjectures made by Persius in an attempt to improve the quality of the edition. Facing such a situation, the modern editor had to turn to the *minutae* preserved in two manuscripts (Città del Vaticano, Biblioteca Apostolica Vaticana, Ottob. Lat. 1929 and Città del Vaticano, Biblioteca Apostolica Vaticana, Ottob. Lat. 1306) to restore the disfigured passages and reconstruct a reliable text.

7.8.3.2 Anonymous, *Cinq-cent rondeaux d'amour*

In 2011, Françoise Féry-Hue published a new edition of an anonymous work sometimes attributed to Pierre Gringore (1475–1538/39), the *Cinq-cent rondeaux d'amour*, written during the first decades of the sixteenth century, whose origin can perhaps be placed at the court of Angoulême, as the dedicatory letter addressed to Francis I of France shows (Féry-Hue 2011). By using the metrical form of the *rondeau* and the fashion of short versified letters, the author tells a tragic love story that ends with the death of the lady and the retirement of her lover to a monastery. The purpose of the work was possibly to provide members of the court with material for private reading and spiritual cultivation; the destiny of the work was, however, different, for the print probably helped to widen its reception and to enlarge its audience. The *Cinq-cent rondeaux* is handed down by five sixteenth-century manuscripts (C: location unknown, Collection Particulière; F: Paris, Bibliothèque nationale de France, fr. 19183; R: Paris, Bibliothèque nationale de France, Rothschild 2855; L: Den Haag, Koninklijke Bibliotheek, 129.G.20; S: Soissons, Bibliothèque Municipale, 204), and was printed ten times between 1527 and 1550. The edition of the work is based on the Soissons manuscript, used as base text. But all other manuscripts were collated and used to improve the text, and their variant readings were recorded in the apparatus. Moreover, the editor offers, synoptically, a transcription of the text of the *editio princeps* published in Paris in 1527 (printer: Alain Lotrain). This editorial decision can be explained by the complicated tradition of the text, which did not allow the editor to draw a convincing stemma. Moreover, the editor wished to emphasise the

development of the text and its dynamics, to show how it moved from a limited courtly readership in manuscripts towards a larger audience in print, and how both external and internal features of the two forms of dissemination contributed to shaping this dynamics. In this context, the printed text, as represented by the *editio princeps*, does not simply represent the end of the manuscript tradition and the beginning of a new way of disseminating the text, but is also one of the main steps in the dynamics leading towards the transformation of that text and of its perception.

7.8.3.3 Iacopo Ammannati Piccolomini, *Lettere*

The case study represented by the edition of Iacopo Ammannati Piccolomini's *Lettere* (Cherubini 1997) describes a more complex form of interaction between manuscripts and prints, and, above all, a different perception of printed version(s) compared to the codices. More specifically, it shows that the inclusion of manuscripts and prints in the same editorial enterprise is necessary for reconstructing the complete corpus of writings of the author, and that the perception of a printed text in such a project does not always correspond to our impression that the print represents a moment of fixation and consolidation of a tradition. Again, in order to make readers aware of the reasons determining the editor's choices and methodologies, some further information about the text and the edition should be provided. Iacopo Ammannati Piccolomini (1422–1479) had intended to commission and publish a collection of his own letters, but was prevented from doing so by his death. His friend and secretary Iacopo Gherardi took up the task of collecting, ordering, revising, and publishing the letters in a collection, but the *editio princeps* he managed to publish in 1506 in Milan (Piccolomini 1506), was incomplete and not satisfactory. This edition (Cherubini 1997, 1:25) was later used as a basis for further printed editions (the last of which was printed in Frankfurt in 1614; on the prints, see Cherubini 1997, 1:58–76), each of which was incomplete compared to the *editio princeps*, containing only parts of the epistolary production of Piccolomini. On the other hand, groups of letters handed down in the form of *minutae* and copies had already started to circulate independently in small manuscript collections (Cherubini 1997, 1:26–58). Facing such a situation, Paolo Cherubini, who published an edition of all the letters written between 1444 and 1479 found to date, not only had to gather together a complete corpus of the letters (found in different stages of composition) but also had to catalogue prints and manuscripts and to understand their relationships. Consequently, he edited, according to chronological principles, letters preserved either in single copies or in various copies in different forms and stages of completion.

One example is *Epistula* 17 (Cherubini 1997, 1:363–368), a moral treatise written in the form of a letter sent by Piccolomini to himself on December 18, 1461, after he had been made cardinal by Pius II. This letter is witnessed both by Salamanca, Biblioteca de la Universidad, ms. 2109, and by the printed editions published in 1506 (namely the *editio princeps*) and in 1614 in Frankfurt (in officina Aubriana). In

this case, the modern editor reproduces the text according to the printed copies, and records the variant readings of the Salamanca codex in the critical apparatus.

The interaction between manuscripts and prints, between different forms of collection, and between different compositional stages of the individual letters influenced, together with variant readings, the stemmatological representation of their mutual relationships. Clearly, it was not possible to draw a single *stemma codicum*, nor does it seem that the editor intended to have one. Rather, he structured the numerous manuscript collections into groups or clusters according to the common elements they shared and the innovations they showed in comparison to what could be considered their models.

The situation that the editor of Ammannati Piccolomini's letters had to face is not an exceptional one. Other editors of collections of letters have had to develop similarly flexible strategies for representing the relationships between manuscripts and printed witnesses, and for editing the texts. The recently completed edition of Joseph Justus Scaliger's *Epistulae* (Botley and van Miert 2012; see also the Web version, emlo-portal.bodleian.ox.ac.uk/collections/?catalogue=joseph-justus-scaliger) clearly shows that its editors, Paul Botley and Dirk van Miert, had to edit different kinds of material, sometimes overlapping. The same letters were often transmitted through multiple copies, both as manuscript and in printed form, with different statuses: autograph letters, authorial drafts and copies, and so on.

Further reading

For a general assessment of the cultural importance of early printed editions, see Feld (1978) and Pettegree (2011). The following two handbooks of textual criticism offer insights into the methodology of editing early printed books: Stoppelli (2008) and Stussi (2015); see also Trovato (2017).

7.9 Genetic maps in modern philology

Dirk van Hulle

The notion of the stemma is a metaphor (see 2.2.2). Like all the “metaphors we live by” (Lakoff and Johnson 1980), this metaphor of the family tree is indicative of a particular way of thinking – in this case, of an ideology that inherits the fixation on “purity” of the textual “bloodline”. In this sense, the genealogical method sometimes seems to reflect an ancient or mediaeval obsession with pedigree, combined with a nineteenth-century preoccupation with origins. In modern times, however, the problem is usually not the lack of an original autograph, but rather the abundance thereof. And among this abundance, the problem the early twentieth-century