Electronic Mediations
Katherine Hayles, Mark Poster, and Samuel Weber, Series Editors

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Introduction

Writing, in the sense of placing letters and other marks one after another, appears to have little or no future. Information is now more effectively transmitted by codes other than those of written signs. What was once written can now be conveyed more effectively on tapes, records, films, videotapes, videodisks, or computer disks, and a great deal that could not be written until now can be noted down in these new codes. Information coded by these means is easier to produce, to transmit, to receive, and to store than written texts. Future correspondence, science, politics, poetry, and philosophy will be pursued more effectively through the use of these codes than through the alphabet or Arabic numerals. It really looks as though written codes will be set aside, like Egyptian hieroglyphs or Indian knots. Only historians and other specialists will be obliged to learn reading and writing in the future.

Many people deny this, mainly out of laziness. They have already learned to write, and they are too old to learn the new codes. We surround this, our laziness, with an aura of grandeur and nobility. If we were to lose writing, we say, we would lose everything we owe to such people as Homer, Aristotle, and Goethe, to say nothing of the Holy Bible. Only how do we really know that these great writers, including the Author of the Bible, would not have preferred to speak into a microphone or to film?

But laziness doesn't explain everything. There are people, and I count myself among them, who believe that they could not live without writing. And this is not because they want to imitate Homer, for they know that no one can write as he did anymore, even a second
Homer; rather they believe that writing is a necessity because their being is expressed in, and only in, the gesture of writing.

Of course, they could be wrong. But even assuming that they are right and that the production of video clips does not suit their being, their *forma mentis*, it would not prove that their form of being has become obsolete, that such people have become dinosaurs. It's true that not everything obsolete is necessarily expendable. What is called progress is not necessarily the same thing as improvement. Dinosaurs were very nice animals in their way, after all. And yet the insistence on writing is becoming questionable today.

The question is, What is distinctive about writing? What sets it apart from comparable gestures of the past and future—from painting, from pressing on computer keys? Is there anything specific at all that is shared by all kinds of gestures of writing—from the chiseling of Latin letters in marble to the brushing of Chinese ideograms on silk, the scratching of equations on boards, or the pounding on the keys of typewriters? What sort of life did people have before they began to write? And how would their lives look if they abandoned writing? All these and many more questions would obviously concern not only writing itself but also the reading of what is written.

These are simple questions only at first glance. A comprehensive book would be required just to grasp them all. But the crux of the matter is that such a book would be a book. Instead of what? That is the question.

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**Superscript**

My intention in this book is to write about writing. It is, if you think about it, a project turned in on itself. It makes writing both the object (that one is facing) and the instrument one uses to deal with the object. Such an undertaking cannot be compared with thinking something over, in which ideas are directed against ideas. But this comparison shows how reflection is different from an attempt to write about writing. The particle *over* in the construct to *think something over* can be interpreted in two ways: on one hand, as the effort to let supplementary ideas follow after those that have already been thought to put them in order, and on the other hand, as the effort to let ideas run counter to those already thought to track them down. Neither strategy makes any sense when writing about writing. It can't be about putting the writing one is writing about in order because it is already in order. Written signs are arranged in lines, and each one already has a designated place in this one-dimensional order. And it can't be about tracking down writing, for written signs consist of nothing but tracks (Greek: *topoi*). Writing about writing is itself to be seen as thinking of a sort, that is, as an attempt to arrange those ideas that have already been thought about writing in an order, to track down these thoughts that have been thought and to write them down. That is the intention here.

Thinking and writing about writing should really be called *superscript*. Regrettably, that word is already in use and means something else. But it doesn't matter: with permission, the word *superscript* will be used with the new meaning suggested. Aren't there people who would call such violence against language "creative"?
All writing is “right”: it is a gesture of setting up and ordering written signs. And written signs are, directly or indirectly, signs for ideas. So writing is a gesture that aligns and arranges ideas. Anyone who writes must first have thought. And written signs are the quotation marks of right thinking. On first encounter, a hidden motive appears behind writing: one writes to set one’s ideas on the right path. That is really the first impression one has in looking at written texts: exactly this order, this alignment. All writing is orderly, and that leads directly to the contemporary crisis in writing. For there is something mechanical about the ordering, the rows, and machines do this better than people do. One can leave writing, this ordering of signs, to machines. I do not mean the sort of machines we already know, for they still require a human being who, by pressing keys arranged on a keyboard, orders textual signs into lines according to rules. I mean grammar machines, artificial intelligences that take care of this order on their own. Such machines fundamentally perform not only a grammatical but also a thinking function, and as we consider the future of writing and of thinking as such, this might well give us pause for thought.

Writing is about setting ideas in lines, for unwritten ideas, left to their own devices, run in circles. This circling of ideas, where any idea can turn back to the previous one, is called *mythical thinking* in certain contexts. Written signs are quotation marks signaling the onset of linear, directional thinking within mythical thinking. This directional thinking is called *logical thinking* for reasons still to be discussed. Written signs are quotation marks for logical thinking. This becomes clear if one looks more closely at quotation marks, that is, inverted commas. For example, ‘word’ is a word, but ‘sentence’ is not a sentence. Such a thing can only be written, for anyone who were to try to say it would be thinking in circles. In a broader, very important sense, all written signs are quotation marks.

But lines of writing not only direct ideas into rows, they direct those ideas toward a recipient. They run past their end point toward a reader. Writing is motivated by an impulse not only to direct ideas but also to direct them toward another. Only when a piece of writing reaches another, a reader, does it achieve this underlying intention. Writing is not only a reflective, inwardly directed gesture but is also an expressive, outwardly directed (political) gesture. One who writes presses into his own interior and at the same time outward toward someone else. These contradictory pressures lend writing the tension that has made it capable of carrying and transmitting Western culture and of endowing this culture with such an explosive form.

In this first observation of writing, it is the rows, the linear flow of written signs, that make the strongest impression. They make writing seem to express a one-dimensional thinking and so, too, a one-dimensional feeling—desire, judgment, and conduct—a consciousness that was able, through writing, to emerge from the dizzying circles of preliteracy consciousness. We know this writing-consciousness because it is our own, and we have thought and read about it.

The present book is not the first “superscript.” A great deal has been written about writing, if under other titles. In these titles, writing-consciousness has been given various names. It has been called “critical” or “progressive,” “numerate” or “narrative.” But there is a common denominator among all these names. Writing-consciousness should be referred to as *historical consciousness*.

The matter is more radical than it seems, for it is not as if there were a historical consciousness capable of expressing itself in various codes, writing being one of them; rather writing, this linear alignment of signs, made historical consciousness possible in the first place. Only one who writes lines can think logically, calculate, criticize, pursue knowledge, philosophize—and conduct himself appropriately. Before that, one turned in circles. And the longer one writes lines, the more historically one can think and act. The gesture of writing produces historical consciousness, which becomes stronger and penetrates more deeply with more writing, in
turn making writing steadily stronger and denser. This feedback between those who write and historical consciousness lends that consciousness a rising tension that enables it to keep pushing forward. That is the dynamic of history.

It is therefore an error to suppose that there has always been history because things have always happened, to suppose that writing only recorded what had happened, to regard historical time as that period in history when people recorded events in writing. It is an error because before writing was invented, nothing happened; rather things merely occurred. For something to happen, it has to be noticed and conceived as an event (process) by some consciousness. In prehistory (the term is accurate) nothing could happen because there was no consciousness capable of conceiving events. Everything seemed to move in endless circles. Only with the invention of writing, with the rise of historical consciousness, did events become possible. When we speak of prehistoric events, we are writing supplementary history and committing anachronisms. Even more so when we speak of natural history, for then we are committing historicism. History is a function of writing and the consciousness that expresses itself in writing.

Writing, this ordering of written signs into rows, can be mechanized and automated. Machines write faster than human beings. And not only that: they can vary the rules for assembling signs (the rules of orthography) automatically. We can already see both the speed and the variability of writing in the new orthographic writing machines, word processors, however primitive they still are for now. And artificial intelligences will surely become more intelligent in the future. They will possess a historical consciousness far superior to ours. They will make better, faster, and more varied history than we ever did. History will become unimaginably more dynamic: more will happen; events will overtake one another and become more diverse. As far as we are concerned, all history can be confidently left to automated machines. Because all these mechanical and automated things make better history than we do, we can concentrate on something else. On what? That is what the present essay means when it asks, does writing have a future?

This first chapter is called “Superscript” because it is the first and announces an intention to write about writing. For reasons of symmetry, the last chapter is called “Subscript.” This symmetry is in keeping with the intention of the work. It looks like an announcement that writing has been surpassed by more effective codes and that historical consciousness has been surpassed by something new that is still beyond our conceptual powers. But the chapter title “Superscript” is not meant in this way. On the contrary, the intention is that only he who has previously subscribed to everything that is hidden in writing—who is engaged in and who will eventually underwrite everything that will be lost with the loss of writing—only he has the right to write about writing. Only such a person has the right not only to write about writing but also to write past that into writing no more.
Inscriptions

Before asking whether writing could be abandoned, one must ask how writing began. Etymology may be helpful here. **Writing** comes from the Latin *scribere*, meaning "to scratch." And the Greek *graphein* means "to dig." Accordingly, writing was originally a gesture of digging into an object with something, so making use of a wedge-shaped tool (a stylus). It is true that writing is no longer done this way. Now, writing usually involves putting pigment on a surface. We write on-scriptions rather than in-scriptions—and we usually write styluslessly.

If we call on archaeology rather than etymology, it becomes uncertain whether inscription actually preceded writing on a surface. Perhaps, for example, Egyptians were the first to use pigment. We do have a myth, however, in fact one of the foundational myths of the West, that establishes the etymological precedence of engraving over painting.

According to this myth, God made his own image in clay (Hebrew: *adamah*), infused the clay with his own breath, and so created a human being (Hebrew: *adam*). Like every myth, this one is meaningful, and its content can be interpreted. For example, clay is the material (the Great Mother) in which God (the Great Father) buried his breath (spirit), and so we arose from this intercourse as material imbued with spirit. Without rejecting this interpretation, the invention of writing can be recognized in this myth. The Mesopotamian clay in the myth is shaped into a tablet, which is engraved with the holy wedge-shaped stylus, and so the first inscription
(human being) was created. Of course, the two interpretations may be combined with others, leading to unsupportable (in part, esoteric) interpretations. But that is not the intention here. Here the myth is taken seriously as a depiction of the digging gesture. What did God actually do when he buried his breath in the clay?

