

The CBGM and Lachmannian Textual Criticism

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Abstract: The discipline of New Testament textual criticism has changed considerably in the last few decades. Among the most relevant developments is the Coherence-Based Genealogical Method, which, however, is often unknown to or misunderstood by textual scholars of both biblical and nonbiblical literature. This article explains the main concepts of the CBGM and compares them with the core principles of (Neo-)Lachmannian textual criticism. The comparison shows how deeply many steps and concepts of the CBGM are rooted in the traditional methods of textual criticism, the Lachmannian method in particular, but also the many differences in its procedures and terminology. Many of these changes result from the effort of integrating the potential of the computer tools now available to the discipline.

Introduction

The Coherence-Based Genealogical Method (CBGM) is the method currently applied in text-critical research of the New Testament by the Institut für neutestamentliche Textforschung (INTF) in Münster, in partnership with the Institute for Textual Scholarship and Electronic Editing in Birmingham (ITSEE) overseen by the International Greek New Testament Project (IGNTP) and the Kirchliche Hochschule Wuppertal-Bethel, in preparation for the *Editio Critica Maior* (ECM). This method is often considered to be complicated and difficult to understand,¹ even for those acquainted with traditional stemmatics.

The goal of this paper is to explain the basic concepts of the CBGM briefly and compare it with the traditional methods of genealogical research applied to classical philology, medieval Latin, and modern languages, more specifically with the Lachmannian method as presented by Paul Maas. Hopefully, this will help in clarifying the method for those acquainted with (Neo-)Lachmannian textual criticism.² This exercise is further justified by the historical fact that, in the past, the Lachmannian method was developed, at least partly, in connection with New Testament textual research or by scholars working both with the New Testament and classical or national literatures, and there is some interest in seeing how close or far from traditional stemmatics New Testament textual criticism finds itself in the recent developments of that discipline.

¹ I have noticed this in private conversations with other researchers, but it is also affirmed by Tommy Wasserman and Peter J. Gurry, *A New Approach to Textual Criticism: An Introduction to the Coherence-Based Genealogical Method*, RBS 80 (Atlanta: SBL Press; Stuttgart: Deutsche Bibelgesellschaft, 2017), 14. According to Gurry, the method is often unclear even to seasoned scholars: see Peter J. Gurry, *A Critical Examination of the Coherence-Based Genealogical Method in New Testament Textual Criticism*, NTTSD 55 (Leiden: Brill, 2017), 35.

² Still much practiced in Italy, where the contributions of Giorgio Pasquali were integrated with the method; see Geert Lernout, “Continental Editorial Theory,” in *The Cambridge Companion to Textual Scholarship*, ed. Neil Fraistat and Julia Flanders (Cambridge: Cambridge University Press, 2013), 73–74.

David C. Parker has claimed for the CBGM that “the Münster Method is based upon traditional stemmatics and philology, and is innovative in making them work better than they have ever done before rather than in replacing them.”³ Peter J. Gurry challenged this understanding by emphasizing instead the fundamental differences between both.⁴ In this paper I shall investigate to what extent these statements are true. It will become clear that the CBGM finds itself in continuity with the tradition of genealogical textual studies but at the same time adapts the method to the situation of New Testament textual tradition.

The goal of this article is not to discuss the criticisms raised against the CBGM by New Testament scholars in various kinds of publications or its defense by its practitioners but simply to assess how close or far the CBGM’s goals, terminology, and procedures are from (Neo-) Lachmannianism by offering a concise and fair presentation of both.

1. The Goals of the CBGM

In textual criticism, two main and opposing tendencies have developed over time. One strives to reconstruct the text of the archetype of the textual tradition, the form of the text at/before the point of the first split between the textual witnesses. This first tendency is often associated with the name of Karl Lachmann, although he is actually the emblematic figure of a method developed by many of his precursors and also authors working contemporaneously or after his time.⁵ This method has been presented in a simple and systematic way by Maas,⁶ whose exposition we take as paradigmatic for the comparison in this paper. The Lachmannian method tries to achieve a “qualified majority” (a majority among the manuscripts at the top of the stemma, the primary branches) that would enable the text critic to decide the text of the archetype in each place of variation.⁷ The goal is to reduce to the minimum the subjective choice of the editor in the reconstruction of the text.

The other tendency is attributed to Joseph Bédier, who threw suspicion on the procedures of Lachmannian genealogical studies of textual traditions. He argued that most stemmata created by text critics have at their top a split of the textual tradition into two branches, which allows the text critic to maintain control over textual decisions. While multiple-branched stemmata allow for an objective or mechanical procedure in deciding the original readings, the subjectivity the method tries to avoid persists in the two-branched stemmata.⁸ Therefore, instead of reconstructing the archetype (see below), Joseph Bédier prefers to work with the edition of a reliable manuscript that has to be corrected only occasionally.⁹ As a result, according to these

³ David C. Parker, *Textual Scholarship and the Making of the New Testament* (Oxford: Oxford University, 2012), 145.

⁴ Gurry, *Critical Examination*, 23.

⁵ Sebastiano Timpanaro, *La genesi del metodo del Lachmann*, 2nd ed., Biblioteca di Cultura (Padova: Liviana editrice, 1981), 80.

⁶ Paul Maas, *Texkritik*, 2. verbesserte und vermehrte Auflage (Leipzig: Teubner, 1950).

⁷ Paolo Trovato, *Everything You Always Wanted to Know about Lachmann’s Method: A Non-standard Handbook of Genealogical Textual Criticism in the Age of Post-structuralism, Cladistics, and Copy-Text*, 2nd ed., *Storie e Linguaggi* 7 (Padua: libreriauniversitaria.it, 2014), 63–64.

