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Genetic Criticism: Another Approach to Writing?

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Genetic critique was introduced in France as an extension to structuralism the paradigm of which it modified: instead of considering writing in its structures and communicative function, it encompassed its dynamics and production function. Both empirical and theoretical, this research analyses the material traces of intellectual production over literary, scientific and philosophical manuscripts. The universality of its material gives it an international scope; it is also interdisciplinary through the issues it addresses. Recent examples of exchanges with experimental, physical and cognitive researches as well as with studies from linguistics, human and historical sciences are presented in this chapter.

La critique génétique a fait passer l'étude de l'écrit de sa fonction communicative à sa fonction productive dans la création des oeuvres de l'esprit. À la notion de structure elle a ainsi substitué celle de processus, susceptible d'une analyse empirique à partir de témoins matériels des opérations mentales. La critique génétique est ainsi entrée en rapports d'échanges avec des recherches de sciences expérimentales et de sciences de terrain. On en présente ici des exemples dans des domaines de la physique, des sciences cognitives, de la linguistique et de l'histoire. Cette dernière fournit des témoins exemplaires d'une recherche sur manuscrits dont l'étude s'achève ici par une réflexion sur les perspectives de la génétique face aux nouveaux supports informatiques de l'écriture.

1. A Research Area Crossing Multiple Borders

The definition of genetic criticism, or genetic editing, is simple: it examines the process of literary creation by studying writing in its function as an instrument for the creation of intellectual work. But this function itself is unusual,

as it is used in all cultures by the smallest number of writers for the greatest number of readers. The analysis of this paradoxical practice began developing in the nineteen-eighties, and therefore following structural criticism. However, the two practices are distinguished by an epistemological shift. Indeed, the genetic approach to textual research shifts attention from the communicative role of writing to its productive function, and therefore from a study of structures to a study of processes. This process is carried out through an empirical exploration of graphical signs on the written work. In these signs, genetic criticism analyzes the observable traces of intellectual production, whether scientific, philosophical, or, most frequently, literary manuscripts. The manuscript is chosen with several objectives in mind. Research is open to thousands of documents that encode and attest to centuries of our writing civilization. Exploring these documents has made genetic editing a thriving international research field. Researchers in this approach can thus be perfectly confident about the future of their discipline. Additionally, genetic criticism studies manuscripts documenting the creative process, where writing appears in its most complex functions. It raises theoretical questions that go beyond the scope of a classic critical interpretation, making genetic textual analysis an interdisciplinary endeavor which interacts with both experimental research and applied disciplines. By virtue of all these features, genetic criticism offers an example of a “border-crossing” research discipline.

Let us first consider the tools of the field. The interdisciplinary structure of the CNRS has allowed us to conduct experiments in collaboration with computer science labs.¹ Thus, in analyzing markings on manuscripts, we have used statistical evidence that escapes human perception.

This process can be carried out in two directions. Invariant traits, characteristic of each individual written work, were used to distinguish an author’s notes from those of assistants. Conversely, variations that occur in the same handwriting were used to identify the different stages of a genetic production. As the full range of techniques used cannot be presented here due to space constraints, we will focus on the role of computational tools. These tools have effectively contributed to genetic criticism’s position within contemporary research. Text geneticists also recognize the computer as the finest tool ever invented for the study of manuscripts.

But even beyond the tools available, genetic criticism owes a fundamental debt to computer and information scientists, as is increasingly the case for all forms of cognitive research. To mention just two recent examples, a Franco-Swiss team (Demonet, 1992; Lubrano, Demonet, & Roux, 2004; Roux, et al., 2014) was able to confirm the presence of a specialized nerve center for writing in the frontal cortex. This center controls the transition between ver-

bal representations and the hand's writing actions. The act of writing is thus confirmed as a distinct function, shedding light on the cognitive gap seen in manuscripts between the act of writing and act of drawing. Further, a research group at France's National Institute for Health and Medical Research (INSERM), observed activation of the auditory cortex during silent reading—and therefore also writing (Dehaene, et al., 2010). These results provide a better understanding of the role of the sounds of words during the writing process. Meanwhile, neurophysiology has shown that motor programs for writing are equipped with a graphical memory of the shapes of lines. This memory includes a pattern that determines the individuality of each writing input, which would correspond to basic data for genetic criticism. Of course, these are only a few examples, but which all point to the high expectations of genetic textual analysis in relation to cognitive research.