First, he took an object in his hand (he grasped it), then he reshaped it into a parallelepiped (he worked it), and finally, he informed it (he dug forms into it). We do know that the matter did not end there: he went on to burn the informed tablets to harden them. That is not in the myth under consideration here but rather in the one that tells of the expulsion from paradise.

The preparatory grasping and working can be bracketed out of what follows, for this is about the gesture of writing. What is of interest here is the informing and the burning. Informing is a negative gesture, directed against the object. It digs holes into objects. It digs holes of “spirit” into things too full of themselves so that these things no longer condition the subject. It is the gesture of wanting-to-be-free from the stolid resistance objects present to subjects. The digging aspect of writing is an informative gesture that seeks to break out of the prison of the conditional, that is, to dig escape tunnels into the imprisoning walls of the objective world.

Although to inform originally meant “to dig forms into something,” it has taken on a whole series of additional meanings in the present (and, in this way, it has become a term that people use to torment one another). Still, all these meanings have a common denominator: “the more improbable, the more informative.”

Information is the mirror image of entropy, the reverse of the tendency of all objects (the objective world as a whole) to decay into more and more probable situations and finally into a formless, extremely probable situation. However, this tendency toward entropy, inherent in all objects, may turn on itself and accidentally lead to improbable situations (in nature, such information as spiral nebulae or human brains appear again and again). The gesture of informing characteristically expresses the intention of a subject to negate the objective tendency toward entropy. One informs (produces improbable situations) to set spirit against material that tends, absurdly, toward heat death. Writing, like digging, presses this spirit into the object to inspire it, that is, to make it improbable.

But objects are malicious. Their tendency toward entropy will eventually cause all information engraved in objects to disappear. Everything that spirit presses into objects will be forgotten in time. The absurd objective world is stronger than the subject’s will to inform it. Spirit can only hope that it will take a long time before its information disintegrates. One who writes by digging can only hope that the object one has engraved doesn’t decay too quickly (even if the digging writer was God). By grasping and working objects, the writer realizes that the reverse of the tendency to decay is his resistance to the spirit that wants to inform him: the better a memory is, the more laborious it is to dig into it (e.g., bronze or marble); the easier it is to dig into it (e.g., clay), the more quickly the information dug into it will disappear. Either writing remains legible for a long time, in which case, the writing is a laborious undertaking, or the writing is effortless, in which case, it will quickly become illegible. Engraving—or any sort of in-forming prior to the electromagnetic transmission of information, faces this unpleasant choice.

There is a way out of this dilemma: one can write on clay tablets and burn these tablets later. One chooses a soft object, informs it, then hardens it, to insist that it not forgotten too quickly. In this way, it is possible both to inform without appreciable objective resistance and to overcome the malice of objects for a long time. Heating tablets for the purpose of hardening their memory is a supreme achievement of the spirit, and the entire history of the West can be seen as a series of variations on this theme: from the copying of manuscripts to print to automated memories and artificial intelligences. It is about variations on one theme: produce
information, pass it on, and store it safely (if possible, aere peren-
nius) to set the free spirit of the subject, its desire to be immortal,
against the malicious laziness of objects, their tendency toward
heat death. Seen in this way, writing as digging, inscription, is an
expression of free will.

There is another aspect of the myth of the creation of mankind,
read as a model of writing as digging. It offers an insight into the
critical thing about inscription (and writing as such). God forms his
likeness on clay to bury his breath in this likeness. God inscribed
not amorphous clay but an image. He wrote not against the given
(the datum "clay") but against something made (the image "God")—
against a fact, that is. The gesture of writing does not move directly
against an object but rather indirectly, through an image or with
the intervention of an image. He digs into clay to tear an image
apart. Inscription (writing, as such) is iconoclastic.

Let etymology bear witness once again. The English to write
(that in fact means "scratch," as does the Latin "scribere") reminds
us that scratching and tearing come from the same stem. The
scratching stylus is an incisor, and one who writes inscriptions
is an incising tiger: he tears images to pieces. Inscriptions are the
torn pieces, the cadavers of images; they are images that fell victim
to the murderous incisor teeth of writing—hence the shock with
which inscription was greeted by those who first received it. The
ancient Jews fell on their knees in terror before the two tablets,
and in the Metamorphoses, the Golden Age was one in which
there were not yet any inscriptions: nec verba miniantia fixo aere
legebantur ("At that time there were no threatening words to be
read, fixed in bronze").

The writing incisor turns against the images we have made
of and from the objective world. It turns against that zone of the
imaginary, magical, and ritual that we set in front of the objective
world. It tears our representations of the world apart to order the
parts so torn into directional lines, into countable, accountable,
criticisable concepts. The myth of human creation shows the anti-
magical engagement of all writing. This is why all writing is basic-
sially shocking: it shocks us out of our prescriptive notions. It tears
us away from images that meant the world, and ourselves in it, to
our consciousness as it was before writing.

The claim was made in a previous argument that writing seeks a
way out of dizzying circular thinking and into a thinking arranged
in lines. Now this can become: out of the magic circles of prehis-
toric thinking and into linear, historical thinking. Writing really is
a transcoding of thought, a translation from the two-dimensional
surface of images into a one-dimensional linear code: out of com-
 pact, blurred pictorial codes into clear, distinct written codes; out
of the imaginary into the conceptual; out of scenes into processes;
out of contexts into texts. Writing is a method of tearing imaginary
things apart and making them clear. The further writing advances,
the more deeply the writing incisor penetrates into the abysses of
imaginary things stored in our memory, tearing them apart, to
"describe," to "explain," to recode them into concepts. This advance
of writing along lines toward the abysses of memories (of the un-
conscious) and toward an objective world, stripped of imaginary
things, is what we call "history." It is progressive understanding.

According to the myth, God tore his likeness apart (no matter
whether we take this likeness to be an anthropomorphic doll or
a tablet) and, in so doing, wrote us. So he sent us into the world
as his inscriptions, drove us out of paradise into the world, then
burned and hardened us so that we would describe, explain, grasp,
and rule the world (and ourselves). We were made in this way,
written for this purpose, sent on this mission—that is our destiny.
The Arabic word maktab means both "destiny" and "inscription."
What will we give up when we replace written codes with other,
more efficient ones? Surely all those anthropologies rooted directly
or indirectly in the myth under discussion here. This is probably
all the anthropologies we, as occidentals, have at our disposal.
The inscriptions under consideration here, this engraving of information into objects, has not been modern for a long time. Today we are surrounded not by fired clay tiles or chiseled tablets. Instead we swim in a flood of printed material, pages of paper marked with color. Not inscriptions but rather notations are the writings in which we bathe. The question to ask is this: How is notation different from inscription, and what do we do when we write something down?

**Notation**

Whether written signs are engraved into objects or carried on the surfaces of objects is solely a question of technology. There is a complex feedback loop between technology and the people who use it. A changing consciousness calls for a changing technology, and a changing technology changes consciousness. Producing tools out of bronze rather than stone both expressed a changing consciousness and opened on to a new form of consciousness. One can justly speak of a Stone Age people and a Bronze Age people—or of a people that write in material and a people that write on it.

The most striking technical difference between the two writing methods is this: a stylus is used for inscription, a brush (or one of the brush’s successors) for writing things down. The stylus is a wedge whose exact mechanical properties were recognized by the ancient Greeks at the very latest. It took physics and chemistry to see the complex behavior of a drop of pigment in a brush. The stylus is a more primitive tool than the brush. On the other hand, brushing is more comfortable than chiseling. A stylus is structurally simpler and functionally more complex than a brush. That is the mark of progress: everything becomes structurally more complex to become functionally simpler. (More evidence that writing-in came before writing-down.)

People brushed rather than chiseled to be able to write faster and more easily. The speed of writing is the basic difference between writing-in and writing-down. One picks up a brush or quill (a natural brush) to write as if feathered, winged, as if in flight. Then one turns the quill around and writes with the tip to write still...
faster. (Incidentally, this turning of the quill, this anti-Oriental, Western gesture, deserves closer consideration.) After the goose quill came faster and faster writing instruments: ballpoint pen, typewriter, and word processor—faster and faster quills. Western writers are feathered creatures.

Inscriptions are laborious, slow, and therefore considered writings. They are monuments (monere, "to consider"). Notes are writings thrown in passing onto surfaces with the intention of instructing a reader by means of a message. They are documents (docere, "to teach"). Inscriptions are monumental; notations are documentary. This difference is not always clear. As the Romans were scratching into the wax tablets with their gravers, their concern was to hold on to the things they had grasped. They wanted to document. And as monks with their goose quills laid one holy letter after another onto the parchment, laboriously and with consideration, their concern was to contemplate godliness—to erect monuments to it. It’s hard to shake the feeling that the Romans would have been better off with brushes and the monks with chisels.

Our literature is not monumental (as, say, Mesopotamian literature is). It does not demand consideration and contemplation. It is documentary, it teaches and instructs. Our literature wants doctors rather than wise men. It is written quickly to be read quickly. And this speed explains the dynamics of the ever-increasing flow of literature in which we are swimming.

Quills and their successors are channels. Whether they are tubes, they usually carry black ink to be laid on a surface that is usually white. The writing hand, holding the pen, directs the channel to lay ink down in the form of written signs. So the writer is a designer rather than a painter. He does not put ink on the surface to cover it up so that the ink could put something forward; rather he produces a contrast between the color of the ink and that of the surface so that the signs become clear and distinct (black and white). The intention is not to be imaginative but rather to be unambiguous (legible in one way only). Writing does not express magical and condensed thought but rather discursive, historical thought.

A writer is one who places signs, a draftsman, a designer, a semiotologist. And he is in fact a very fast draftsman. His drawing is called sketching, a word that comes from the Greek root sche, meaning "seize." Unlike inscriptions, notational writings are sketches and are schematic. They convey a sense of haste and an absence of leisure, of winged writing and reading. Any literary criticism should really start from this, the hectic character of what is under consideration. Criticism does not usually do this because, as a rule, it is not obvious from the texts themselves that they were thrown together in haste. On the contrary, one finds many places in them—just because it is impossible to write in one sitting—where interruptions and pauses appear to invite reflection. It is important to take these unavoidable gaps (epochs) in writing into account.