⁸ Bédier did not accuse text critics of dishonesty, but he thought they were influenced subconsciously and by the constraints of the method to create two-branched stemmata that would preserve their freedom to determine the readings of the archetype. See Joseph Bédier, “La tradition manuscrite du *Lai de l’Ombre*: Réflexions sur l’art d’éditer les anciens textes (premier article),” *Romania* 54 (1928): 170–77.

⁹ Joseph Bédier, “La tradition manuscrite du *Lai de l’Ombre*: Réflexions sur l’art d’éditer les anciens textes (deuxième article),” *Romania* 54 (1928): 356.

two diverging tendencies, the goal of the discipline is relatively different: reconstruction of the text in one case, adoption of the *codex optimus* in the other. Paolo Trovato explains that Bédier's work created an "irremediable schism" in the discipline¹⁰ and that the influence of Bédierism remained strong, particularly among francophone textual scholars.

For the purposes of this paper, if we compare the CBGM with these two competing understandings of the discipline, it becomes clear that the CBGM's goals are closer to those of the Lachmannian methodology, for the CBGM proposes a reconstruction of the text that was at the base of the textual tradition instead of adopting the text of a good or preferred witness.

2. Archetype and Initial Text

For Maas, the task of textual criticism is to restore the text closest to the original.¹¹ The archetype is the exemplar from which the first division of the tradition began, and, because it is preserved from the errors that entered the tradition in its later stages, it is closer to the original text. The other stages intermediate between the original and the exemplars preserved should not be named archetypes (*hyparchetypes* is the term often used for these intermediate phases).¹² The archetype, usually lost, is the text reconstructed through the study of the witnesses, the result of the *recensio* (see below). For Paolo Chiesa, the concept of archetype requires the presence of an error or innovation, a reading that is certainly not original, in all the tradition. Otherwise, what we would find at the top of the stemma would simply be the original.¹³ Michael Reeve discusses whether the concept of archetype should also include extant exemplars or only lost ones or whether it is necessary that it is at the point of the first split in the tradition.¹⁴ While some prefer to give the name of archetype to only a hypothetical, reconstructed text, others, like Reeve, believe that the term archetype should also include the cases where the exemplar from which the tradition derived is extant. In any case, for text critics, the archetype is "the point in the stemma beyond which the surviving tradition does not allow them to reach."¹⁵ If the critic wants to go beyond the archetype, considered corrupt at any point, in order to recover the original text, he must perform an operation known as *emendatio*: unable to base his decisions on the extant textual witnesses, the critic can only appeal to his own ingenuity and knowledge of the language, style, and cultural context of the author and propose a conjecture.¹⁶

While archetype is the term used in Lachmannian stemmatics, the theorists of the CBGM prefer to speak instead of *Ausgangstext*, the Initial Text. The use of this terminology has created some confusion, but it is important to understand that, for Gerd Mink, the inventor of the CBGM, the *Ausgangstext* is not the *Urtext* but the text from which the extant tradition originated, the point of departure of the whole tradition.¹⁷ The *Ausgangstext* is always a hypothetical

¹⁰ Paolo Trovato, "Bédier's Contribution to the Accomplishment of Stemmatic Method: An Italian Perspective," *Textual Cultures* 9 (2014): 161.

¹¹ Maas, *Textkritik*, 5.

¹² Maas, *Textkritik*, 6.

¹³ Paolo Chiesa, *Elementi di Critica Testuale* (Bologna: Pàtron Editore, 2002), 80–81. This is also the meaning in Trovato, *Everything*, 64.

¹⁴ Michael D. Reeve, "Archetypes," in *Manuscripts and Methods: Essays on Editing and Transmission*, Storia e Letteratura-Raccolta di Studi e Testi 270 (Rome: Edizioni di Storia e Letteratura, 2011), 107–17.

¹⁵ Trovato, *Everything*, 66.

¹⁶ Chiesa, *Elementi*, 57.

¹⁷ Gerd Mink, "Eine umfassende Genealogie der neutestamentlichen Überlieferung," *NTS* 39 (1993): 482.

text. In other circumstances, Mink spoke about the *Ausgangstext* as referring either to (1) the authorial text, (2) to an edition of the author's text, or (3) to the archetype of the tradition; he also admitted the possibility of more than one Initial Text.¹⁸ For this last notion, I wonder if Mink is referring to something analogous to the situation Maas describes where the first split in the tradition forms two branches, and the witnesses at their top, extant or reconstructed, allow certainty in the reconstruction of the archetype only when they agree, or whether it is analogous to cases of authorial variation, when the author prepares different versions of the same text.¹⁹ Instead, Klaus Wachtel has maintained that the *Ausgangstext* is neither the original nor the archetype of the tradition.²⁰

Now, is the *Ausgangstext* a different concept from what has traditionally been called an archetype in textual criticism? I believe it is, for one reason: while the archetype of traditional stemmatics is a postulated *exemplar* at the origin of the extant witnesses, the *Ausgangstext* of the CBGM is a postulated *text* at the base of the extant textual traditions (see below). Because the archetype is generally the product of reconstruction, exactly like the Initial Text, the distinction is not at this level. The distinction is not even of a chronological order. The difference concerning the term archetype in Maas and *Ausgangstext* in the CBGM is mainly due to the fact that the latter is not relating to extant manuscripts in the first place but texts, as we are going to see in the next section. For this reason, *Ausgangstext* is a notion that can have referents that are not manuscripts (extant or putative), unlike the archetype as understood by Maas. That would explain and support Wachtel's claim that the *Ausgangstext* is not to be identified with the archetype.²¹ None of the above means that the CBGM disregards the materiality of the witnesses, for, in the first steps of the procedure, the critic works with collations based on full transcriptions of the manuscripts; further, all aspects regarding palaeography and codicology can be taken into account in the preparation of the local stemmata (see below). However, the method tries to understand the relationships between texts not manuscripts.