Now a word must be added on social science and humanities research, starting with linguistics. Linguistics has allowed genetic criticism to address, on brand new grounds, the relationship between language, speech, and writing. On this topic, I recently read the following written by a specialist: "writing is not part of language . . . Writing . . . is only a simple graphical representation" (Touratier, 2004). It seems to me that the genetic study of manuscripts does not support this classically negative view. In fact, on the contrary, in genesis manuscripts (those documenting a work's creation), writing appears *in statu nascendi* just like spoken language. From a synchronic study of the sentence, genetic textual research moves to the diachronic study of a process that takes place in reversible time. This has led to the birth of a new branch of the discipline, linguistics of the written utterance. This new theoretical perspective extends the work of the American researchers Flower and Hayes and the French linguist Émile Benveniste. We know that Benveniste's manuscripts were recently discovered by a colleague from our Institute, ITEM, Irène Fenoglio.² The work she has carried out is doubly genetic as she studies a theory of writing at the very moment that the writing emerges from the pen. She and her colleagues discuss this work in detail, and I gladly refer the reader to their articles (e.g., Fenoglio, 2009, 2012). For now, I would like to focus on another field-oriented discipline, historical research. This historical dimension is not always well represented in work on writing. However, it allows for a better understanding of the cultural techniques of writing, while also encouraging reflection on their development.

2. Following the Traces of Writing in Time and Space

Despite the contemporary image generally associated with genetic criticism,

it is in fact rooted in a long tradition. The first genetic documents go back to the end of the Middle Ages—and their appearance is itself the product of a long process. It begins in the Early Middle Ages with the popularization of the individual page which replaces the *volumen*, writing on scrolls—this format which reappears now in scrolling on the screen. I've had the opportunity to discuss the page elsewhere and here would only like to recall its function as a manipulable and physical medium. This apparently trivial function resulted in writing's movement into a three-dimensional environment. The German novelist Friederike Mayröcker's office provides one example among many others.



Figure 29.1. The study of the German poetess Friederike Mayröcker (Photo Herlinde Koelbl)

Imagine the same office, empty with only a computer on the table. Physical reminders and spatial representations disappear, leaving a single flat surface for the work of the imagination.

Following the page, another major innovation was the invention of the

individual written word. Indeed, in the middle of the monastic Middle Ages, the continuous line of writing is broken, allowing the words to escape and settle freely on the page. From this time on, the writer is able to manipulate, add, move, or delete words using the new technique of crossing out, which replaces the scraping knife of palimpsests. A final invention arising from technical progress is the appearance of paper, in 13th-century Italy. Easier to manipulate than parchment, it is the last link in this long history leading to our own times. We have just summarized the genesis cycle of the draft, this technique that, in modern times, allows works to be created with the pen.

Attesting to this journey, two famous documents allow us to witness the emergence of a new writing instrument, almost before our eyes. Here is the first page of the manuscript *De Gestis Caesaris*, the last work of Petrarch (Figure 29.2).



Figure 29.2. *De gestis Caesaris*, manuscrit ornemental de Pétrarque

(1374). The coats of arms of the Viscontis (on the bottom) are a foreign addition (Bibliothèque Nationale de France, Dépt. des Mss.)

It is a Latin prose text, arranged in two columns in the medieval custom, calligraphy in form letters and illuminated with a beautiful ornamental frame. And here ((Figure 29.3) is a manuscript of *Canzoniere* by the same author.