Quills must be removed again and again to dip them into the inkwell. Even a typewriter, technically relatively advanced, must have its ribbon changed from time to time. No stream of ink, however advanced, is exempt. Even the surfaces to be covered are not without limits, for a new page must be inserted when the first one is full. Only when notation is replaced with teletype does it become technically possible to write in an uninterrupted stream.

Even should such tangible, objective brakes on notation be overcome, however, a continuous flow of writing would not be possible. Orthographic rules (whether logical or syntactic, or in the case of the alphabet, phonetic and musical) are calculations; that is, they require intervals between the signs. These intervals must be inserted between words, sentences, paragraphs, and chapters. The gesture of notation is staccato because the code of writing itself is particulate (discrete).

That the gesture of writing is at once hectic and intermittent refers back to the consciousness of one who writes, the consciousness structured as historical. We do write (and think) hastily and schematically (the full stop, rushing toward the future), but we write asthmatically. We always have to stop to catch our breath.
This inner dialectic of writing and its associated consciousness, this thinking that is driven by a pressing impulse, on one hand, and forced into contemplative pauses, on the other, is what we call "critical thinking." We are repeatedly forced to come up from the flow of notation to get a critical overview. Notation is a critical gesture, leading to constant interruptions. Such crises demand criteria. What is true of notation is true for all history.

The simultaneously hectic and stuttering, schematic and critical character of notation offers deep insight into a structure of thinking (and behavior) that is set up in lines, that is, into a structure of thinking occurring in time that rushes from the past toward the future, passing through the present without stopping. Such time is existentially untenable. For the present we rush past is exactly the place where we are "there"; the present is wherever we are. It is therefore the site where the world—in fact, the past as well as the future—is realized (is made present). The future is the horizon of the present, from which the possibilities come and to which we in the present look to realize these possibilities, to make them present. The past is nothing (it's over), unless it is lifted into the present. Thought (and behavior) that rushes through the present without stopping is existentially false thought (and behavior).

As long as people wrote inscriptions, slowly, with effort and consideration, the madness of historically structured thought remained hidden. This good old time passed slowly and peacefully, not yet being really Heraclitean. Such time was livable. But with notation, progress began to accelerate. Now it is racing. Historical consciousness only really got going with notation. It is intolerable, this abandonment of everything real in favor of mere possibilities, all being in favor of becoming. That is the underlying reason we are continually forced to interrupt our writing, that we can't avoid landing in a crisis. Progress carries us along with it, but we continually bob up above it so as not to completely lose contact with reality, so as not to become completely progressive, mad.

It is beginning to become clear that continuous notation, continuous and accelerating progress, concerns apparatuses. It is enough to observe the breathless speed with which videotexts appear on terminals, for example. Apparatuses have no existential brakes: they don't exist, and they don't need to come up for air. And so we can leave progress, historical thinking and action, to apparatuses. They do it better. And we can free ourselves from all history, become mere observers of it, and become open to something else—to a concrete experience of the present.

Writings are not suitable codes for such observation or spectatorship. Images are more appropriate. We are just about to leave notation (writing as such) to apparatuses and focus our attention on making and looking at images. We are about to emigrate into the "universe of technical images" so that we can look down from there at history being written by apparatuses. But this colonization is an extremely complex process. Writing cannot just be overcome. For one thing, the images we contemplate feed on history (the apparatuses): for another, these images program history (the apparatuses): for a third, these apparatuses do not write in the same way we did; rather they use other codes. History written (and made) by apparatuses is another history. It is no longer history in the literal sense of the word. Emigration into the universe of technical images is a complex process primarily because it stumbles on literal thinking, on letters.

Notation is first and foremost literary, literal writing, whether other kinds of signs, such as Arabic numerals, appear in it. The laborious emigration to a postliterate universe of technical images demands that we reflect on letters before we repudiate them and consign them to the past.
Letters of the Alphabet

The alphanumeric code we have adopted for linear notation over the centuries is a mixture of various kinds of signs: letters (signs for sounds), numbers (signs for quantities), and an inexact number of signs for the rules of the writing game (e.g., stops, brackets, and quotation marks). Each of these types of signs demands that the writer think in the way that uniquely corresponds to it. Writing equations requires a different kind of thinking from writing rules of logic or the words of language. We are unaware of the mental leaps we are obliged to make when we read and write only because we meekly follow the apparently smooth lines. In the present essay, we are concerned with the mode of thought that corresponds to the characters characteristic of alphanumeric code. Works of writing are called, after all, "literature" (meaning quantities of letters), and we speak of a "literary" (literal) heritage.

Excursus: Numbers

A typewriter is built to arrange signs into lines. The resulting order is suited to letters but not to numbers—evidence that in alphanumeric code, letters have overpowered numbers. It is actually possible, with certain special moves, to make a typewriter reproduce mathematical equations or complicated formulas from physics. but it is easy to see that these signs form lines only with effort, by force. The assault on numbers by letters concerns a violation of numerical by literal thought. It concerns, that is, an important feature of thought supported by alphanumeric code, which is to say Western thought.
Because letters are signs for spoken sounds, an alphabetic text is a score for an audible performance: it makes sounds visible. Numbers, on the other hand, are signs for ideas, for images seen with an inner eye (as a sign for the mental picture of a pair). Numbers can, of course, designate exceptionally abstract images so that only a practiced eye is able to draw out the intended image. So letters codify acoustic perceptions, whereas numbers codify optical perceptions. Letters belong to the field of music, numbers to that of the visual arts. Neurophysiology, in fact, suggests that letters and numbers mobilize different brain functions and that both halves of the brain behave differently depending on whether numbers or letters are being read. Alphanumeric code appears to produce a dislocation in the brain that causes letters to suppress numbers.

The dialectic between word and image (logos and eidos) does not appear only in the inner tension of alphanumeric code. It is especially clear in alphanumerically coded texts. In a page of scientific text, for example, one sees lines of letters interspersed with islands of numbers. The eye follows the lines from left to right and stops at the islands, where it circles. The lines of letters demand that the message be translated into something audible somewhere in the brain. The eye itself, on the other hand, can see what is meant by the number islands (the algorithms). It need only follow the threads connecting the separate elements of the algorithm. So reading letters is one-dimensional, whereas reading numbers is a two-dimensional movement. Letters are about a discourse, numbers about content. A page of scientific text therefore has the same structure as a page of a picture book. The lines of letters describe the algorithms (the pictures), and these illustrate the lines of letters. The islands of numbers in scientific text should be regarded as exceptionally abstract images subordinated to a discourse.

But this is not the view represented by contemporary art criticism. Art critics do not recognize scientific algorithms as works of art—they are probably not experienced enough to recognize the power of visualization these constructs represent. Contemporary art criticism is not only blind with respect to scientific equations, it is also deaf with respect to linear scientific texts. So we're not used to recognizing a Bach fugue flowing around and flooding over Mondrian forms in a scientific text. We are not used to applying any aesthetic criteria to scientific texts, although such a criticism of science would be productive in terms of perception theory. It might proceed something like this.

A scientific text differs from a Bach fugue and a Mondrian image primarily in that it raises the expectation of meaning something "out there," for example, atomic particles. It seeks to be "true," adequate to what is out there. And here aesthetic perception is faced with a potentially perplexing question: what in the text is actually adequate to what is out there? Letters or numbers? The auditory or the visual? Is it the literal thinking that describes things or the pictorial that counts things? Are there things that want to be described and others that want to be counted? And are there things that can be neither described nor counted—and for which science is therefore not adequate? Or are letters and numbers something like nets that we throw out to fish for things, leaving all indescribable and uncountable things to disappear? Or even, do the letter and number nets themselves actually form describable and countable things out of a formless mass? This last question suggests that science is not fundamentally so different from art. Letters and numbers function as chisels do in sculpture, and external reality is like the block of marble from which science carves an image of the world.

To criticize scientific texts using such an aesthetics of perception is, however, far less comfortable than it first appears. It would even be straightforward if it were possible to refer the rules of letters (logic) to the rules of numbers (mathesis). For then one could say that the letters and numbers (the auditory and visual forms of perception) have the same basic structure and that this basic structure is somehow appropriate to things out there. But a complete reduction of logic to mathematics has, unfortunately, proven impossible. Gödel has shown why it is impossible even to
try. We must accept that we are condemned, on the basis of our perceptual organs and our central nervous systems, to live in at least two realities that cannot be unified: in the auditory, one of letters, and in the visual, one of numbers. It becomes clear that scientific texts try to bridge this fundamental disjunction between ear and eye by subordinating the eye to the ear. It is an extremely unpleasant epistemological proposition.

In the meantime, numbers are beginning to free themselves from letters. We are witnessing a revolution to give the eye precedence over the ear. So far the ear still dominates, and music is our best way of justifying everything else we have set in motion.

The instrument that best characterizes the contemporary upheaval is a counting device. The computer appears to be slowly (and inexorably) taking over one human intellectual function after another: calculation, logical thinking, decision making, forecasting. Under the influence of this counting device, science is drawing a picture of the world that is composed of countable pebbles (calculi), like a mosaic, and not only at the level of inanimate nature (atomic particles) but also at the level of the animate (gene). Even society is seen as a mosaic, within which the building blocks (individuals) link and detach themselves according to calculable rules. Our own thinking is understood to be a calculating of quantifiable elements. What was once regarded as a process, wavelike, linear, is now dissected into particles and computed on to curves that can then be projected in any direction (e.g., into the future). Faced with a problem, be it physical, biological, social, or psychological, we no longer try to describe it; rather we make a diagram of it. We don't think literally anymore, but numerically, no longer with the ear but rather with the eye. Our continuing use of names rather than numbers should be considered a passing stage.