Another difference between Initial Text and archetype is that, as explained above, the procedure of *emendatio* takes the archetype as its point of departure in traditional stemmatics, whereas the Initial Text of the CBGM may already include conjectural emendations, thus is also a result of *emendatio*.²²

In any case, it is clear, once again, that the main goal of the CBGM is more similar to the one pursued by the Lachmannian method of textual criticism than to the one proposed by Bediérism.

¹⁸ Gerd Mink, "The Coherence-Based Genealogical Method, CBGM: Introductory Presentation," http://egora.uni-muenster.de/intf/bindata/CBGM_Presentation.zip, 13–16.

¹⁹ Maas, *Textkritik*, 9; Trovato, *Everything*, 161. Giorgio Pasquali was an author who drew attention to such cases and discussed in length the consequences for the search of the original in Giorgio Pasquali, *Storia della tradizione e critica del testo* (Florence: Le Monnier, 1952), 302–465.

²⁰ Klaus Wachtel, "Conclusions," in *The Textual History of the Greek New Testament: Changing Views in Contemporary Research*, ed. Klaus Wachtel and Michael W. Holmes, TCS 8 (Atlanta: Society of Biblical Literature, 2011), 219.

²¹ Against Gurry's statement that "the initial text cannot be categorically distinguished from the archetype or the author's text"; Gurry, *Critical Examination*, 99. As a matter of fact, they are different categories, and a conceptual distinction remains even if the texts of both coincide.

²² See the discussion in Gurry, *Critical Examination*, 98–99.

3. Stemmata of Manuscripts or Stemmata of Texts?

Lachmannian textual criticism aims at the production of a stemma of the textual witnesses of a given tradition. The stemma should offer a view on the relationships between the extant manuscripts (or printed exemplars in some cases). Once the stemma is achieved, it should help in text-critical decisions by offering an objective criterion. The stemma is always a reconstruction that differs in some measure from what really happened in the history of the textual tradition. Text critics are aware that the real tree of a given textual tradition would be much larger and more complex than the stemma they propose. This is due to the fact that many witnesses, generally most of them, have been lost through time owing to all sorts of phenomena. The high decimation rate of manuscripts prevents the researcher from having a complete view of the textual transmission.²³ Therefore, the *stemma codicum* is not a photograph of the historical truth concerning a given textual tradition. Nevertheless, the text critic tries to propose the best reconstruction possible based on the data available, a reconstruction that serves as a tool for making textual decisions.

The CBGM also uses the term *stemma* and produces stemmata, but the main difference is that these are not stemmata of the manuscripts, but stemmata of texts. To understand this point, it is necessary to recall that the whole method proposed by Maas depends on the presupposition that the witnesses of the textual tradition under scrutiny did not undergo contamination, namely, that the copies reproduce only one model each. In cases where the copies follow more than one exemplar, the relationship between witnesses can be confused and even inverted. Maas is often quoted for his statement that there is no solution for contamination.²⁴ In strongly contaminated traditions, where, to use Giorgio Pasquali's terminology, horizontal contacts often happen, the reconstruction of the stemma is, according to Chiesa, mostly impossible.²⁵ The New Testament textual tradition, however, is known to be a highly contaminated one. Therefore, in the New Testament tradition, the application of the traditional method of Lachmannian textual criticism would find an insurmountable difficulty, except in limited cases of small families of manuscripts. For his edition of the New Testament, Lachmann himself used a method distinct from the one applied in his famous edition of Lucretius.²⁶ Thus, even the founder of the method could not apply it to the New Testament without serious changes in the procedure! The CBGM tries to deal with the problem of contamination through a fundamental change in the method: the goal is no longer to study the relationships between manuscripts but the relationships between texts. Although a stemma produced by the CBGM may look very much like a traditional *stemma codicum*, the proponents of the method invite us not to treat it so.

For the CBGM, the postulation of the relationship between witnesses derives from the relationship between readings or variants.²⁷ This point does not seem to be radically different from traditional stemmatics since the latter also derives the relationship between manuscripts from the presence and evaluation of variant readings, though the steps of the procedure vary considerably, as will be explained in the next section. However, for Mink, and here is the wa-

²³ Trovato, *Everything*, 80–89.

²⁴ Maas, *Textkritik*, 6, 31.

²⁵ In these cases, the method can only isolate families or groups of manuscripts which reduce the subjectivity of the editor but cannot produce a true stemma; see Chiesa, *Elementi*, 119, 124.

²⁶ Pasquali, *Storia della Tradizione*, 5–6.

²⁷ Gerd Mink, "Contamination, Coherence, and Coincidence in Textual Transmission: The Coherence-Based Genealogical Method (CBGM) as a Complement and Corrective to Existing Approaches," in Wachtel and Holmes, *Textual History of the Greek New Testament*, 142.

tershed between the two approaches, the text, not the manuscript, is “the witness” of a variant.²⁸ A fundamental principle of the CBGM, as Gurry explains it, is that a witness, in the CBGM, “is simply the totality of its variant readings,” and “the relationship between witnesses is the sum of the relationship between their readings.”²⁹ Thus, the CBGM takes into consideration all the variant readings in at least one phase of the procedure. This point will be made clearer below.

Although both (Neo-)Lachmannianism and the CBGM work with what some authors call a “platonic” approach, where the text of a work transcends “any possible material incarnation,”³⁰ I believe it can be argued that the CBGM pushes the distinction between the immateriality of a text and its material forms a bit further. This distinction allows the text a life independent from the manuscript. Thus, one way to describe the difference between the traditional Lachmannian method and the CBGM is that the latter can be said to represent a more radically platonic view in comparison with the former.

It is important to remark, however, that, in both cases, great attention is paid to the documents; there is no neglect of materiality in this sense. As already mentioned, in the early phases of the CBGM’s procedures, the New Testament Greek manuscripts are carefully indexed and transcribed in order to produce faithful collations.

