

How Will they Write?

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A great deal of thought has been given to the effects of information technology on reading, books and printed material. Its impact on writing, the production of texts, which is, however, the counterpart of reading, has not aroused the same interest. It is true that witnesses to the act of creation are less familiar objects than books or newspapers: in spite of the passion of the media and the educated public for writers' manuscripts, these remain predominantly the prerogative of researchers and are still rarely taken out of libraries and archive collections. In extremely literate Western societies, reading is an activity practised by large sectors of the population. The same cannot be said about writing as an active producer of texts, for this encompasses a much more limited group of professionals, and is thought, more or less, to require a special gift in its literary form. Written production is rather the hidden face of McLuhan's Gutenberg galaxy, and the commercial businesses which manufacture and distribute writing in its printed form are better known to the public than the mysterious secrets of creation.

In reality, the effects of computerization on the production of writing are very real. For a long time now journalists have seen their profession profoundly altered by the use of word-processing software. All 'professional writers', authors of scientific articles, reports, grey literature, make extensive use of it – it is very rare now to find a researcher who writes texts 'by hand', with a pen and paper, which he then gives to a secretary to be typed up. As far as literary writing is concerned, this is addressed at regular intervals in the popular press, in which, according to the line they are taking, not to say the prevailing mood, writers and journalists sing the praises of word processing or expose mechanical writing to public contempt.

However, this question is worthy of more than this impressionistic approach. Allow me to mention at least two reasons, amongst many others. The first is linked to a revival in written communication and its circulation in forms of exchange linked to information technology. Admittedly, these forms – e-mail, newsgroups, circulation of texts on the Web – have developed in relation to traditional writing; they are easily described as hybrids between oral and written exchanges since they are so close to speech by virtue of their quasi-instantaneity, familiarity, the neglect of a certain number of codes of politeness, etc. In reality, this difference in register is not new. For example, we find an analogous contrast between the very elaborate prose of Flaubert's published works and the much freer, more spontaneous and relaxed tone of his letters. The effects of this return to written exchanges have scarcely been studied in depth.¹

A second reason concerns the nature of the information environment used to produce written documents. It is very clear that word-processing software was not designed as a writing aid for professional writers, either authors or intellectuals, but for uses which

originated in office work – secretarial duties, professional correspondence and notes. To see the truth of this one has only to scan the menu bar of the most up-to-date of them, the Word software program: the ‘Insert’ menu, for example, suggests a whole range of phrases which can be inserted automatically, from letter endings to distribution criteria and the data capture masks of references to files, etc. And the grammatical alternatives suggested by the little historic Macintosh figure are designed more to distract a professional writer from his train of thought than to help him to formulate and develop it. One can therefore legitimately ask in what way authors, university teachers, researchers, etc. use software programs which have not been designed for them. It is true that the typewriter was not designed as a writing tool either. However, it has been used for that purpose by a large number of twentieth century authors. And it is probable that a large number of professional writers treat the computer in exactly the same way, as a somewhat improved version of the typewriter.

Without knowing exactly what the situation was like before, and especially what technical tools and cognitive procedures were linked to traditional written output, it is evidently very difficult to evaluate the contribution – positive or negative – of information technology in this field. Our approach must therefore begin by recalling the main characteristics of the ‘state of the art’ within which writing information tools have appeared, and this recollection must itself be put into perspective in the long history of the practices of writing and composition.

We know relatively little about this history. Unlike that of books and reading², the history of the practices of textual production is basically still to be written. And the immediate traces – rough drafts, files created during the evolution of a work – are rare, if not non-existent, as soon as one goes back beyond the eighteenth century, such that one is reduced to relying on indirect accounts. However, one can always locate a few milestones. The activity which we think of when we imagine an author in the process of writing corresponds to a relatively recent occurrence on the lengthy time-scale of its history. In Antiquity, and doubtless also quite early on in the Middle Ages, the text ‘production line’ was very different from the one we are familiar with from the accounts of the nineteenth and twentieth centuries. Several features are apparent from the accounts which we have at our disposal.³ First of all, mental composition plays a major role, as demonstrated by the semi-legendary story about Virgil, who at night, in darkness and in silence, composed about twenty lines which he dictated in the morning to a secretary, and which he spent the day reworking like a she-bear licking her cub into shape. The cognitive activity of production is therefore much less externalized than in the modern period, and presupposes a trained memory. The text is written first of all on the wax tablet of the brain. Then the creation and completion of the text call for the specialized labour of slaves or freedmen who specialized in writing and reading. The creation process is thus polyphonic, requiring several voices and several hands. Moreover, this process certainly continued until the eighteenth century (Montesquieu employed several secretaries), and even into the nineteenth century (Stendhal dictated to a secretary) and explains in part the scarcity of manuscripts written in the author’s hand before the eighteenth century.