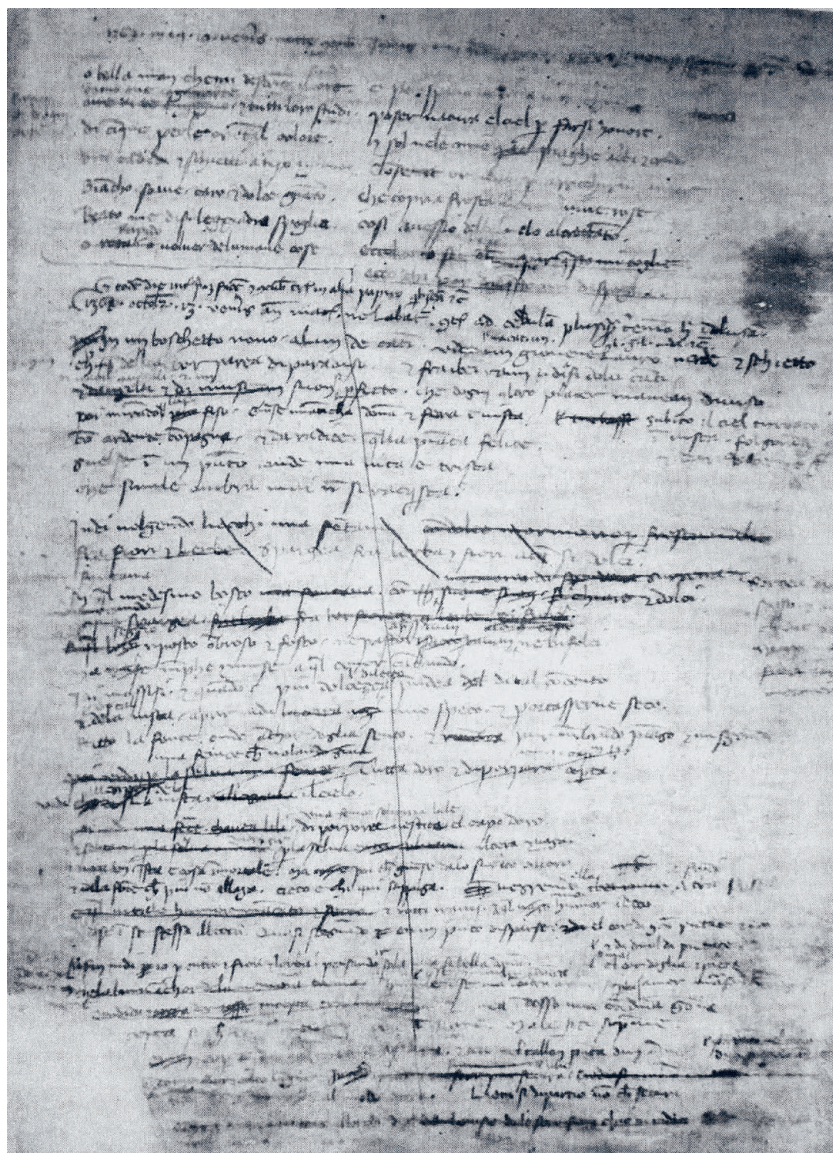


Figure 29.3. *Canzoniere*, page of draft of Petrarcha (after

1335; *Biblioteca Vaticana, Ms.Lat., Città del Vaticano*)

It is one of the first known drafts and also includes sketches for several sonnets, written in Italian—an innovation for this period—appearing all throughout the sheet. The writing is a linked cursive, with crossed-out text, interlinear additions, and rearrangements. Following modern usage, the vertical line indicates the end of the text on the page. In the margin, and this time in Latin, a metadiscourse appears, what would now be called “working notes” or simply “margin notes.” These are instructions given by the poet to himself, such as “this sounds better,” “say it differently” and often a reservation: *vel* (“to see”—review). At the same time, and for the first time, the writer records an autobiographical discourse on his manuscript: “May 19 1368, I get up during the night to resume an old poem from twenty-five years ago.” If not the first appearance of the author as such in writing, it is among the earliest examples of this already perfectly contemporary practice. In two documents, we have just traveled from one time in history to another.

We owe the transmission of these documents to a double fortune: the admiration for Petrarch by his contemporaries, and the safeguarding of his writings within the shelter of the Vatican. In Italy, the cult of the great authors supported a continuous transmission of writers’ manuscripts up to the present, in contrast to other European countries. In France, it wasn’t until the end of the 18th century and the beginning of the 19th that manuscripts collections were developed, first private, then public. These witnesses of scientific and literary creation gathered dust in shadowy library aisles until the moment came when innovative research transformed these relics into scientific objects.

3. Understanding the Interaction Between the Concrete and the Symbolic

Now let’s move into the field, where genetic criticism studies its objects directly. The analysis of a manuscript focuses on the interaction of a concrete object, the individual sheet, with a symbolic system, that of graphical inscriptions. The object, the manuscript sheet, divides the writing into a sequence of visual units which tend to become textual units. This trend is reinforced through writers’ efforts to extend the space of the sheet to the dimensions of the text. Marcel Proust provides a particularly striking example of this through his variously appended manuscript pages, known as his “paperolles” (Figure 29.4).