4. Error and Coherence

The Lachmannian method proceeds by the identification of meaningful errors (*errores significativi* or, in German, *Leitfehler*) that entered the textual tradition and that allow the text critic to postulate the kinship between manuscripts when they share meaningful errors (*errores coniunctivi*) or the independence between two witnesses when one of them displays meaningful errors not shared by the other (*errores separativi*), under the condition that the removal of these errors in the other witnesses through conjecture is unlikely.³¹ The identification of meaningful errors is important in traditional stemmatics because it distinguishes between errors that could have emerged multiple times in the textual tradition (polygenetic errors) from those that are more likely to have emerged only once (monogenetic errors). This distinction prevents the postulation of kinship between manuscripts based on agreements in error that are only coincidental and genealogically irrelevant. The archetype is reconstructed through elimination of the *separativi* exclusive to each family or individual manuscript.³² Another observation is that some authors prefer the terminology *innovation* instead of *error*. In both cases, however, it is implied that the reading categorized as innovation/error is secondary. The decision con-

²⁸ Gerd Mink, “Problems of a Highly Contaminated Tradition: The New Testament Stemmata of Variants as a Source of a Genealogy for Witnesses,” in *Studies in Stemmatics*, ed. Pieter van Reenen, August den Hollander, Margot van Mulken, vol. 2 (Amsterdam: Benjamins, 2004), 29. Mink considers this the most important principle of the CBGM; see Gerd Mink, “Manuscripts, Texts, History, and the Coherence-Based Genealogical Method (CBGM): Some Thoughts and Clarifications,” in *The New Testament in Antiquity and Byzantium: Traditional and Digital Approaches to Its Texts and Editing: A Festschrift for Klaus Wachtel*, ed. H. A. G. Houghton, David C. Parker, and Holger Strutwolf, ANTF 52 (Berlin: de Gruyter, 2019), 281–83.

²⁹ Gurry, *Critical Examination*, 39.

³⁰ See Roger Chartier and Peter Stallybrass, “What Is a Book?,” in *The Cambridge Companion to Textual Scholarship*, ed. Neil Fraistat and Julia Flanders (Cambridge: Cambridge University Press, 2013), 201. Abstraction from the material documents containing texts is very central in Tanselle’s treatment of the distinction between *work* and *document* in G. Thomas Tanselle, *A Rationale of Textual Criticism* (Philadelphia: Pennsylvania University Press, 1989).

³¹ Maas, *Textkritik*, 27.

³² Trovato, *Everything*, 64.

cerning which kind of error should be deemed significant (i.e., genealogically relevant) is not clear-cut and depends in part on the textual tradition under consideration.

In New Testament textual criticism, however, it has been said that “no one has been able to establish the existence of even a small family of New Testament manuscripts by using agreement in error. Errors seem to have had a short life in the manuscript period.”³³ Although after Ernest C. Colwell’s time scholars have indeed managed to establish the existence of textual families and describe the relationship of their members in exceptional cases,³⁴ the point stressed by that critic remains valid. In the New Testament, with its impressive and challenging overabundant tradition, not only is widespread contamination a main obstacle for the application of traditional stemmatics, as argued above, but also the frequent scribal interventions to correct the text make it an almost unachievable enterprise.

The CBGM, however, does not depend so heavily on the identification of meaningful errors. Its practitioners understand that the advent of the computer has allowed the treatment of a larger amount of data, and all the differences between manuscripts can be taken into consideration. Nevertheless, we shall see that the distinction between genealogically relevant and genealogically irrelevant readings is also present in its procedures.

Since the CBGM focuses on the study of the relationships between texts and not manuscripts, the main concept in the method is not error but coherence. Because this is a notion often confused in discussions regarding the method, it is important to clarify that the CBGM works with three different kinds of coherence: pregenealogical coherence, genealogical coherence, and stemmatic coherence.

Pregenealogical coherence refers to the general agreement between two witnesses in all points of variation. This kind of coherence does not take into consideration the possible genealogical relationship between the witnesses (hence it is pregenealogical) but only assesses the closeness of their relationship through the total number of agreements. The direction of the development or the genealogical relationship between the witnesses remains undetermined at this phase. This means that pregenealogical coherence between two manuscripts makes no judgment whether one of them derived from the other (and, in such case, in which order), whether they both descend from a third manuscript, or whether they have any kinship at all. All variant units are counted here. Although there is not exactly a limitation to *significativi*, as in the traditional Lachmannian method, the CBGM will have already discarded several variants considered genealogically irrelevant in previous phases.³⁵ The use of computers allows quick access to the information regarding the pregenealogical coherence of two witnesses. High or low pregenealogical coherence can help the text critic to decide whether an agreement in a specific variant is coincidental or not: low pregenealogical coherence between witnesses to the same reading may suggest a coincidental agreement. In this sense, even if pregenealogical coherence does not replace the text critic’s judgment on a reading, it offers an objective criterion for his work.³⁶ If the objective of traditional stemmatics is to reduce the subjectivity of the

³³ Ernest C. Colwell and Ernest W. Tune, “Method in Classifying and Evaluating Variant Readings,” in *Studies in Methodology in Textual Criticism of the New Testament*, ed. Ernest C. Colwell, NTTS 9 (Leiden: Brill, 1969), 102.

³⁴ See, for example, the stemma of the members of family 2138 of Syriac New Testament manuscript witnesses drawn from a study of meaningful errors in Barbara Aland, ed., *Die grossen Katholischen Briefe*, vol. 1 of *Das Neue Testament in syrischer Überlieferung*, ANTF 7 (Berlin: de Gruyter, 1986), 90.

³⁵ These regard orthographic differences and crass errors.

³⁶ Gurry, *Critical Examination*, 53–54.

editor in the reconstruction of the text, as Chiesa explains,³⁷ the CBGM's use of genealogical coherence also contributes to this task.