It isn't true that we're in the realm of numbers, however. The world of numbers that is moving into the foreground is no longer the one whose divinity was celebrated by the Pythagoreans. It is far more primitive and methodical. As they migrate from alphanumeric into digital codes, numbers behave differently. They no longer form islands of algorithms rich in complex and creative visionary power; they form heaps that can be picked at. Even something as simple as the decimal system that ordered numbers has been abandoned in favor of the infantile binary system. The world of numbers has become more primitive because it is artificial, rather than human intelligences that are doing the counting. These intelligences are stupider but far faster. They are not capable of carrying out the elegant mathematical operations we have developed over centuries, but they don't need to, either. For all of these operations were intended to reduce the time needed to methodically add up many numbers. Artificial intelligences add with a speed that approaches that of light.

That computation has been forcibly reduced to its most primitive level is crucial to an understanding of the present revolution. Computation, the manipulation of numbers in general, can be mechanized—and it is beneath human dignity to be concerned with matters that can be left to machines. The New Man stands above numbers, not under them. He sits in front of a computer and commands it. He no longer idolizes numbers but rather plays with them, and they obey him. This attitude toward numbers is not entirely new—there have always been glass bead games like the abacus and dice. On the other hand, the game strategies that are becoming available to us are breathtakingly new. With mechanically manipulated numbers, we can play in a way that transforms numbers into the support and springboard for a completely new visionary capacity. For the moment, we are still clumsy. But a few examples can suggest the possibilities concealed within such number games.

We can order the computer to light up cone shapes in various colors on the screen, then to have them turn, collide, entangle themselves with one another, even to vibrate acoustically, like strings; that is, we can order it to make the concept of a "cone" experiential. Or we can order the computer to separate body surfaces
into particles and to play with these particles (this wire netting) so as to make bodies appear on the screen that would once have been considered impossible. In short, we can order it to make real what was once impossible—to act creatively. Or we can order the computer to visualize equations that are opaque and that therefore cannot be represented (e.g., fractals) on the screen. That is to say, we can order it to make something completely abstract into something concrete so that it can be experienced, thereby expanding our experience in adventurous ways.

Now that numbers are beginning to liberate themselves from the pressure of letters and computing is being mechanized, their visionary power can unfold. Having undergone centuries of purification through the discipline of clarity and distinctness, numbers can now serve creative vision as they have never and nowhere been able to do before. Our experiences, observations, values, and actions will be enlarged immeasurably in this way. Several things obstruct this utopian view of a free, exact, clear, and distinct creative eye, however. The first of these is certainly our own conceptual categories that keep us from risking a plunge into adventure.

We speak of "computer art" when we are looking at the new images on monitors, as if we were concerned only with a new technique for producing images. By using the category "art," we block our own access to these images. Computer keys simulate mental processes. These glowing images are nearly unmediated—if unmediated means anything to such estranged creatures as human beings—images drawn from the brain outward. It is therefore misleading to call these published and particularized dreams "art" without adding that all previous art is only a hesitant approach to these images. Even understood in this way, however, the concept of art is a category that bypasses these images. Most computer images produced so far have been fabricated in laboratories, not in artists' ateliers transfigured by Benjamin's aura. Images produced in laboratories make at least as strong an aesthetic impact as those produced by so-called computer artists. Such images disregard the boundary between the category "art" and the category "science and technology." Science presents itself as an art form and art as a source of scientific knowledge.

This does not address the crucial feature of the inadequate categories we have inherited. For if the eye (in the form of numbers) is beginning to predominate over the ear (in the form of letters), then it will be theoretically as well as practically possible to manipulate (digitalize) auditory perception numerically. So-called computer music is only one embryonic example of it. Numbers will soon make sounds visible and images audible. "Electronic intermix" is just one first step in this direction. For some time, in fact, is has been possible to anticipate the collapse of the boundary between music and the visual arts and even the rise of mathematics. Composition is a synonym for computation, and even for Pythagoras, the lyre key close to the triangle.

This utopia that is appearing to our unbelieving eyes and our eye-compliant ears, this utopia where numbers migrate from Platonic heaven into artificial intelligences to serve our powers of visualization, is not new but rather ancient. At least as old as the Greeks. At highly inspired moments, they spoke of musike kai mathematike technē as the means of attaining wisdom. This utopia, this method, this technology is now attainable—which is not to say that we will attain it. It is possible to count any process in particles, to compute it into a curve, then to project the curve into the future (to futurize it), and even, should one feel like it, to make it vibrate acoustically. But there are also random events that will, with a probability bordering on certainty, keep the curves from behaving as we project them. The preceding reflections should be read with such reservations in mind.

Letters belong to the oldest cultures we have. In the fifteen hundred years since their invention, their original form has changed repeatedly, and yet it remains recognizable: the two horns of the Semitic steer (Hebrew: aleph) in the A, the two domes of the
Semitic house (Hebrew: beth) in the B, the hump of the Semitic camel (Hebrew: gimul) in the C. Letters are pictures of a cultural scene as it was perceived by those who invented the alphabet in the second millennium B.C. on the eastern Mediterranean. They are pictograms of things like steers, houses, and camels. And because the letters are so ancient, the archaizing word Buchstaben is used for them in German rather than Buchenstäbe, although they come from a Semitic area and not from a German Buchenwald (beech forest).

We no longer use letters as pictograms for ancient things but rather as signs for roughly the first sound of the Semitic words that name these things. But why do we make spoken sound visible when we write? Why, when we want to get an idea down on paper, do we take this convoluted detour through the spoken language instead of using signs for ideas, that is, ideograms, as Chinese or some new computer codes do? Is it not much easier to write “two” than “two”? There must have been weighty reasons that led the Sumerian inventors of the alphabet to such a counterintuitive code as the one they inserted between thinking and writing. It is possible to investigate the reason.

Letters’ obscure development from pictograms through rebusbuses is not at issue here; rather the question is concerned with cause: what motivated people to write alphabetically and through a spoken language? That is not a historical question but rather an absolutely contemporary one. In it lies an awareness of the decision we are facing: to give up the alphabet in favor of a code that is no longer spoken.

The alphabet is a clear rejection of ideographic writing. Despite all the ideogram’s advantages, writing was to be in letters.

Ideograms are signs for ideas, for images seen with the inner eye. The preservation of images, however, was exactly what writing sought to avoid. Writing set out to explain images, to explain them away. Pictorial, fanciful, imaginative thinking was to yield to conceptual, discursive, critical thinking. It was necessary to write alphabetically rather than ideographically to be able to think iconoclastically. This is the reason for denoting the sounds of a language.

In speech, one talks “about” ideas and “about” images and, in doing so, stands above imagistic thinking, speaking down from on high. As the score of a spoken language, the alphabet permits us to stabilize and discipline a transcendence of images that has been won, with effort, through speech. One writes alphabetically to maintain and extend a level of consciousness that is conceptual, superior to images, rather than continually falling back into pictorial thinking, as we did before writing was invented.

We know that the alphabet has proven to be a remarkably productive invention. It has facilitated discourse that was never achieved in nonalphabetic areas: Greek philosophy, medieval theology, the discourses of the modern sciences. Without the alphabet, there would have been no such discourses, for they are conceptual, critical discourses that detach themselves further and further from imagination, becoming more and more abstract, more unimaginable. In the process, it becomes clear that the alphabet cannot do without ideograms. The discourse of modern science is impossible without numbers. Although ideograms are signs for pictures, they can scale heights of abstraction inaccessible to language-bound thought. The question arises whether the alphabet as the code of pure conceptual thought really was a lucky break. Perhaps binding thought to language inhibited our extraordinary capacity for abstraction so that this capacity could only develop in the areas of mathematics and symbolic logic. Perhaps the surpassing of the alphabet will offer these capacities new avenues for development such as that of synthetic images. Perhaps without the alphabet, we would have been still more iconoclastic (of course, our culture would have turned out much differently). In the matter of consigning the alphabet to history, such considerations are pertinent.

To say that the alphabet was invented to write concepts rather than ideas is by no means to say it all. For how is the long detour through language to be explained? Something in the spoken language itself calls out to be fixed in place—and in fact, not so much
in the memories of speakers and hearers, or in records or tapes, but rather in writing itself. Spoken language seems to rush toward writing almost on its own, to become a written language and so to achieve its full maturity. After the invention of writing, spoken language appears to be a preparation for a written language, to teach people how to speak properly in the first place.

Today we have hardly any access to preliterate speech. Even in nurseries and among illiterates, writing has permeated the language. We can reconstruct the way people spoke before the invention of writing, however, *mythically*, meaning "with mouth closed." The root word can be recognized in the Latin *mutus* (mute).

From our contemporary perspective, people then stuttered and stammered. They engaged in discourse (if by *discourse* we mean a flow of sounds from one mouth into the ear of another). But it didn’t have a direction. It wasn’t a proper discourse: it ran into obstacles (refutations), went backward, turned itself in a circle, and ended in silence. Since the romantic era, we’ve become accustomed to seeking wisdom in these mythical utterances and, of course, to finding it. It is also possible to claim that people of that time babbled.

With the help of the alphabet, the mythical babble was leveled so that it could run along a clear line toward an exclamation, question mark, or full stop instead of turning itself in circles, so that it could begin to raise proper questions, issue proper orders, narrate, and explain things properly. The alphabet was invented to replace mythical speech with logical speech and so to be able, literally for the first time, to "think."

Children and illiterates are inducted into the code of letters, learning first spelling and not reading. They learn signs to be able to jump from them into the signified, into the spoken language. They learn to speak properly right from the start. And when they have learned it, spoken language becomes a phenomenon they approach with the help of signs. They no longer speak as it comes naturally. (They leave that to the gabbles; rather they speak literary German, Oxford English, French of the Encyclopédie, or Dante’s Italian. They speak properly.)

The alphabet does not write spoken language down; rather it writes it up, lifting and taking hold of it to bring it into the order of its rules. In this way, the alphabet also orders and regulates that which is meant by language: thinking. And so for those who are able to write, spoken language becomes more than a medium through which they express themselves (as it is for illiterates and children); language is rather the material against which they press the alphabet, against which they literally ex-press. In short, they work on the language. Only at the point when language ceases to be a means (a medium) and begins to be a purpose does the essence of alphabetic writing come into view.

A writer forces the spoken language to accommodate itself to orthographic rules. Language defends itself. Each language defends itself according to its character. German is slippery. English brittle, French deceptive, Portuguese sly. The writer’s linguistic work is an assault on a language that twists, slides away, shatters, and seduces him as he grasps it. Writing literally has the tone of a quarrel between lovers, between the one who writes and the language (*odi et amo*). In this lovers’ quarrel, we see what language is capable of doing: its capacities exceed all expectations.