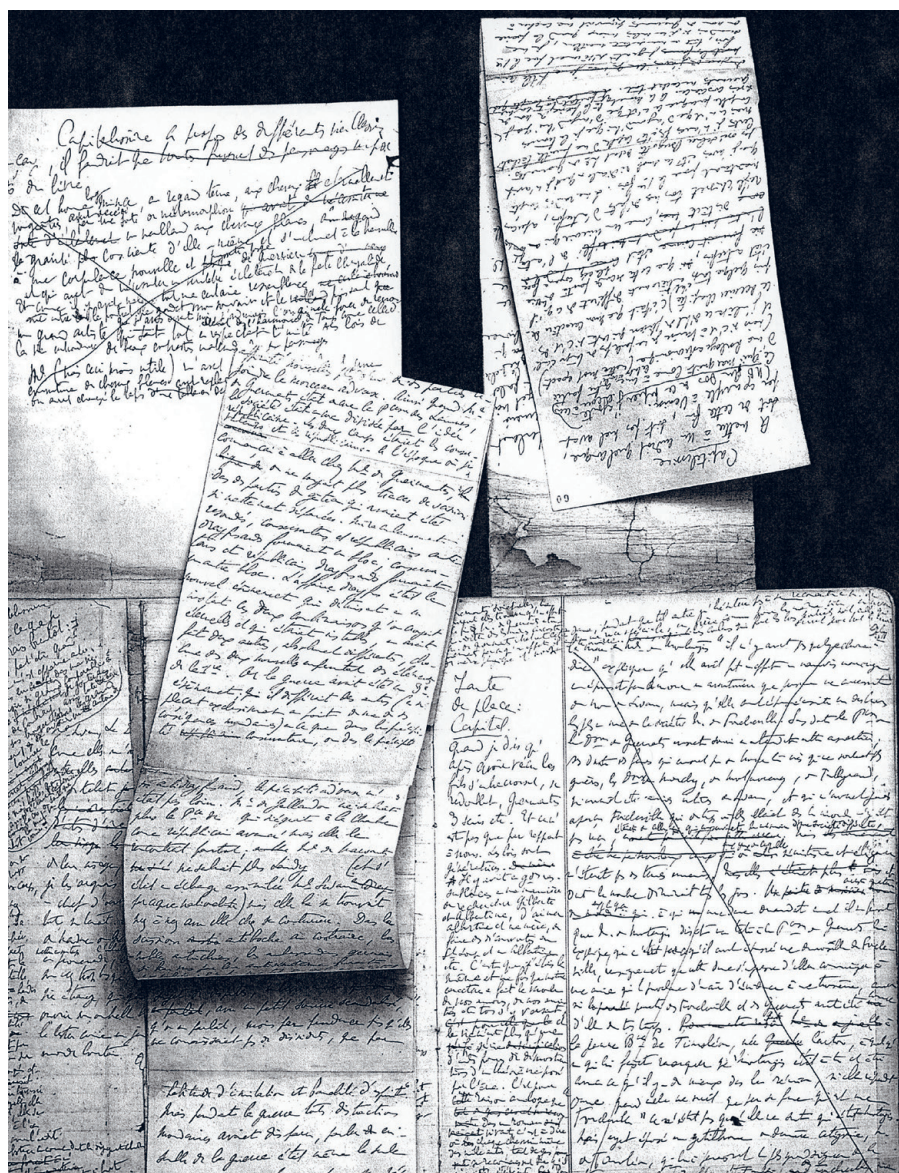


Figure 29.4. "Paperolles" (pieces of paper) glued by Proust on a page of *La Recherche* (Bibliothèque Nationale de France, Dépt. des Mss.)

These are additions that sometimes measure over a meter. Conversely, within the page, the symbolic system of the written work determines the text's spatial configuration, as we can observe on this sheet from Notebook 57 of *La Recherche* (Figure.29.5).

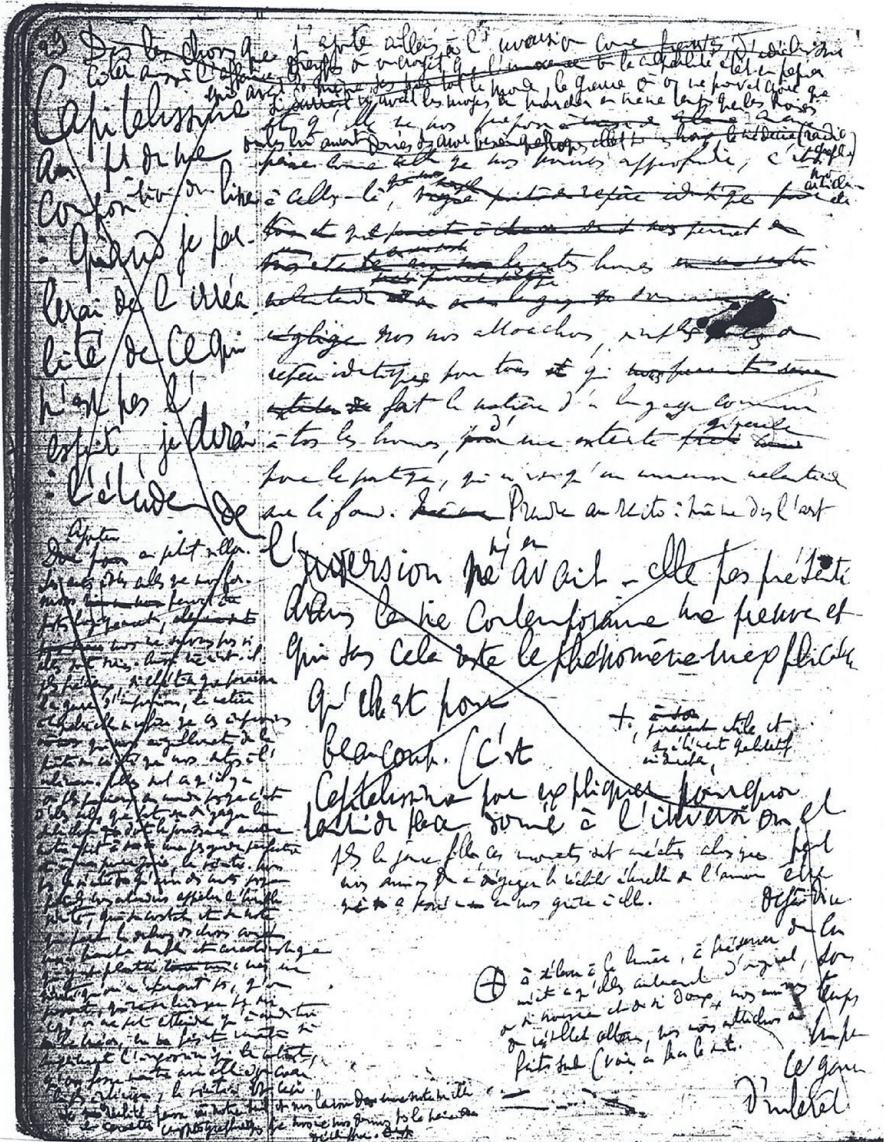


Figure 29.5. Marcel Proust, disposition of handwriting fragments on a page of *La Recherche* (Bibliothèque Nationale de France, Dépt des Mss.)