Instead, genealogical coherence takes into consideration the genealogy of the differences. It indicates the direction of development in the relationship between witnesses. For each variant unit, the text critic evaluates which variant is more likely to have originated the others and therefore will classify them as prior or posterior. These relationships are recorded in local stemmata of the readings, and, later, one can consult the statistics as to how often a witness attests to prior readings in comparison with another witness, the predominant direction of textual flow. When a witness has more prior than posterior variants in respect to another witness, it can be considered a potential ancestor of the latter. Here, a major difference between CBGM and traditional stemmatics can be noted, for the kinship between witnesses is inferred from the direction of all variants that made it into the CBGM database, not only the presence of a few *errores significativi*. It must be remembered though that, for traditional stemmatics, classifying a variant as an error, thus as secondary, is already an operation that evaluates the direction of the change or development of the readings. In this sense, the critic working with the CBGM is performing fundamentally the same operation. One question that can be raised is whether the variants considered genealogically relevant are actually a different name for the same thing traditional stemmatics called *errores significativi*. Because the confines of what is considered *significativi* are largely dependent on the scholar's judgment, some applying stricter criteria than others, it would be possible to argue that the CBGM works with a less strict notion of *significativi*. Readings retained genealogically irrelevant are excluded, but many that would probably not be accepted as *significativi* in traditional stemmatics still make it into the database for the calculation of coherences. For example, cases of multiple emergence are admitted in the variant count in the CBGM, and the tool even allows the researcher to split a reading and indicate that the same reading emerged twice (or more) from different variants in the local stemma. Another example: additions or omissions of the definite article are also counted, which would probably not be considered among the *significativi* by practitioners of traditional stemmatics. The current version of the CBGM does not allow the text critic to attribute less weight to an addition of a definite article than to an addition of, say, a longer explicative reading more unlikely to have emerged multiple times. This point has been made in the past by Tommy Wasserman and Gurry who suggested a change in the software allowing users of the CBGM to attribute different weights to variants.³⁸ In practice, this would allow the user to shape his concept of significant variant/error through an interactive platform. In any case, it does not seem correct to me to assume that the CBGM works with a loose notion of *significativi*, for that would require stretching the notion too much.

In the CBGM, if not all the witnesses of a variant can be connected by close genealogical coherences, the coherence is said to be imperfect, and it can be hypothesized that the variant emerged repeatedly.³⁹ If the genealogical coherence points to various sources of a reading, this could be also an indication of contamination at that place.⁴⁰

Genealogical coherence can be represented graphically by what the CBGM calls "textual flow diagrams." These textual flow diagrams use arrows of different shades to indicate the di-

³⁷ Chiesa, *Elementi*, 51.

³⁸ Wasserman and Gurry, *New Approach*, 116–17. See the reaction of a member of the INTF in Paulson, "Improving the CBGM: Recent Interactions," in Houghton, Parker, and Strutwolf, *New Testament in Antiquity and Byzantium*, 304–6.

³⁹ Mink, "Problems," 40.

⁴⁰ Wachtel, "Towards a Redefinition," 126.

rections of prior readings between witnesses, the darker arrows representing the predominant ones. Textual flow diagrams should not be confused with stemmata.

The third kind of coherence is the stemmatic coherence that Mink defines as “the coherence between descendant and stemmatic ancestors according to the optimal substemma.”⁴¹ A substemma shows the relationship of a given witness to its possible ancestors. Each substemma is a part of the global stemma. The substemma of a witness is considered optimal when the lowest number of potential ancestors can explain all variants in it.⁴²

Although there is a clear separation between text and manuscript in the CBGM, Wachtel explains that “all we know about the history of the manuscripts can be incorporated in the CBGM procedures of constructing the local stemmata of variants and the optimal sub-stemmata of witnesses.”⁴³

The optimal substemmata are then used to build a global stemma. The global stemma is, therefore, “a compilation of multiple optimized substemmata.”⁴⁴ In the CBGM, the global stemma is the result of the text-critical work, not a prerequisite for the *constitutio* as in traditional stemmatics (see below).⁴⁵ In fact, the creation of the hypothetical *Ausgangstext* is undertaken before the editors can produce a global stemma.

Despite all that has been said about the roles of error in stemmatics and coherence in the CBGM, it must be said that the INTF works with a definition of error in the CBGM and the ECM that is different from that of traditional stemmatics. While a *variant* is a reading grammatically correct and logically possible, *errors* are readings that do not fulfill these criteria.⁴⁶ In any given variant-unit, textual witnesses carrying errors, in the ECM’s definition of the term, are taken as witnesses to the variant from which the error derived.

Concerning connectivity, Wachtel explains that “if we think the probability is low that a scribe could have produced a variant independently of what he found in his exemplar, the connectivity of the variant will be regarded as high. If we think the variant may have emerged from some kind of semi-conscious trivialization, the connectivity is low.”⁴⁷ Thus, although, in the CBGM, the recognition of multiple emergence does not have the role of excluding the variant from a list of *significativi*, as in traditional stemmatics, it is nevertheless taken into account in the procedure with the notion of connectivity.

The appeal to coherence is the CBGM’s answer to the problem of contamination.⁴⁸ It is a step forward in the treatment of this problem.⁴⁹

⁴¹ Mink, “Contamination,” 144.

⁴² Mink, “Problems,” 30.

⁴³ Klaus Wachtel, “The Coherence Method and History,” *TC* 20 (2015): 6.

⁴⁴ Gurry, *Critical Examination*, 167.

⁴⁵ Mink, “Manuscripts,” 288.

⁴⁶ Barbara Aland, Kurt Aland, and Gerd Mink, *Text*, part 1 of *Die Katholischen Briefe*, vol. 4. of *Novum Testamentum Graecum Editio Critica Maior*, 2nd ed. (Stuttgart 2013), 26*.