In addition, there were certainly two very distinct systems of writing: the temporary or ephemeral, written down on tablets – and usually transcribed by the secretary in shorthand notation, as in the famous Tironian notes of Cicero – and that of communication

and conservation. It is, of course, possible that the tablets were the equivalent of our modern rough drafts. As far as the 'edited' text, as it was put into circulation, was concerned, it remained unfinished, since it was oral performance which completed the articulation of the work: as today in the case of music, its enactment was a re-creation renewed constantly with each performance. The computer, which produces documents without crossings-out and with all the appearances of printed text, has put an end to this opposition between the private and provisional, and the public and definitive.

Increasingly, this association of highly internalized output and mechanisms for revision through interaction with external agents and media has given way to forms of production which are increasingly externalized, in which the composition of the text is increasingly transferred from the space of the mind to the space of a sheet of paper and, ubiquitously, to that of the notebook, the bundle of papers, and the file. The page, or collection of pages, has thus come to represent the actual memory of external work, a memory deprived of the ephemeral, the transitory and the provisional. This new function of a memory of stable, lasting and permanent textual objects has been added to the classic function which has until now been reserved for documents. Although there are no landmarks to indicate the development outlined here, we can very probably consider the seventeenth and eighteenth centuries to be a transitional period, as shown by the professionalization of literary writing in the seventeenth century, the birth of modern concepts of authorship and literary property, etc., not to mention the increasingly obvious presence in the eighteenth century of rough drafts and files which indicate the development of a work.⁴

Linked with this externalization of the creative process, a whole cognitive development process has been put in place which allows management of the technical system formed by the paper and the writing tools by making it into a text production tool. It is quite difficult to put into perspective something which has to be learnt – but at school one is taught, amongst other things, to make a rough draft from which a fair copy is then made – and something which springs from the individual ingenuity of the author. This idiosyncratic character of management of graphic space by authors without doubt explains the difficulty encountered when one wishes to establish a typology of rough drafts.

In addition, this development process is of course a function of the potential of the actual objects which are used to write. These are the papers used by writers: loose sheets, notepads, notebooks made by the writer himself (in the nineteenth century) or bought. But they are also the innumerable 'odds and ends of paper' which are to be found in many work-in-progress files, metro tickets, bills, bits of paper tablecloth on which a thought seems to have been caught in mid-creation, as if the writer were afraid of losing it if he did not jot it down the moment it appeared. This anxiety about forgetting in conjunction with the immediacy of thought as it happens is the structural opposite of the figure cut by Virgil in antiquity, and demonstrates rather well the profound transformation which has taken place in the modern world of the relationship between internal and external memory. These are, moreover, tools for writing: constraints are not the same when one writes with a quill pen that one has cut oneself – as Heine did in the 1840s – or with a steel nib – Proust was well-known for this. And we are dazzled by the battery of pens, biros and different coloured felt tips used by Roland Barthes and immortalized in a photograph – not forgetting the scissors, glue, adhesive tape, and stapler which he

used in an obviously exultant fashion. But they also include the work space itself, such as the huge table where Flaubert piled up research material or bistro tables on which many literary works of the 1950s were said to have been created.

We do not know a great deal about these interactions between the tools, the hand that manipulated them and the creative brain, apart from anecdotal details which authors take such pleasure in when asked about their method of writing.⁵ Rough drafts allow us to identify them and understand their function. But there is a vast amount of work to be done, and typology comes up against a variety of authenticated traces. In any case, we can only admire the power and robust nature of the device placed in this way at the disposal of creative activity. With a single movement, one can write, create distinct areas in the space on the page in which to place commentaries, instructions for writing, notes which are independent of the text being edited, one can draw, underline, box in, delete, go over a line, insert arrows, correction marks and cross-referencing marks, etc. In addition, in their simplicity, the components of this development process possess for the writer prominent features which make them easily identifiable, weave links with everyday life and allow instant memory recall and reactivation of the creative process. What could be more effective than the grain and colour of the paper, the accidents which befall sheets of paper, their position in the pile, ink which is too thick or too thin, the snap of the pencil lead, etc?