Unfortunately, literary criticism, above all romantic literary criticism, allowed itself to be carried away in the turmoil of the struggling writer. And in fact, there is something that happens in writing that cool words fail to convey. The writer presses the letters, these dead marks, against the living body of the language so that they can suck life out, and lo and behold: these vampires take on an eventful life of their own under his fingers. No wonder he swoons, feeling his life energies have been spent. Literary criticism speaks of the work of creating language.

At the distance afforded by information theory, the writing
process can be described somewhat differently, say, like this: the alphabet forces the language into the chains of its orthographic rules. In this way, language is distorted, taking on forms that would have otherwise been improbable. *Improbable* is a synonym for *informative*, making it right to say that the alphabetic writing has been continually drawing new information out of language for three and a half millennia. Since its invention, writing has been carving and chiseling every language available to us, always trying to bring new information to light. So these languages have become extremely fine and valuable instruments. No writer has ever encountered a virgin language, a language that has not already passed through the beds of countless rapists. In his struggle with language, a writer reworks the information of previous writers freshly, producing new information from it, passing it on to the next writers so that they may produce new information in turn. The process of writing is a discourse of thousands of years that has continually generated new information, with which every single writer is in dialogue. Even if this was not the inventor’s intention, the invention of the alphabet has shaped discourse in these ways.

There have apparently been two results of the inquiry into the hidden impulses behind the invention of the alphabet. One suggests that the inventor was iconoclastic: writing would not indicate images (nor ideograms) but rather sounds, so that consciousness might free itself from pictorial, magical thinking. The other conclusion suggests that the inventor’s intention was to construct a linear discourse: writing was to indicate sounds so that mythical, circular, halting speech could be replaced by consequential speech. On closer consideration, however, it becomes clear that these two answers say the same thing.

The inventor of the alphabet saw image making and mythmaking as enemies, and he rightly made no distinction between the two. Image making and image worship (magic), like dark, circular tales (myth), are two sides of the same coin. The motivation behind
Print

Typography is to be considered here less as a technology for the production of printed materials or as a method for distributing alphanumeric information than as a new way of writing and of thinking. These aspects of print are in fact of great importance for an understanding of the current information revolution (electromagnetic information can be regarded as a further development in the technology and distribution methods of print). But here we are concerned with a very radical question, namely, whether it was only with the invention of print that writers became aware of what they were actually doing by putting characters in rows, whether this theoretical and practical mastery of writing didn't exceed the historical consciousness that writing expresses, whether the information revolution can't be grasped as the result of an exhaustion of the potentiality inherent in writing.

The Greek word *typos* generally means “trace,” and in this sense, such traces as those left on the beach by birds' feet could be called *typoi*. At another level, the word refers to the way these tracks can be used as models for classifying the birds that have walked by. Finally, the word means that I myself have the capacity to make such bird tracks in the sand and so to distinguish and compare various kinds of birds. So *typos* refers to that which all bird tracks have in common (the typical); it means the universal behind all that is characteristic and distinctive.

The Greek word *graphein* generally means “to dig.” In this sense, such marks as those left by a stylus in clay are typographies. But we know that in ordinary language, the word *graphein* means writing.
It means the engraving of written signs, exactly these traces that classify, compare, and distinguish. So the word typography is really a pleonasm that could be translated as inscription engraving or written signwriting. It is entirely sufficient to say "writing."

Since writing (and particularly alphanumerical writing) was invented, people have been typographing. Gutenberg didn’t really invent anything; printing would have been possible by the middle of the second millennium B.C. in this sense. All the technical requirements (presses, inks, page-shaped supports, even the art of negative casting in metal) were then already in place. But there was as yet no printing because no one was yet aware that by drawing letters, one was dealing with types. Written signs were taken to be characters. “Type-identifying” thought had not yet pressed itself into consciousness. Gutenberg’s great deed was the discovery of the types inherent in alphanumerical script.

The difficulty of achieving standardizing consciousness can be illuminated through an example. The medieval dispute over universals concerned the problem of comparison. What do I do when I compare a table and a chair? Do these two objects have something in common, something to be revealed as typical? Perhaps their shared “furniteness”? That was the view of the realists. Or must I accept that the characteristics of these two things are not comparable and that I have to pluck a word out of thin air (such as the word furniture) to induce a comparison where no real one is possible. That was the view of the nominalists. For the former, the typical, the universal is actually embedded in particulars and can be discovered: universalia sunt realia. Hence the designation “realists.” For the latter, there is nothing behind particulars, and the typical is nothing but a name we invent to facilitate comparisons: universalia sunt nomina. Hence their designation “nominalists.”

Yet this dispute is not exclusively a matter of logic (does comparison refer back to a common feature or is it a trick for turning unlike into like?). It really concerns an existential question: that is, if universals are real, then they must form a hierarchical pyramid. If I can establish furnitureness in the comparison between table and chair, I must be able to proceed to a higher universal by comparing furniture with clothing, and so on to the tip of the pyramid, the universal of all universals, and from there to God. Through comparisons, then, I can approach God and save my soul, and this by two complementary methods: either through thought, by drawing broader and broader generalities out of particulars, and rising by means of this inductive method from a lower to a higher level of reality until I finally reach God by the intellectual route (philosophy and theology), or practically, through works, by extracting the general (the essence) from the particular (the accident) and from this essence to a higher one, until I finally extract the final essence of all essences (the “fifth,” the quintessence), that is, God. From lead I can precipitate gold, from that a virgin spring, the philosopher’s stone, and finally God. Through disciplined actions (e.g., alchemy), I can find God and save my soul.

If the universals are nothing but words, all philosophy and theology turns into sheer wordplay (flatus vocis—a breath of air produced by a voice, a vocal grunt), and all practices that seek God, such as alchemy, become the devil’s work. For then I must accept that the world into which I was thrown at birth is made up entirely of unique phenomena that cannot be compared. Should I pay attention to them, my soul will become entangled, as in a trap. And so I must turn my back on this vale of tears and open myself to God in pure, inarticulate faith (sola fide) if I would avoid the devil and save my soul.

Whatever history books say about it, the invention of print settled the dispute over universals in favor of the realists. It is true that many nominalists have made substantial contributions to the development of modern philosophy and science, but the realist watchword universalia sunt realia has become a foundational idea in modern thought and research. We believe in the reality of universals, of types, in the reality of atomic particles, genes, social classes, and races, and we try to identify and manipulate them. If this belief is
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now beginning to wobble, if we are surreptitiously tending toward nominalism (e.g., as positivists or phenomenologists), it is because typifying thought is exhausted. It is becoming absurd.

The invention of print settled the dispute over universals in favor of the realists. Print showed clearly that when we write (and when we think in the way that is expressed in writing), we manipulate types. Print made types handy. It took them in hand. In this way, it shifted the idea of the reality of ideas (this belief that sponsored medieval realism) from the speculative into the practical. Print became one of the pillars of modern science.

Prior to Gutenberg, a writer considered written signs to be characters that made the characteristic sound of a specific spoken language visible. According to this erroneous belief, each specific language demanded a characteristic alphabet of its own, for the Latin A meant a different sound from the Greek alpha. There were at that time four alphabets in use simultaneously—that is, the Latin, the Greek, the Hebraic, and the Arabic—so that each language could make itself visible in its characteristic way. Now there was also a dim awareness that written signs actually were types and not characters and that it is therefore possible to refer to, say, Slavic languages with Greek letters, Germanic ones with Latin letters, and Iranian ones with Arabic letters, but this awareness remained dim: the four languages characteristic of each alphabet were held to be sacred. If these four alphabets are still preserved today, despite a clear awareness of the typology of writing, it is because remnants of the dim awareness continue to resist typifying thought today.

Print threw a clear light on the dim consciousness of types, and so, too, on the problematical (doubtful) features of this thinking. Two problems will be identified here because they illuminate the contemporary crisis in this thinking.

1. Print demonstrates that types are not unchanging, eternal forms (as Plato and the medieval realists thought) but that they can be adapted, improved, and discarded. For example, because the Latin alphabet had no sign for the German sound "sch," the type sch was invented (incidentally, not an especially brilliant achievement). That did not prove the nominalist thesis that "types are pure invention." On the contrary, it meant that although there really are types, they still must be adapted to what is characteristic. The type sch does not hover over us in some sort of Platonic heaven, but neither can it just be plucked from the air. Rather one is forced to accommodate the sound to sch. In doing so, one has in fact understood the sound to be typical. The concept of "theory" is thereby changed radically. No longer does it mean a pious, passive contemplation of eternal forms, no more an empty play of words. It means a progressive modeling of better and better (and in this sense truer) types. Theories offer knowledge, but they are inventions. The seeds of this underlying problem with scientific knowledge lay in the invention of print. The contemporary crisis in historical thought is in part rooted in an awareness of this problem.

2. Something printed is a typical thing, and not a distinctive, incomparable, unique thing. A printed paper is a specimen, one among many examples of one unique thing (e.g., of a manuscript). Something printed is valuable not as a distinctive object (as this singular piece of paper) but as a type. The interesting thing about it is not the production of print (of papers, of printed writing) but the production of the types (of the text). The sight of something in print makes a mockery of the classical anthropology of homo faber. It confirms the Christian theory of work as punishment. In the presence of print, it becomes evident that the occupation worthy of human beings is typifying, the manipulation of signs, the "making of meaning": better, informing. Work—the production of distinctive things, comes in for disfavor, as a subhuman gesture to be dismissed with the flip of a switch. Among the first effects of this contempt for work and esteem for typification was the Industrial Revolution, that is, the installation of machines. Print can be understood as the model and core of the Industrial Revolution: information was to be pressed not only into books but also mechanically into textiles, metal, and plastic.
Print reaches further, past the Industrial Revolution into postindustrial society. It is the core of the current rising contempt for distinctive objects and esteem for typical, pure information. The revaluation of all standards associated with work is relevant here, and consciousness of this problem is one of the bases of the current crisis.