⁴⁷ Klaus Wachtel, “Towards a Redefinition of External Criteria: The Role of Coherence in Assessing the Origin of Variants,” in *Textual Variation: Theological and Social Tendencies?*, ed. H. G. A. Houghton and David C. Parker, *TS* 6 (Piscataway, NJ: Gorgias, 2008), 116.

⁴⁸ Klaus Wachtel, “The Development of the Coherence-Based Genealogical Method (CBGM), Its Place in Textual Scholarship, and Digital Editing,” in *The Future of New Testament Textual Scholarship: From H. C. Hoskier to the Edition Critica Maior and Beyond*, ed. Garrick V. Allen, *WUNT* 417 (Tübingen: Mohr Siebeck, 2019), 435.

⁴⁹ Even if some doubt that the CBGM completely solves it; see Gurry, *Critical Examination*, 207.

5. The Procedure: *Recensio* and *Constitutio*

Traditional stemmatics work with two phases in the procedure, *recensio* and *constitutio*. The first step is the *recensio*, which is the evaluation of the witnesses and the reconstruction of their relationships. The *recensio* is essential because the value of a witness depends on its relationship to the other witnesses. This procedure progresses with the study of the *errores coniunctivi* and *separativi* discussed above. Whenever possible, these relationships are represented by a *stemma codicum*, a genealogical tree of the witnesses.⁵⁰ This work is made easier when the witnesses themselves contain information about their origin, but that is the exception, not the rule. The *stemma codicum* is always a hypothetical reconstruction. Because, in any manuscript tradition, many witnesses have been lost over history, the text critic is aware that the *stemma codicum* differs from the real stemma, the historical reality that can no longer be retrieved. When considering the possible relationship between two manuscripts, it is important to take into account the age of the witnesses, for the copy must logically be more recent than its model.⁵¹

The procedures of the *recensio* include: the collation of the witnesses; the identification of the *significativi*, while cases that are unclear or genetically irrelevant are ignored in this phase; and the grouping of the witnesses having the same innovations or errors.⁵² The establishment of the relationships between the witnesses is generally expressed through a stemma.

Apart from the problem of contamination that we discussed above, an obstacle for the *recensio* is that copyists might correct a text (*divinatio*) and therefore eliminate an error that would be relevant for determining genealogical relationships.⁵³ The result is that the exemplar might seem dependent on a different model.

In any case, only after the *recensio* can the second phase, the *constitutio*, take place. The results of the *recensio*, the evaluation of the witnesses, form the basis of the *constitutio*, the hypothesis on the text of the archetype. In the *constitutio*, the copies of extant witnesses are discarded as well as singular readings when there are more than two witnesses on the same level.⁵⁴

The stemma might allow the text critic to judge some witnesses as carrying little or no value for the reconstruction of the archetype. When an exemplar is clearly and exclusively dependent on another extant witness, it can be discarded for the textual reconstruction (*eliminatio codicum descriptorum*).⁵⁵ The elimination of these copies, the *descripti*, from the stemma when they are not needed for the reconstruction of their respective ancestors is a procedure that relieves the editor of a lot of work discarding useless witnesses and variants.⁵⁶

The stemma offers the text critic a tool to treat objectively the cases previously ignored, that is, those that did not allow a decision in the *recensio* phase. For example, it allows the

⁵⁰ Chiesa, *Elementi*, 55.

⁵¹ Maas, *Textkritik*, 6.

⁵² Chiesa, *Elementi*, 63.

⁵³ Maas, *Textkritik*, 9.

⁵⁴ Chiesa, *Elementi*, 53.

⁵⁵ Maas, *Textkritik*, 5.

⁵⁶ Chiesa, *Elementi*, 76. It is important to notice, however, that critical remarks have been raised against the procedure. Reeve, for example, believes it is impossible to prove with certainty the exclusive derivation of one manuscript from another, though high probabilities can be argued. Furthermore, the witnesses classified as *descripti* can be important for other purposes, like the study of history or literature in other periods. See Michael D. Reeve, "Eliminatio codicum descriptorum: A Methodological Problem," in *Manuscripts and Methods: Essays on Editing and Transmission*, Storia e Letteratura-Raccolta di Studi e Testi 270 (Rome: Edizioni di Storia e Letteratura, 2011), 145–74.

elimination of the singular readings in lower branches of the stemma (*eliminatio lectionum singularium*). Thus, the few *significativi* that could be safely identified in the *recensio* are used to build the stemma, which, in turn, enables a decision on the doubtful cases.⁵⁷ However, as explained above, if the result of the *recensio* is a two-branched stemma, the decision when the witnesses diverge can no longer be automatic, that is, adoption of the reading of the qualified majority. In such traditions, in this phase of the *constitutio*, the editor would have to appeal to traditional principles like *lectio difficilior*, the author's style, and so on.⁵⁸ As explained above, if the reading of the archetype is considered corrupt, the critic may conjecture the original reading, a procedure known as *emendatio*.

Traditional stemmatics use the notion of hyparchetypes, putative lost exemplars that function as links between the extant manuscripts in the stemma. They are reconstructed witnesses that carry variants. Even with the appeal to the notion of hyparchetypes, traditional stemmatics has no way to tell how many phases there are between the points of division of the textual tradition.

In its focus on the text and not on the manuscripts, the CBGM does not produce a *stemma codicum* in this sense. Terminology here can be confusing because the practitioners of the CBGM also speak of a local stemma and global stemma, presented above, but these cannot be taken as a traditional *stemma codicum*. Considerations regarding the age of the witnesses play a role in the CBGM but not in the same way as in traditional stemmatics. They play a role when the text critic studies a variant-unit and evaluates the direction of the change, but, in the CBGM, it is theoretically possible to have a later witness functioning as the closest ancestor to another because of the stronger detachment between the manuscript as an artefact and its text in the theoretical frame of the CBGM. As already explained, this is a significant difference between the CBGM and the traditional Lachmannian method. The focus on the text instead of the artefact allows the CBGM to relate witnesses in a way impossible in traditional stemmatics.⁵⁹ Furthermore, the CBGM does not use the notion of hyparchetypes for the New Testament tradition.⁶⁰ The number of witnesses for the New Testament text is so high that postulating other missing links is considered unnecessary and would further complicate the picture.⁶¹ One wonders if the application of the CBGM to other textual traditions with fewer witnesses and less contamination would justify the use of the notion of hyparchetypes.