Obviously, this cognitive development process patiently honed throughout the long evolution of writing practices and ingeniously mastered by skilful writers has been caught off guard by the introduction of information technology. Methods of familiarization have been superseded, the tools available have changed, and from now on the adaptation procedures are obsolete. That at least is the impression one gets when one is well acquainted with writers' manuscripts and then finds oneself in front of a computer screen. Does everything have to be re-invented in the new information technology environment?

In the absence of specific studies, which have yet to be undertaken, we can identify several fields in which we can speculate about the performance of the computerized writing environment compared with the traditional environment. I am thinking especially about writing tools, management of space, and the relationship between the process of production and memory.

I have already indicated that word-processing programs were not originally designed for skilful writers, such as authors and intellectuals. They were intended to make repetitive secretarial and correspondence tasks less tedious. Although they soon included the basic writing functions (writing, inserting, deleting, replacing, moving), they were essentially a faster and more effective substitute for typewriters, with a keyboard and a screen. In fact, for some time word processors were sold in which the text that was typed was displayed on a screen only a few centimetres high whilst waiting to be printed. Admittedly, these functions have been developed and numerous tools have been added to enhance the original ones. And in twenty short years – all in all extremely quickly – word-processing programs have been equipped with an increasing number of sophisticated tools which bring them closer and closer, faster and faster, to traditional writing tools. However, they have remained faithful to their office origins. Think, for example, of the default procedures available in Word, the most widely available software program: an upper case letter automatically appears after a full stop, the second upper case letter in

a word is replaced by lower case, the date is inserted into the text as soon as one begins to type a character sequence resembling a date, a 'bullet point list' is created if the writer places a dash at the beginning of a paragraph, the software automatically constructs a page style which is intended to copy the repetitive actions of the writer, offers help in writing a letter, etc. All these functions are certainly very useful for office work where they speed up repetitive tasks. But they constitute an obstacle to writing when, whilst in full flow, concentration on the text being created is destroyed by the untimely appearance of a date, or when one discovers too late that one has just keyed in several paragraphs as a bullet point list when one is writing a continuous text, etc. Having overcome his irritation, the software user quickly looks for a way to disable these automatic features which do not suit his way of writing.

Conversely, the keyboard does not offer the equivalent of the multipurpose functions to which traditional writing tools lend themselves. If a word-processing program is used, then the design functions are limited. If a design program is chosen, the word-processing functions are extremely inadequate. You can have refined tools for page layout which allow the text to be formatted in a particularly sophisticated way, and text and images can be combined in a very elaborate manner, but the procedures to achieve this are too unwieldy to be compatible with the brilliance of a thought trying to find its voice.

The same sort of questions can be asked about the management of space in the course of the writing process. When interfaces, which have since become universal, were first invented to general acclaim, they treated the screen as the surface of a desk on which one could move a cursor by moving a mouse, display icons which retrieved files and sheets of paper, make multiple windows appear which allowed several documents to be accessed at the same time, etc. Nevertheless, no-one would have dreamt of claiming that these interfaces would replace the space of a real desk or work table. Files, bundles of papers and books which accumulate on my table have a concrete physical presence which is brought about by a certain number of unique features which are familiar to me, and which constitute so many valuable aids with which to perceive my work space. On the other hand, the two-dimensional images of objects which appear on my screen are standardized, calibrated, and devoid of all external irregularity. There is nothing which distinguishes one window from another – apart from its content, which has itself been standardized. How long will I be able to remember the contents of the window below the one which I am currently working on? Without regularly printing off the results of my work, how can I take in with just one glance what I am currently writing and what I have already written earlier in the text? How, on a screen which is necessarily limited in size, can I place around me, as I do on my table without even being aware of it, the books which I am using while I write?

The same questions can be asked about the management of the more limited work space of the page I am currently writing on. Of course, I can create subspaces within the space displayed on the screen. But they run the risk of becoming unwieldy because they lack the flexibility and sturdiness of the areas which the writer creates just by blackening some stretches of the paper and not others. How can one very quickly jot down a commentary in the margin, either across it or by adjusting the size of the letters according to the space available, as when Proust wrote in the margin '*CAPITALISSIME*' next to a passage which he had just written? No doubt someone will object that this is possible, and that in fact it only takes a very short time to learn. But these tools still appear very

cumbersome compared with the very simple gestures that one can make wherever one wants without even lifting the pen from the sheet of paper.