As writers of the Gutenberg era became aware that they were manipulating types, that they were "informaticians," they unfurled the typifying mode of thought in all areas of culture. This consists in finding types suited to distinctive features of the world, in continually improving them, and in then impressing them on the world. This way of thinking took rough form about the middle of the second millennium B.C. in the eastern Mediterranean. It pressed into consciousness clearly with print, and in modern times conquered the world. The Gutenberg galaxy reaches further back and further forward than McLuhan realized.

But there are some signs that the victory was not definitive, that is, the victory of typifying thought—this modified realism—over a previously suppressed nominalism. It is possible to hear again the nominalist objection to sweeping classification and typification of all phenomena through science, technology, politics, art, and philosophy, namely, that none of it is anything more than a "vocal grunt." Husserl's battle cry "back to the things themselves," away from typological abstraction and back to the concrete instance, is an example of this. It challenges progress. For progress—of science, technology, economics, and politics—from the concrete object to an abstract type is slowly but surely revealing itself to be destructive madness, for example, in Auschwitz, in thermonuclear armaments, in environmental pollution, in short, in the apparatuses that typify and universalize everything. We are beginning to lose faith in the reality of universals, and the nominalistic, vale-of-tears feeling has begun, with Kafka at the latest, to crystallize in and around us. Print-based thought is about to be overhauled.

The informatic revolution, this production of signs and their positioning in electromagnetic fields, openly breaks with print consciousness. The new signs that appear on computer or television screens are no longer traces engraved in objects; they are no longer "typographic." The kind of thought that is producing the new information is no longer a typographic, typifying kind of thought. The gesture of print and the mentality that expresses itself in this gesture are becoming archaic. Western, historical, typifying thought is becoming archaic. Progress is becoming archaic so that the progressive of the present will become the reactionary of the future. That said, most of us are condemned to think in a reactionary way because we have been imprinted with the trace-making mode of thought. We would prefer to go on writing and printing: we face the informatic revolution with fear and loathing.

It is fairly clear what will be lost in the transition from Gutenbergian to electromagnetic culture, namely, everything we treasure in the Western legacy. On the other hand, we do not see what we have to gain. If we could do that, we would already have reached the first step toward the new way of thinking. But by trying to immerse ourselves in nominalistic thought, say, in the life and poetry of Francis of Assisi, we can get a sense of the future. Sola fide?

We can regard print, this alphabetic writing that has become self-aware, as the expression of Western, historical, scientific, progressive thought. The informatic revolution makes print, the alphabet, and this kind of thought superfluous. It leads to a new mode of thought that can be anticipated but not yet perceived. That sounds like an assertion, but it is really a concerned and hopeful question directed toward the future.
Instructions

One way to anticipate the kind of thinking that characterized the informatic revolution is to observe those who manipulate the apparatus, setting the new signs into electromagnetic fields. The word *program* is the Greek equivalent of the Latin *praescriptio* and the German *Vorschrift*. Are these people continuing to write or starting again? Are contemporary reactionaries on the mark when they assert that nothing has changed fundamentally, that the essential always stays the same? To whom are these people writing? For they are not writing past a conclusion to another human being. Rather they write with and for apparatuses. Didn't the earlier discussion show that writing to other people was the essential thing about writing? So the essence of writing has changed for these people; it is another writing, in need of another name: programming. For reactionaries, this is not just uncomfortable; it is terrifying.

From a certain angle, such terror in the face of the new appears harmless. So people don't write alphabetically anymore but rather use other, so-called binary codes. Artificial intelligences are too stupid (perhaps only for the time being) to be able to decode letters. The new computer codes are in fact extraordinarily simple (as simple as artificial intelligences), but it is not simple to use them. They are structurally simple and functionally complex systems. Most of us have not mastered them; on the other hand, we have all learned the alphabet, and print has resulted in a comprehensive, democratizing literacy. The new computer codes have made us all illiterate again. A new literate caste has arisen. For most of us, the new writing (computer programs) is suffused with that kind of
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mystery that surrounded alphabetic writing before the invention of print. What cannot be decoded is a frightening secret. People fall to their knees (supplex turbus) and try to appease it (the Golden Calf before the two tablets). Of course, nothing could be easier than to penetrate the mystery. One has only to learn the secret codes (in the case of the Romans and Jews, the alphabet; in our case, computer codes). But that is exactly what our fear of the new makes impossible. Learning it is child’s play only for our fearless children. We have to try other things. We have to try to use a typographic way of thinking to get to grips with post-typographic “writing.” Since this essay is literal, it will try to dispel a terror of programs.

If a program is to be understood as writing directed not toward human beings but toward apparatuses, then people have been programming since writing was invented—before there were any apparatuses. For one wrote to human beings as though they were apparatuses. One prescribed models of human behavior, and these instructions constitute a prominent thread in the advancing discursive mesh we call Western literature. Using this thread to guide us in a survey of Western history, the development can be represented as follows: at the beginning, since the Stele of Hammurabi, these instructions were called "commandments"; then, with the Twelve Tablets, they became "laws," which later branched out into decrees, regulations, and other forms of instruction; during the Industrial Revolution, instructions were added that pertained to people's behavior toward machines, or "user's manuals"; until finally, since the informatic revolutions, the program discussed earlier—namely, instructions to machines—completed this development. Programs are not only a completely new way of writing, they are also the culmination of a pattern established when writing began.

The thread of instructions just described (and with it the history of the West that is articulated in it) can be understood in various ways, for example, as a tendency toward desacralization. The commandments (say, the Ten Commandments) were holy. They had a heavenly author. It was a superhuman authority that made human beings into marionettes (apparatuses). The laws (say, constitutional law) had, if not a heavenly, at least a mythical author (e.g., the people), and this mythical authority manipulated the people’s behavior. It became more and more clear subsequently that instructions were made by people manipulating other people. User’s manuals revealed that all instruction seeks machine-like, automatic human behavior. This is why user’s guides are shorter the more automated the machine, until, with fully automatic machines, they become superfluous. In their place are the programs. Here no human beings require instruction. Instructions can instead be issued to apparatus. In this way, it becomes clear that the goal of instructions (and of Western history) has been completely profane behavior and that, when this goal is achieved, it is superfluous to instruct people at all or to manipulate them. They behave as they should automatically.

The thread of instructions can be read equally well as a tendency to devalue behavior, to reduce it to an object of scientific study (should "science" be understood as value-free thinking and action). The commandments prescribe behavior according to eternal values, the laws, behavior consistent with high values. Subsequent instructions tend to become value-free, until finally, user’s manuals apply to functional behavior only. So it concerns a depoliticization and functionalization of behavior, which can be read from the syntactical construction of instructions. They change from imperative propositions ("thou shalt") to functional if-then propositions. The commandment "thou shalt honor thy father and mother" becomes advice for use: "If you want to eat chicken soup, do this and this with the tin of chicken soup." This steady devaluing of behavior concludes with programs. In logically constructed computer programs, there is no symbol for should. Accordingly, it becomes clear that the tendency of instructions (and of Western history as a whole) is toward a complete depoliticization of all behavior and that when this goal is achieved, human beings and their society will steer themselves automatically, like a cybernetic system.
These two readings of the tendency inherent in instructions convey some sense of the rising functional way of thinking. It is a profane, value-free thought. It can no longer be grasped in historical, political, or ethical categories. Other cybernetic, computable, functional categories must be applied to it. For this reason, programming cannot actually be called writing. It is a gesture that expresses a different kind of thought.

The question remains whether the effort undertaken earlier to demystify programming has dispelled the terror. Of course, the matter can be approached from an optimistic point of view. Because programs instruct apparatuses, the burden of instruction shifts from human beings to inanimate objects, and human beings become free to behave as they like. From this standpoint, the tendency inherent in instructions and culminating in programs is aimed at freedom. Apparatuses behave better and faster than human beings: they assemble automobiles better, they sew better, dig better, and soon will be able to do their cherry-picking more efficiently. And they think better too: they calculate, draw, and make decisions faster. (They are, curiously, better at calculation than they are at cherry-picking.) From now on, people can concentrate on programming apparatuses. Could that not be the freedom we have sought since history began?

Two quite different kinds of objections come to mind. The first one, close at hand, is fairly easy to dismiss. It is concerned that some behavior cannot be taken over by apparatuses and that the sort of behavior that cannot be automated is exactly the sort that constitutes human dignity, for example, the commandment to "honor thy father and mother." That is an error. All modes of behavior, of any sort, can be programmed and automated. It is a matter of breaking the behavior down into its constituent elements, into actemes, and then computing them back together again. Just such breaking down and recalculating is what programming is. The commandment mentioned earlier can be broken down into actemes such as "feed your bedridden mother rice pudding." Apparatuses will obey this commandment better, more quickly, and more precisely than human beings do.

The second hesitation to be optimistic weighs more heavily. It is concerned that freeing people from the obligation to behave in particular ways will result in a complete lack of freedom. If there is no necessity to act in a particular way (to work, to walk, to sit, to calculate, to draw), then all behavior will revert to an *acte gratuit*, a meaningless, absurd gesture. This objection assumes that freedom can open up only in the struggle against necessity. Completely unconditioned behavior is no more free than completely conditioned behavior. At this point, an optimist might object that any human behavior, whether compliant with instructions, is absurd in the face of death (the inevitability of death) and that the underlying intention of all instruction was always to give this absurdity a meaning. When instructions are shifted from human beings to apparatuses, human beings are free to give meaning to the absurd behavior of apparatuses (and in so doing, to their own behavior as a function of the apparatuses). Accordingly, to program is to give meaning, and the intention behind programming is to free human beings to give the world meaning and to make their lives in it free.

Maintaining an optimism that dispels our fear of programming, one could claim that with the demise of writing through programming, the goal of history is achieved. All behavior has become profane, scientific, functional, apolitical, and people are free to give such behavior meaning. History, and the mode of thought that produces history, is over. A new, posthistorical mode of thought is arising that assigns meaning to absurdity. Let us leave aside the question whether this optimism actually satisfies all conditions. Even if we do accept it, the question whether programming will render all writing obsolete remains open. All instructions can be programmed, but things other than instructions will be written. Literature does not consist wholly of commandments, laws, and
user’s manuals, after all. And these other threads in the literary mesh may well not be programmable. So writing will continue after all. And by means of this sustained writing, historical, political, ethical, and aesthetic modes of thought will be preserved.