The notion of *eliminatio codicum descriptorum* is present to some degree in the CBGM procedures and in the history of the ECM.⁶² The work done in *Text und Textwert* allowed the INTF team to weigh and separate later manuscripts that transmit a homogeneous final stage of the Byzantine text from the manuscripts that present deviations from the majority text. In *Text und Textwert*, test passages (*Teststellen*) were chosen. In these places of variation, all available manuscripts were studied, and the procedure allowed a decision concerning the manuscripts that could be discarded from the ECM. For example, for the letter of James, 371 out of 535 manuscripts were excluded from the ECM, with 164 remaining.⁶³ Note that the procedure of

⁵⁷ Chiesa, *Elementi*, 79.

⁵⁸ Chiesa, *Elementi*, 87–95.

⁵⁹ Wassermann and Gurry, *New Approach*, 24. Of course, it is known by practitioners of traditional stemmatics that the text of a late manuscript can be older than the one attested by a more ancient manuscript if it is established that the former is a good copy of an older manuscript. However, a younger witness would never be represented as a possible ancestor of an older one.

⁶⁰ Wachtel, "Development," 445–46.

⁶¹ See also Paulson, "Improving," 301–2.

⁶² Wachtel, "Development," 437–38.

⁶³ Mink, "Problems," 17–18.

eliminatio described by Maas presupposes the verification of each of the particular readings of the witness in order to establish that it is dependent only on a single other witness that is extant or that can be reconstructed without its help; thus, the witness could be eliminated. However, Maas also admitted that, for textual traditions abundant in their number of witnesses, this procedure would imply a gigantic enterprise bearing little fruit, and, in such cases, it would be admissible to trace the lines of dependence in only general lines and based on selected cases.⁶⁴ In this sense, the practice of the INTF is not far from Maas's proposal.

Traditional stemmatics moves from errors whose solutions are clearer and uses the resulting hypothesis about the textual development to decide the less clear cases. In the CBGM, this is also the case. In the first step, when the text critic works on the local stemmata, it is possible to leave difficult cases undecided and come back to them in a second step, when the general situation of the textual tradition is better known, thanks to the treatment of the clearer cases. This "iterative approach," as Wachtel describes it,⁶⁵ resembles, in some measure, the procedure of traditional stemmatics. In the CBGM, the local stemmata that can be attained in a first step form the total genealogical data that will be used in a subsequent step in order to (1) revise the local stemmata already obtained and (2) to solve cases left open in the first phase.⁶⁶ This means that, at a first stage, the CBGM, also leaves unsolved cases where the direction of the development cannot be ascertained until the data from cases that can be solved accumulate and shed light on them. With this procedure, the CBGM works its way through the circularity known in textual criticism where witnesses are deemed good owing to their good readings, and readings are deemed good because of their good witnesses.⁶⁷

6. Manuscript Grouping

Maas wrote that, in stemmatics, rigorously speaking, there would be no room for the concept of manuscript families or classes. It is always the witness, taken individually and in its individual relationship with other witnesses, that counts. However, in cases where the relationship of dependence of the witnesses is not clear enough, the notion of family or group could turn out to be useful. This is especially the case when a group of manuscripts is known to be related but the internal articulation between the witnesses is not defined precisely. It would then be licit to choose a member of the group (the oldest) as representative of the class.⁶⁸

It is well known that the notion of text-type has been very relevant in the history of textual research of the New Testament. In fact, Parker explains that the notion of text-types in New Testament textual scholarship was a way to apply Lachmannian methodology despite the impossibility of building a full stemma for the New Testament tradition.⁶⁹

⁶⁴ Maas, *Textkritik*, 18–19. See also Chiesa, *Elementi*, 100–05.

⁶⁵ Klaus Wachtel, "The Coherence-Based Genealogical Method: A New Way to Reconstruct the Text of the Greek New Testament," in *Editing the Bible. Assessing the Task Past and Present*, ed. John S. Kloppenborg and Judith H. Newman, RBS 69 (Atlanta: Society of Biblical Literature, 2012), 137.

⁶⁶ Mink, "Problems," 46.

⁶⁷ Gerd Mink, "Was verändert sich in der Textkritik durch die Beachtung genealogischer Kohärenz?," in *Recent Developments in Textual Criticism: New Testament, Other Early Christian and Jewish Literature*, ed. Wim Weren and Dietrich-Alex Koch (Leiden: Brill, 2003), 66.

⁶⁸ Maas, *Textkritik*, 31.

⁶⁹ David C. Parker, *Introduction to the New Testament Manuscripts and Their Texts* (Cambridge: Cambridge University Press, 2008), 174.

One of the consequences of the CBGM is precisely that the relationships between witnesses can be seen on a more individual level, and so the practitioners of the method came to question the usefulness of the notion of text-type for New Testament textual criticism.⁷⁰ This is not the place to dive deeply into a complex subject that has triggered contrasting reactions in the field, but, for the purposes of this paper, it can be said that the CBGM seems to be shaping a view and treatment of the New Testament textual tradition that is closer to traditional stemmatics in this regard, or at least closer to what Maas considered the ideal approach to textual traditions.⁷¹

7. The Play between Internal and External Criticism

In traditional stemmatics, the quality of the witnesses and their place in the stemma are essential for formulating a hypothesis about the text of the archetype, the *constitutio*. In the terminology typical of textual criticism of the Bible, we could say that, for traditional stemmatics, external criticism is essential for deciding the text of the archetype. These external criteria are, of course, also important in reconstructing the hyparchetypes in each phase of the transmission. In fact, the main point of the whole method is to clarify the relationships between witnesses in order to have a more objective criterion for postulating the text of the archetype. If we have three independent witnesses at the top of the stemma, when the first split occurred, agreement of two of them against the third in a reading would point to the preferable reading. This is an objective criterion that helps the text critic to establish the text of the archetype. Therefore, the number, age, and quality of the witnesses have a great role in traditional stemmatics.