A plurality of fragments unfolds in several sequences, in disorder as sprung forth from the flow of the imagination. A central section continues the text from the previous page, and is interrupted by a reflection which is tightly fit in the margin and which, in turn, brings out an inspiration. It is the word "Capitalism," which forces its way onto the page in large feverish letters. In the

end, the writing refers back to previous pages through cross-references and new additions. The most extraordinary aspect of these notes is that they refer to all different parts of the novel. The central part belongs to *Chez Swann*, at the beginning of *La Recherche*, while the reflections in the margins and the fragment “Capitalism” refer to the end of the novel, to *Temps retrouvé*. Proust’s prodigious memory manipulates and composes fragments into an immense fictional framework. Here we witness, as if in real time, the genesis of a text without precedent in literary history.

At the same time, Proust teaches us that a manuscript is not made of words alone. On the page, the symbolic code of letters is surrounded by a network of unpronounced and unexpressed signs. The layout of the text on the page, changes in the shape of the lines and markings, the interplay of graphical configurations—all of this provides us with semiotic information which complements the explicit verbal information. Genetic criticism is informed by the two major symbolic systems of intellectual production: that of language and that of mental imagery. I would like to show these in action in a few examples.

The document reproduced in Figure 29.6 is a manuscript by Charles Sanders Peirce. Around a drawing, or “existential diagram” as Peirce called it, a verbal commentary explains the role of color in the representation of the relationship between three “fine objects.” To Peirce, drawing allows hypotheses to be tested before they become “scriptable” or expressible in language, and we know his statement: “I do not think, I never reflect in words: I employ visual diagrams” [Ms 619, 1909]. Here, we also see the function of non-verbal graphics in scientific manuscripts. They communicate meaning directly via visual perception, without going through the detour of language. This feature is common to scientific and literary manuscripts, but in the latter, figures are correlated with language, in an alternation which feeds the dynamics of a genetic process.

The manuscripts of Valéry provide classic examples, such this page of the poem *La Jeune Parque* [*The Young Fate*]. The first verse is carefully written out—we can see that it was already present in the poet’s mind and serves as a springboard to begin writing. Next, a groping search begins around several themes: “Pure Act,” “Astonishment,” “Silence.” This exploration results in a dead end, and Valéry breaks the thread of the text. He rotates the page to move into another space and from language to drawing. The geometry of a “fantasy architecture” revives the writing: “firm and flexible woman,” a formula that will orient the poem. The page rotates again, the writing is liberated and starts up again, to be quickly interrupted by new figures. In these scribbles,

the hand discharges tensions. It pursues its path on the page while the mind frees itself of the weight of the words. It enters the state of floating attention, in which at times the outside world appears—perhaps a memory from the beach—and at times a symbol, Valéry's "poetic pendulum" as he measures the rhythm. From this reverie emerges a hesitant writing which finally crystallizes into two verses: "Firm and flexible form / in silences followed by pure acts." The key of the verse is found, and from this point on, the drawing no longer puts the writing on hold, but accompanies it through Valéry's major themes, the sea, a ship embarking.