This (reactionary) objection proves to be an error. It is true that literature does not consist exclusively of instruction, of models of behavior. There are also models of knowledge (e.g., scientific and philosophical texts) and models of experience (e.g., poetry and everything understood by belles lettres). Dividing literature into models for behavior, knowledge, and experience follows the classical division of ideals into good, true, and beautiful, a division that has been insupportable since the Industrial Revolution. Today we have a way of reducing models of knowledge and experience to models of behavior by tracing all propositions back to if-then propositions. Propositional calculus permits all statements of whatever kind to be translated into functions. All literature becomes programmable.

A programmed literature would take all texts back to instructions so as to then be computed by artificial intelligences. Even judging by the synthetic images that are already available now, it is clear that exceptionally effective models of knowledge and experience can be produced in this way. As binarily, digitally coded models of knowledge illuminate the screen, from simple statistical curves to complex representations of whole theories, they put all scientific, alphanumerically coded texts in the shade. So-called computer art is just beginning to generate models of experience (fantastic, impossible configurations) that are in fact images, but images that rely on digitally coded programs that are themselves transcodings of alphanumerically coded texts. These remarkably powerful models of experience should be seen in the first instance as programmed poetry and fiction, and only then as “visual art.”

In this way, an optimistic perspective on the programming of all writing seems justified: if alphabetic writing is to be replaced by digital programming, then all the messages, texts, behavior, knowledge, and experience that were once mediated by texts will be transmitted more effectively and more creatively through the new informatic media.

But we should not let ourselves be swept up by this optimism. Much would be gained by the programming of everything that has been written alphanumerically until now, but the terror of reactionaries cannot be dismissed so lightly. For in the recoding from alphanumeric into digital codes, something would be lost that not only reactionaries may acknowledge as the critical value of writing. For spoken language would lose its position as mediator between thinking and writing. Digital codes are ideographic in the sense of making concepts (ideas) visible. They differ from the alphabet in signifying no spoken sounds. In programming what was formerly alphabetically written, thought will have detached itself from language. And that is terrifying.

Writing, as we learned it in school, is a gesture of historical consciousness. Programming, as our children are beginning to learn it, is a gesture of a different sort, a gesture better compared to a mathematical than to a literary consciousness. The codes it uses are as ideographic as numbers. Wittgenstein, in his remark on the meaninglessness of saying “two and two is four at six o’clock in the afternoon,” showed that mathematical thought is unhistorical. But until now, mathematical thought has been organically immersed in alphanumerical code and swept along in the flow of historical thought. Now programming is rising up from alphanumerical code, becoming independent and separating itself from spoken language. That justifies a degree of pessimism.
Newspapers

A vast literature concerned with newspapers, along with innumerable schools of journalism scattered around the earth, debate the curious fact that despite television, radio, and until recently, weekly news programs, there are still folded fliers that are flown into our homes daily. Or they exist with folded wings every day in specially constructed cages for us to fall into the trap. It cannot be only because newsprint is suitable packing paper—an inadequate explanation for two reasons: first, because better packing material is available, and pieces of meat wrapped in newspaper seem as antiquated as bridle paths; second, the explanation is not elegant enough to be taken seriously. So are newspapers as antiquated as bridle paths, even though they keep using improved technology, even though their characteristic writing style changes in response to the latest information and communication theory, and even though their information is governed by increasingly refined systems of production and marketing? Specialists in the study of newspapers put forward far more complex and probing explanations for the persistence of printed newspapers, even as they justify and forecast a ubiquitous electromagnetization of information.

These complex and probing explanations (which will not be pursued here) change nothing about the fact that there shouldn't be any newspapers anymore. But there is a banal explanation for their not having disappeared: although they appear to have saved themselves, unchanged, from the flood of electromagneticized information, they have, in fact, turned into the exact opposite of what they once were. Before radio and other media, the newspaper
was an ephemeral, temporary, and quickly outdated memory in comparison to all other media (books, magazines, etc.). It was consigned to being forgotten. Nothing was so past and out of date as yesterday’s newspaper. Later the newspaper became a durable memory in comparison to the new media, and this was the case even though it lagged chronologically behind that seen on screens and heard on speakers. In fact, this, too, can be stored elsewhere more safely on audio- and videotapes, but for the time being, these new memories are not passed in massive quantities from senders to receivers. They are jammed up somewhere, waiting patiently for suitable distribution channels. Newspapers do not compete with radio or television but rather with such storage tapes. The surprising thing is not that there are newspapers but that there is such a traffic jam in the media. It is worth considering a changed newspaper, one provisionally transformed into audio- and videotape.

It is a question of duration. “Duration” is a category to be distinguished from “time.” Since electromagnetization, a newspaper might better be called a “lasting paper.” The content of the newspaper is supposed to last somewhat longer that the content broadcast on radio or television; it should remain in the reader’s present a bit longer. Electromagnetic senders beam out roughly the same messages as the newspaper, but because they have no substrate (they’re immaterial), they run uninterrupted though time, without stopping in the present. The receiver is required to absorb the message into memory as time is passing so as to store it there and process it later. The newspaper, on the other hand, is an artificial memory and allows itself to be handled, crumpled, cut apart—in short, to be grasped. It doesn’t demand so much of the receiver’s memory. So paper, which is an ephemeral memory in comparison to marble or metal, becomes a durable one in the context of electromagnetic media—until tapes and records take over this role.

The concept of “duration” points beyond time in the direction of that nunc stans (the abiding Now) that is related to eternity. Some of those who write for the newspaper may be aware that it has become a “lasting paper,” a message pointing in the direction of the eternal, but few if any of those who read it will realize this. For the receivers, the newspaper has retained the character of a flyer. It flies over them. The division that has developed in this way between many writers’ attitudes toward the newspaper and those of most readers takes a more significant question about the sustainability of newspapers than does the competition with electromagnetic senders. To provisionally bridge this gap, the layout (the superficial aspect of the news page) tries to visually separate the durable segments from the others, in the hope that a few readers of texts so designated as durable may treat them differently (e.g., cut them out). In this way, an internal contradiction arises in the newspaper contents: one part points to the library, a larger one to the wastebasket. There are therefore two completely different types of writers for newspapers: the one writes for libraries, the other for the wastebasket. And the newspapers themselves can be classified into two groups according to this criterion: into the predominantly librarianish and the predominantly wastebasketish.

Formulating loosely, the wastebasketish group can be called “journalists” and the other “news staff.” The first can be divided into employees and freelance journalists, the second into permanent and occasional. But it is still a mistake to consider such an attempt at classification to be evaluative, say, to place a higher value on staff members than on journalists (as is done by a tiny elite) or to value the journalists more highly than the staff members (as is done by most casual newspaper readers). The suggested classification of newspaper writing is value free, and that means it is indifferent to this sort of writing.

This indifference (the quality of being scientific) appears in crass contradiction to the heated engagement of both staff members and journalists. The engagement of staff, permanently employed writers, is easy to understand from the perspective of writing. These people have a historical consciousness. Through temporal activity, they want to enter into eternity, whether for their thinking or only
for their name having been preserved in the newspaper. For them, the newspaper is a vehicle for getting out of time and into duration, taking countless readers along.

The engagement of journalists, on the other hand, writers conditioned to the wastebasket, cannot be understood from the perspective of writing. These are people who are prepared, in extreme circumstances, to risk their lives to see that, say, war reports get past a diversion through the newspaper into the wastebasket. They are prepared to give their lives not for something particular to them (whether this be ideas, feelings, values, or even just their own names) but for information. These journalists are the heroes of the coming information society, which has given up duration and for which time is no longer historically structured. A whole future mythology will condense around the heroic figure of the journalist, and we can already see how this mythology is to be programmed.

The newspaper staff writers with their historical consciousness are distinguished from book and letter writers only by the medium "newspaper." These are writers who try to reach out a hand to another to change the world together and to get along in it. Journalists are of another sort. In the nineteenth century, before the first electromagnetic media existed, they were, along with photographers, the first "informatic" people, individuals who helped to develop a new consciousness. This close relationship, this common intellectual ground between journalist and photographer, has been preserved in the newspaper. That is the inner basis for the coupling of picture and text in journalistic newspaper articles. But because of the tendency toward electromagnetization, the medium that best corresponds to the journalist's own existence is the radio, and even more, the television. Since the newspaper became durable, journalists' migration from the newspaper into the new media (where the heroes of the future are) has become more and more evident. The newspaper is more and more clearly becoming a playground for staff—a document, even, that can't be sustained in the long run.

"Duration" doesn't suit the informatic situation.

It is an anachronism to speak of the newspapers, of the press, as a so-called fourth estate. In the nineteenth century—and even still in the first half of the twentieth century—such an assertion was not only justified but also prophetic. The press is—seen from the past—the fourth estate: it is the most recent addition to the three political powers (however one wants to name them). Seen from the future, it is the first: it is where it first became clear that power is located wherever information is produced and distributed. That is the explanation for the rise of complex newspaper conglomerates and newspaper polyps, whose slowly decaying corpses still pollute the atmosphere. Power is there, where information is generated, in a globally diffused jigsaw puzzle, as we've learned the meantime. One can speak of a power of the press today only with nostalgia. The press is no more than a preliminary to the work of contemporary decision-making centers.

Above all, we should notice that the press trades in inherited political categories, whereas contemporary decision-making centers must be grasped cybernetically. There are still newspapers that address one party and others that emphasize a position above or beneath parties without saying whom they do address. There are still critics who try, through the newspaper and beyond, to read a political opinion and incoherent interest behind it. The whole thing has a ghostly character with respect to the new power configuration. Decision-making centers have become automated. They intersect with one another in complex ways, and the decisions can no longer be grasped politically; they no longer function on the basis of interests; rather they function on the basis of other functions of apparatus. The press hides this because it is attached to political power in decline—to survive. If there were no more newspapers, only radio and television, the current depoliticization and cybernetization of power would emerge more clearly.

The press should not be regarded as a power but rather as a last attempt to keep the deposed powers alive. It is as though the deposed powers can still express themselves in the newspaper, although in
realities, they have nothing more to say. Political broadcasts on television confirm this. There the political statement is absorbed into a new, informatic consciousness: politics as a question of image is a very inexact expression for it, and a videocast determines who our presidential candidates will be. The newspaper is a last refuge of the political, historical consciousness, and in this sense, it is reactionary, even and especially when it presents itself as progressive. It cannot be achieved, neither with progressive production methods nor with a progressive layout nor with progressive distribution methods nor with progressive contributions from progressive staff. The newspaper is reactionary because it is a piece of writing and so a product of historical consciousness. For this reason, it is impotent in the face of the emerging posthistorical situation.