As for what is called internal criteria in biblical textual criticism, that is, evaluating a reading by its own merits with regard to transcriptional probabilities (what scribes are likely to do in the copying process) and intrinsic probabilities (author's style, conformity to grammar and to the context), they are also present in traditional stemmatics. The considerations of internal criteria are relevant in at least two phases of the method. First, during the process of *recensio*, when the text critic must decide whether a reading is an error and not the original reading. It is also relevant in this phase for distinguishing the errors that are *significativi*, the evaluation whether an error is significant for determining the genealogical relationship of the manuscripts or not. For example, given that omissions through *homoioleuton* are so very common in textual copying (transcriptional probability), the agreement of two manuscripts in an omission that could have originated from this type of error would not be taken as significant. The second phase when internal criteria play a major role in traditional stemmatics is when an hyparchetype or the archetype itself is reconstructed (*constitutio*) while having a split in two branches only. Because in such cases the text critic finds only two witnesses in disagreement at the highest position in the stemma, the decision between the two readings can no longer be made based on external criteria alone and appeal to internal criteria becomes necessary.

⁷⁰ The point has been repeatedly emphasized by the practitioners of the method; see, for example, Holger Strutwolf, "Entstehung und Entwicklung der Rezensionshypothese in der neutestamentlichen Wissenschaft," *BN* 184 (2020): 5–42; Klaus Wachtel, "On the Relationship of the 'Western Text' and the Byzantine Tradition of Acts: A Plea against the Text-Type Concept," in *Studien*, part 3 of *Acts of the Apostles/Die Apostelgeschichte*, vol. 3 of *Novum Testamentum Graecum Editio Critica Maior* (Stuttgart: Deutsche Bibelgesellschaft, 2017), 137–48; Wachtel, "Die Kohärenzbasierte Methode und ihre Ergebnisse für die neutestamentliche Textgeschichte," *BN* 184 (2020): 43–72.

⁷¹ This does not mean that the notion of families of New Testament manuscripts, such as family 1 or family 13, has been abandoned.

For the CBGM the application of external criteria, in terms of pregenealogical coherence, has a great importance. The use of the computer to offer statistics of pregenealogical coherence helps to identify similarity between witnesses. It offers an objective criterion to see the statistical differences between witnesses. Furthermore, local stemmata of the readings of a variant unit accumulate and allow the researcher to see the ancestor/descendant relationship between witnesses, which one has more prior readings or posterior readings. Therefore, the researcher has another set of data to postulate the overall priority of one witness in comparison to another. This data can help in clarifying the relationship between a given witness and the *Ausgangstext*, thus its quality as a witness, thus improving the application of external criteria.

As already mentioned, the way the CBGM works with the witnesses has challenged one aspect of external evidence that has been important in the history of the discipline of New Testament textual criticism, the use of text-types for textual evaluation: with the CBGM, the relationships between witnesses are taken into consideration on a more detailed, individual level.

Internal criteria in the CBGM are applied already in the phase of collation when crass errors and orthographic differences are regularized, deemed irrelevant for genealogical considerations.⁷² They are also used in the work with the CBGM database in defining the local stemmata, for all the knowledge about the scribal mistakes and stylistic principles of a writing come into play for determining the priority of a reading. As Gurry points out, the CBGM works better within reasoned eclecticism, a view that balances inputs from both external and internal criteria.⁷³

Conclusion

The comparison between traditional stemmatics and the CBGM shows that there is both continuity and discontinuity between them. Many concepts and procedures of Lachmannian textual criticism survive, albeit transformed, in the CBGM, while others are abandoned, and new ones are forged. The CBGM uses many terms traditional in textual criticism but redefines some of them (e.g., error, variant, stemma) and gives rigid definitions to others, something which has been a source of confusion regarding the method. It is also important to notice that, since the foundations of the Lachmannian method were laid, the advent of the computer signifies a radical historical development with great consequences for the discipline, and the CBGM tries to take full advantage of this powerful tool.

If it is true that the Lachmannian method has some elasticity, being adapted by editors in view of the problems posed by different textual traditions,⁷⁴ the CBGM could represent a radical adaptation of the method for a textual tradition that is both overabundant and highly contaminated and a method that recognizes the difficulty of creating a stemma for the New Testament witnesses while taking advantage of the computer. Drastic situations might require

⁷² Aland, Aland, and Mink, *Text*, 26*–27*. Curiously, some criticism has been leveled against the CBGM for excluding these readings. Instead of pleading for a stricter limitation of the kinds of variants considered for genealogical research, some authors want the CBGM to include even more kinds! See the discussion in Paulson, “Improving,” 299–301.

⁷³ Gurry, *Critical Examination*, 107.

⁷⁴ Chiesa, *Elementi*, 143. According to Chiesa, the stemmatic method can be better applied to traditions with the following characteristics: low textual mobility, limited interventions by copyists, circulation mostly in scholastic/erudite environments, stability guaranteed by the author or the sacrality of the text, and a precisely codified linguistic register. See Chiesa, *Elementi*, 145. The New Testament textual tradition lacks many of these features.

drastic measures! Other scholars will probably prefer to consider the CBGM's abandonment of the notion of significant errors and its focus on the text rather than the manuscript a major break with traditional stemmatics. In any case, the discussion above has made clear that the method is not created *ex nihilo* and that its relationship with traditional stemmatics is much more complex than a superficial look can reveal.