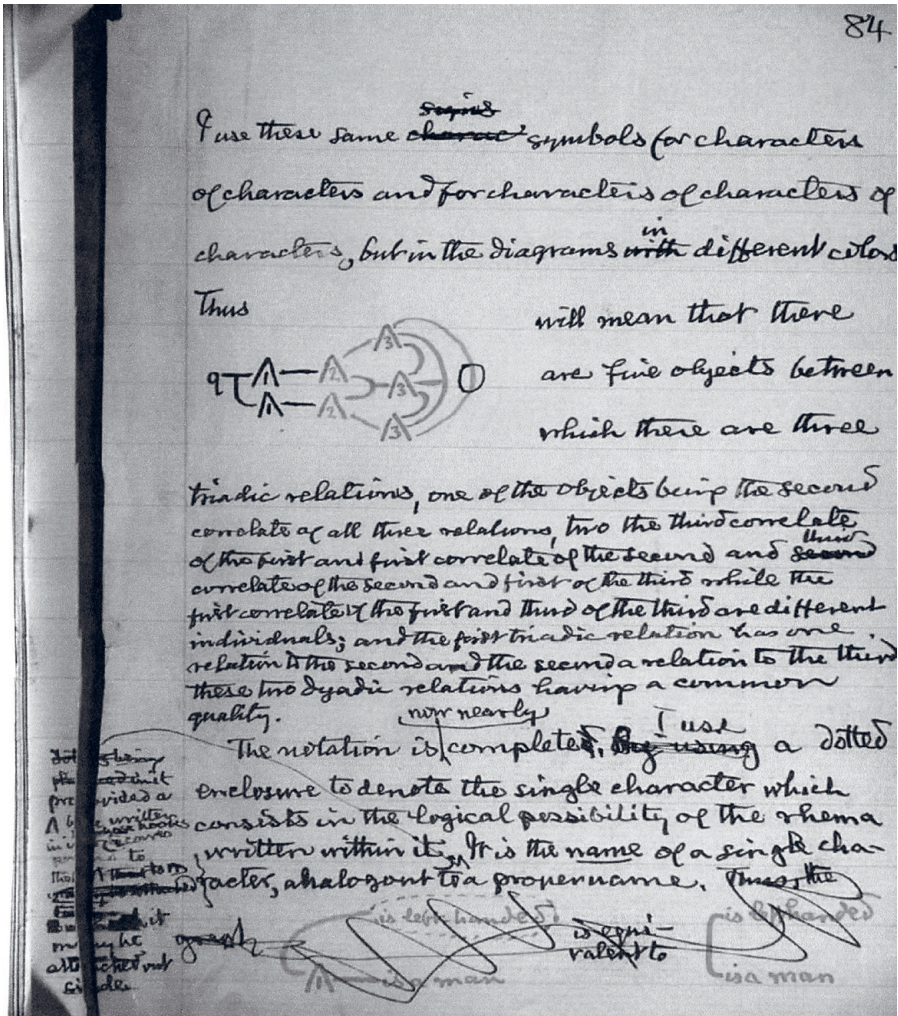


Figure 29.6.

Taken as a whole, the page lets us witness the traces of a sequence of mental operations. The first verse transmits a thought, already in words, from the mind to the hand. The draft fragments, in turn, emerge from a mental activity focusing on the search for verbal forms, while the sketches record the traces of a motor activity at the edges of consciousness. Several large nerve centers are thus activated, one after another, in an effort that involves both the body and the mind.

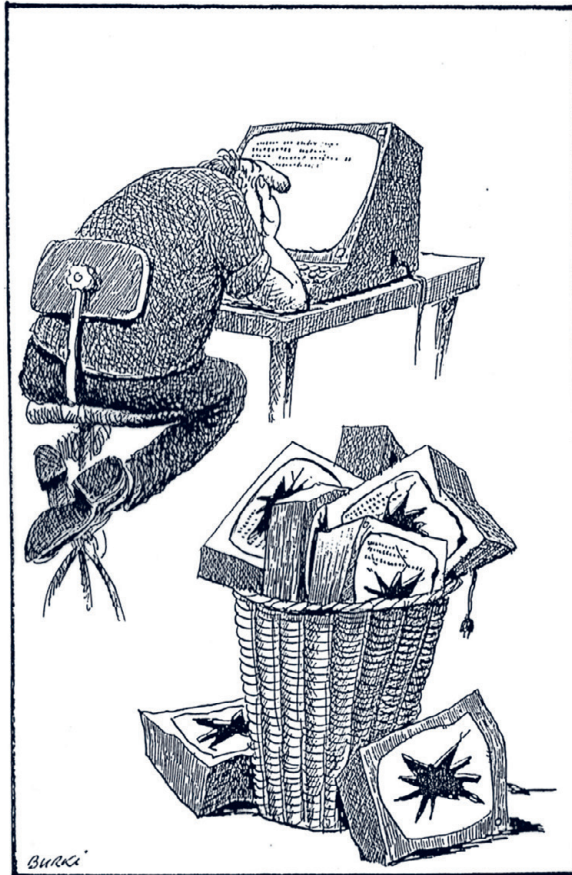
4. What Does the Future Hold for Writing and for Genetic Criticism?

All these data disappear during the shift from the pen to the keyboard. Lithographic and transfer techniques, which have appeared throughout history, are opposed in every detail to digital writing, whether by the material and spatial layout of the media, by the individuality and variability of writings produced, or by the relationship of the body and hand to the act of writing, just to name three among many others. These changes naturally have cognitive consequences: a different way of learning to write and a modification of motor programs, the potential consequences of which remain largely unexplored in terms of the higher functions of the brain. The effects of these changes have received little attention on the ground. In France, we only have fragmentary surveys carried out among writers. While they have no statistical consistency, they do allow for some basic observations. First, the use of the manuscript continues, either as a preliminary step or in alternation with the keyboard. Conservation of variant texts appears to be limited, however, with deletion being the most frequently used keyboard correction. Finally, the overall impact of the computer on the character of the works produced is not clear. All of this requires more comprehensive investigation. This small drawing shows how the old may persist in the new—at least in the imagination of the illustrator (Figure 29.7).

This is also an opportunity to point out a resurgence of manual writing, now on digital media like smartphones and tablets, but also in professional media tools. Here we see the coexistence of several techniques that has always marked the history of writing. In short, the end of writing, as proclaimed recently in a major American newspaper is not coming tomorrow.³ But is this the end of genetic criticism?

With the computer, genetic criticism is first confronted with the same problem it faces with history—the problem of archiving and transmission of manuscript evidence. This question has received different answers in different cultural contexts. In China, the Beijing Institute of Literary Archives continues to receive only traditional manuscripts, and still does not allow digital devices.