Thirdly, the writing process initiates a complex interaction between internal memory and the external support for memory which writing provides. As has been outlined above, modern writing is the culmination of an increasingly advanced externalization of creative work by the memory, and it is by continuous movement backwards and forwards between the traces preserved on the paper and the text as it develops in the mental space of the writer that the work is progressively built up. This process is far from being understood in detail. However, it is known that the physical presence of the changes in the writing on a concrete physical medium occupies a very important place in the overall production mechanism. In particular, crossings-out are much more obvious than deletion, pure and simple. The manuscript expert is certainly not the only one to read the text obscured by the crossing-out: thanks to crossings-out, the writer himself retains traces of an attempt which has perhaps only been abandoned provisionally, and a memory of an area in the text which has caused problems in the creative process. And it is certainly no accident that, in the course of an investigation undertaken about ten years ago⁶, many authors were said they were sorry that the computer had deprived them of the contents of their wastepaper basket.

Even if nothing in a computer environment prevented the preservation of every stage, all the second thoughts, and all the re-writings of the text for the future, this practice has never been verified. It seems rather to run counter to what constitutes without doubt the most visible characteristic of the text which is being written on the screen, that is the apparent material perfection of the printed object:⁷ unlike paper, the surface of the screen does not generally retain any trace of the writer's interventions in his text.

Whether we are considering tools, work space or memory, the preceding three analyses raise a basic question about the cognitive appropriation of 'electronic writing'. What is, with regard to traditional writing environments, the relative importance of the undeniable progress that word-processing programs have made when compared with the weaknesses for which they are quite rightly criticized? Should we consider information technology to be at least equal in performance to earlier writing technology? Or, to put the question in a more classic form in terms of usage: should not someone at the very beginning, when the software was being designed, have taken into account all the writers' needs and reversed the usual 'technological loop' by first of all studying writing practices in all their various forms? Or alternatively, should we think that, just as with every new tool, the users will eventually adapt to the information technologies applied to writing by developing a new cognitive development process which differs from the previous one – and possibly producing something other than texts as we know them – but is just as effective?

Whichever answer one chooses, we have to evaluate how professional writers, especially authors, use the new writing environments provided for them by information technology, or neglect them in favour of traditional tools. What proportion of the members of the writing community continue to use traditional tools? What grievances do they harbour with regard to electronic writing? How do those who use a computer actually work? What proportion does hybrid use constitute, and how is it divided up between the successive stages of the text's production? How many continue, as in the days when the typewriter was the only means of creating a neat text, to carry out handwritten

re-writings on a print-out of the text, then to transfer them to a new version which is printed out in its turn, repeating this process until the definitive version of the text is completed? How many have completely abandoned editing on paper and do not print off their text until it has reached the stage of virtually definitive completion? Amongst all the functions offered them by the computer, which are the ones that they actually use? Which ones would they like to have available? Do authors always usually have a notebook with them which they use as a back-up to their short-term memory? Are they in the process of trading it in for an electronic assistant? It is very difficult now to give a precise answer to all these questions, and to many others of the same type, for lack of detailed investigation.⁸ I fervently hope that an investigation of this kind will take place.

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Notes

1. For a sub-field of this 'rediscovered' written communication, that of 'chat' on the Internet, see J. Anis's study (J. Anis, *Parlez-vous Texto?*), Paris, Le Cherche-Midi Éditeur 2001). However, this is considered to be a very specialized form of written production.
2. See, for example, R. Chartier (ed.), *Les usages de l'imprimé*, Paris, Fayard 1992.
3. Amongst the most important, we can quote in particular Pliny the Younger's *Letters* and Quintilian's *Institutio oratoria*. See J.-L. Lebrave, 'Penser, dicter, écrire', *The Romantic Review*, vol. 6 no. 3, May 1995, p. 437–450.
4. See J.-L. Lebrave and A. Gresillon (eds), *Lire et écrire au XVII^e et au XVIII^e siècles*, Paris, CNRS-Éditions 2000 (*Textes et Manuscrits* collection).
5. See, for example, the *Writers at work* series, published from 1957 onwards by The Viking Press.
6. See J. Anis and J.-L. Lebrave (eds), *Texte et ordinateur: les mutations de lire-écrire*, Paris, Éd. de l'Espace européen, 1991, second updated edition. Paris, CRL, University of Paris X-Nanterre 1993.
7. This characteristic of computerized text, always being 'neat' makes it besides a very effective pedagogical tool for young writers, who often fall victim to the paralysing effects of crossings-out, which show in far too visible a manner their lack of mastery of writing. See, for example, Colette Daiute, *Writing & Computers*, Reading, Mass., Addison-Wesley 1985.
8. Such an investigation was carried out in 1990–1991 amongst professional writers, including several authors. See J. Anis and J.-L. Lebrave, *op. cit.*