In the United States, on the other hand, the Library of Congress began to receive written works recorded on digital formats starting in the eighties. This has emerged as the obvious choice in the West, drawing its strength from a gamble on the future of the written word. But it also raises many problems.



l'écrivain de demain

Figure 29.7. "The writer of the future," humorous writing of the last century

Indeed, computers are much more fragile than manuscripts and their life expectancy does not span centuries, but decades at best, at least for now. In addition to this problem of hardware aging, there is also the issue of functional obsolescence. In order to query a computer, the technical environment of its time must be available. And of course, for proper archiving, the content must be transferred to contemporary and sustainable media. This is now a routine operation, although it remains complex. A diagram of the data pro-

cessing carried out in the German literature archives in Marbach (Figure 29.8) exemplifies the lengthy operation involved.

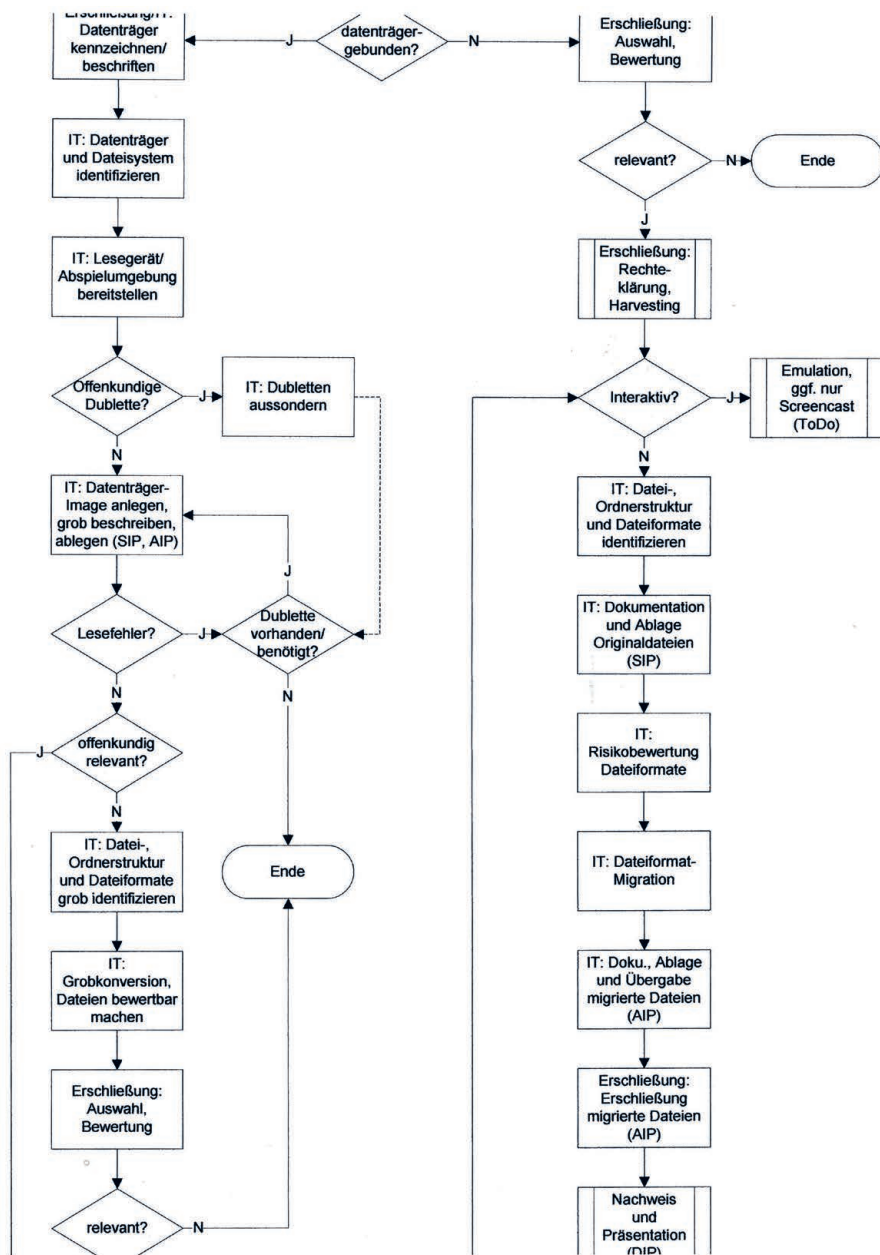


Figure 29.8

We cannot stop here, though, knowing that this data transfer conserves only the textual surfaces and neither revisions nor, a fortiori, marks of the text's geneses. To access this information, the pioneers of computational genetic criticism had to make full copies of content—volume transfers—which can then be explored by specialized software. This software allows for the recovery of metadata, i.e. the marks left by the interventions of both authors and operating systems, as well as deleted textual elements which leave a trace on the magnetic layers of the hard disk. I cannot enter into the details of these experiments here, but they were given special attention in a symposium presented at the WRAB 2014.⁴ Here, I will simply mention that such lines of research are beginning to develop internationally, with very interesting results. This research outlines a new type of genetic criticism, now applied to digital sequences—or a series of snapshots—and not to manual processes. The objects themselves are evolving, sometimes to the benefit of genetic criticism, as is the case with SSDs—solid-state drives—which retain erased entries for longer. Sometimes new problems are raised, as is the case with the “cloud,” which complements or replaces local digital storage. But one can also consider new approaches, sometimes inspired by unexpected precursors. I am thinking here—as unlikely as it seems—of Sigmund Freud who, nearly a century ago, was already wondering about the dual nature of writing, which simultaneously embodies a past and a present. As a result, Freud dedicated one of his essays, entitled “Notiz über den Wunderblock” (*A Note upon the “Mystic Writing Pad”*), to a rustic system of his time, which recorded traces of writing on a plastic base while writing took place on an overlaid sheet of paper. In our times, we might allow ourselves to dream of a *magic computer*, adapted to both to the writer's work and the conservation of this work's genesis. Such an achievement would certainly be a technological challenge, but we must leave the younger generations of researchers with some challenges to take on. They have before them both the vast domain of manuscripts, to which genetic criticism has given speech, and the new world of machines, which must be taught to speak to us. I hope that they will make beautiful discoveries in these worlds and that they will enjoy themselves—and I wish them good travels and good luck!

Notes

1. CNRS (Centre National de la Recherche Scientifique) is a French public research body that is multidisciplinary by design, and operates under the supervision of the Ministry of National Education, Higher Education and Research.
2. ITEM is the Institute of Modern Texts and Manuscripts (Institute des Textes et Manuscrits Modernes).

3. *Los Angeles Times* (no author or title given), cited in *Courrier International*, issue 1194, September 19-25, 2013, p.33.
4. Symposium “Temps de l’écriture et représentations dynamiques,” directed by Christophe Leblay, University of Turku (Finland).

References

- Anokhina, O., & Pétillon, S. (Eds.). (2009). *Critique génétique. Concepts, méthodes, outils*. Paris: IMEC.
- de Biasi, P.-M. (2000). *La génétique des textes*. Paris: Nathan.
- Contat, M., & Ferrer, D. (1998). *Pourquoi la génétique? Méthodes, théories*. Paris: CNRS Éditions.
- Dehaene, S., et al. (2010). How learning to read changes the cortical networks for vision and language. *Science*, 330, 1359-1364.
- Démonet, J.-F. (1992). *The Anatomy of phonologic and semantic processing in normal subjects*. Oxford: Oxford University Press.
- Fenoglio, I. (2009). Conceptualisation et textualisation dans le manuscrit de l’article “Le langage et l’expérience humaine” d’Émile Benveniste. Une contribution à la génétique de l’écriture en sciences humaines. *Modèles linguistiques*, XXX-1(59), 71-99.
- Fenoglio, I. (2012). Benveniste auteur d’une recherche inachevée sur “le discours poétique” et non d’un “Baudelaire.” *Semen*, 33, 121-162.
- Ferrer, D. (2011). *Logiques du brouillon. Modèles pour une critique génétique*. Paris: Seuil.
- Grésillon, A. (2008). *La mise en œuvre. Itinéraires génétiques*. Paris: CNRS Éditions.
- Hay, L. (2002). *La littérature des écrivains*. Paris: Éditions Corti.
- Lubrano, V., Demonet, F., & Roux, F. (2004). Writing specific sites in frontal areas: a cortical stimulation study. *J Neurosurg*, 101(5), 787-98.
- Martin, H.-J., & Vézin, J. (dir.). (1990). *Mise en page et mise en texte du livre manuscrit*. Paris: Cercle de la Librairie.
- Müller, L. (2012). *Weisse magie. Die epoche des papiers*. München: Carl Hanser Vlg.
- Pickering, R. (1992). *Paul Valéry. La page. L’écriture*. Clermont-Ferrand: Presses Universitaires Blaise Pascal.
- Roux, F., Durand, J.-B., Raja, E., Draper, L., & Demonet, J.-F. (2014). The neural basis for writing from dictation in the temporoparietal cortex. *Cortex*, 50, 64-75.
- Touratier, C. (2004). Les écritures, approche linguistique. In A. Piolat (Ed.). *Écriture – Approches en sciences cognitives* (pp. 69-90). Aix en Provence: Publications de l’Université de Provence.
- Voorhoeve, J. (dir.) (2011). *Welten schaffen. Zeichnen und schreiben als verfahren der konstruktion*. Zurich: Diaphanes.
- Zali, A. (Ed.). (1999). *L’aventure des écritures. La page*. Paris: Bibliothèque Nationale de France.

Periodicals

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Genesis, Revue Internationale de Critique Génétique, 1 (1992). Paris: Michel Place Éditions.

Genesis, Revue Internationale de Critique Génétique, 28 (2007). Paris: Michel Place Éditions.

Genesis, Revue Internationale de Critique Génétique, 30 (2008). Paris: Michel Place Éditions.