The newspaper will disappear as soon as video- and audiotapes and records from electromagnetic senders flow, cheap and plentiful (perhaps free), into all homes to be stored in video and audio libraries. Many newspapers try to put themselves on videotapes and survive, no doubt above all to preserve any advertising still left to them, from which and for which they live. But this is only an excuse. Advertising can be absorbed effortlessly from electromagnetic senders. This confused rescue mission is actually about maintaining an active political consciousness after the demise of writing, for video newspapers are supposed to politicize, not depoliticize. That is a contradictory undertaking. Political consciousness expresses itself in alphanumeric code. Given its structure, it cannot be recoded into images and sounds without losing its essential feature: linearity, a writing forward from the past into the future.

With the newspaper, the last remaining bit of historical consciousness disappears—and with it historical freedom. An observer from Mars will notice how the battle for freedom in the nineteenth and the first half of the twentieth centuries concentrated on freedom of the press. Why is the freedom of newspaper writers actually so important for the existential freedom of people from all sorts of conditions and all sorts of actions? Because political freedom expresses itself in freedom of the press. It is regarded as the basis for existential freedom. That may sound false to the Martian. How, he might ask, when political freedom (whatever that might mean) veils the existential sort so that people are given political freedom ("given" above all by reading newspapers), while existentially they vegetate, completely conditioned and utterly aimless? The answer to this Martian question will determine our attitude toward the disappearance of newspapers.

If we regard political freedom as the basis for freedom as such, then we will be horrified to see the newspaper replaced by a cybernetically governed production and distribution of information. If we see in political freedom an ideological veiling of the existential, then the demise of the newspaper presents us with alternatives. When the newspaper, this last remaining vestige of criticism, has disappeared, either centrally positioned senders will program all knowledge, values, and experience, in which case, we will no longer be able to speak of freedom because the word itself would have no meaning, or, when the newspaper—this centrally radiating flyer—has disappeared, we will see a new, networked way of producing information, and it will become meaningful for the first time to speak of existential information.

Newspapers are pages that radiate out from a center. They are structurally fascist. But within this fascist structure, freedom of the press (and political freedom) found a voice. The disappearance of the newspaper is beyond question. The question is whether the fascist structure of the newspaper will be transferred to the new media, possibly strengthened, or whether, with the disappearance of the newspaper, other, netlike circuits will appear. The question concerns freedom.
Stationeries

This is not about those shops that confront and seduce us through paper but rather about shops that sell writing materials, although even in stationery shops, we encounter the first sort of paper handlers. Stationery shops are of concern because after the decline of writing, they, too, will disappear from our environment. One might argue that stationery shops should not be singled out from all the others, that all shops are condemned to disappear with the decline of writing. Once information can be called down onto screens in private spaces, it will be possible to call down any goods that are still of interest over a cable from central distribution points so that all shops (and the city) will become redundant. But it is different with stationery shops. They will become superfluous as shops, but so will the things they have for sale. The informatic revolution is a political one: we are losing the city (*polis*), and it is a cultural revolution—we are losing the culture of writing.

The loss of a culture of writing can be observed in office stationeries. In addition to typewriters and even older writing tools, they carry more and more word processors, which are evidently geared toward replacement by higher-function artificial intelligences that no longer use any paper. The design of stationery stores buries paper rather than praising it. The most melancholy aspect of this burial is surely the typewriter. What we mourn is not, say, the rather paleotechnical keyboard or the malicious ink ribbon that continually jams but rather the alphanumeric memory. We welcome the new keyboards and the absence of messy ribbons. But the letters, Arabic numerals, and adventurous ideograms like §, & or $, no
longer beckon us, as if they were secretly in league with us, namely, in the league of alphanumerical code. That is regrettable.

How letters are stored in the brain’s memory, and whether there is a specific part of the brain where they are stored, is unclear at the moment. The problem itself is awkward: was there a place for storing letters in the brain as *Homo sapiens sapiens* arose, and so was such a place in the genetic information from the time life on earth began? Or has the brain functioned this way for only three thousand years? Neither Darwinism nor Lamarckism has the solution to this problem (and it is apparently at our door). But the problem looks different with typewriters. There letters are stored according to the frequency with which they occur in relation to a particular written language so that the fingers can call comfortably on those that occur most frequently: applied information theory, long before this theory was formulated. The typewriter comments on a question in the theory of knowledge, about the dialectic between theory and practice.

Another dialectic is relevant here. To the extent that we type, the letters are stored in our brain. On an English or German typewriter, *ABCDE* becomes *QWERT*. As long as there have been typewriters, letters must have been dancing in our brains, and the choreography of that dance would surely provide an insight into an important aspect of our thinking. This dialectic between brain and typewriter (mediated by the eye and fingers) is such that a part of the typewriter has migrated into our brains and a part of our brains into the typewriter. With the typewriter, a part of our brain will be lost, or to say this more optimistically, one brain function will be free to do something else.

This raises the question of the boundaries of the subject with respect to the objective world (of the difference between the I and the not-I) with impressive clarity. It shows the many-layered gray area that lies between what seems to be the “ego-nucleus” and what seems to be the not-I. If I cut my fingernails, remove my appendix, amputate an arm, or replace all organs with artificial ones, has the boundary between the world and me moved as a result? And what happens in this respect if someone takes my pipe, my old suit, or even my house away? In the gray zone, it is impossible to distinguish ontologically between “my” body and “my” stuff at all: fingernails are further from the ego-nucleus than the pipe. The same is true, mutatis mutandis, for “my” memory as well. Fingernails are further from the ego-nucleus than the Shakespeare stored in my memory, although the nails appear to grow from the inside toward the outside and Shakespeare from the outside to the inside through the gray zone. When the typewriter disappears, something will fall from the gray zone. This something is very close to my ego-nucleus. Should this ego-nucleus prove to be a myth, namely, as the core of a gray zone that becomes denser at its center, then the disappearance of the typewriter should be regarded as an impoverishment of the ego as such. That is an aspect of the dread that seizes us when we reflect on the decline of writing.

Not all writers type, and many who do type also write by hand. They do not have the close relationship with the typewriter described earlier. Many people think one must learn to type (as one earns to swim), and there are typewriting and swimming schools that support this view. There are even professions for trained typewriting writers. Informatization is bringing an end to this nonsense, making clear that typing is about an automation (meaning internalization, me-ification) that turns writing into a gesture like walking and speaking, in that we forget whether we ever learned it.

Stationery stores also show that not all writers just type. In addition to typewriters, these stores also sell various kinds of fountain pens, and in addition to machine and carbon paper, other writing papers. As for the varieties of pens, some available for free, the range of colors is worth considering. It contradicts the essence of writing and recalls the practice of drawing, from which writing freed itself in a development of hundreds of years. Pens are archaic because they recall the stylos (French: *stylus*) and drawing. It becomes clear that the true writing consciousness corresponds best to the typewriter,
as is the case, on another level, for print. Those who write by hand find themselves on the outskirts of writing culture, where calligraphy and graphology, these ways of reading that seem medieval, hold sway. Handwriting is closer to ancient manuscript fragments than to computer programs. That people still write by hand, despite print and typewriter, may be attributed to the stubborn intractability of habitual gestures. It suggests that out of stubbornness, the gesture of writing will persist, like a useless appendix, for a long time into the informatic situation—a small consolation.

More interesting than pencils, ballpoint pens, and fountain pens is the writing paper on offer at the stationeries. It comes loose, "endless," or in notebooks. Among these bound papers, those for making notes are particularly interesting. The words note, notice, and notorious come from gnoscere (to know). Notepads serve knowledge, and those who write in them are notaries. There are notepads that have the weeks, days, and hours of a coming year printed in them. They are designated with the word calendar, which is misleading, for with notepads, we are at the heart of historical consciousness. At the same time, there are calendars (colorful images for each month) that point away from historical consciousness and into mythical prehistory. In sharp contrast to such illustrated calendars, note calendars do not serve reflection or leisure but rather historical activity, so it is more accurate to call them "agendas." The note calendar could serve as a model for all historical consciousness and historical knowledge that corresponds to writing.

A note calendar can be considered from three standpoints: the beginning, the middle, and the end of the year. From the beginning, one sees the structure of the year, the basis of all historical activity, which is to say, the temporal space of freedom and its boundaries. From the second standpoint, it is possible to project actions into the future, in the assumption that there is open space. From the third standpoint, two things become clear: projects crossed out and the history of the year. Taken together, these three standpoints reveal the internal contradiction in the historical concept of freedom and so, too, in that of historical knowledge. A view toward the future sees free space, a view toward the past sees conditions, and a view from within linear time sees possibilities and probabilities. So knowledge that looks back explains history causally, and prognosticating knowledge explains it teleologically. Things will happen as many want them to, but they happened as they had to. The note calendar shows the core of the contradiction: it permits no view from an extrahistorical present.

To read a note calendar at the end of the year is to read a biography. To read it from the end to the beginning (an adventure) is to see the world's resistance to one's plans in the form of accidents and conditions. Both appear against the same background, a printed grid. Once the note calendar is replaced by higher-functioning memories and more nuanced futurizations, once we call on computerized data rather than notes, the printed paper will disappear from view to make room for invisible programs. A newer concept of freedom will replace the historical one (or there won't be one), and instead of causal and teleological explanations, there will be functional ones (should it be necessary to explain anything). The drama of historical consciousness (its tragedy and comedy), as it becomes manifest in the note calendar, will give way to another way of life.

What is true of the note calendar is true of all notebooks. For the moment, they are all empty playgrounds of freedom that will, in the course of linear time, be filled with notorious conditions and accidents. If stationers become superfluous because notebooks have become superfluous, it will be superfluous to worry about this tragicomic contradiction.

In addition to typewriters and pens, besides printer paper and other writing paper, stationery stores carry other writing implements: clamps, folders, glue. Overall, they offer an insight into the universe of literature. Erasers, in particular, clarify the difference between nonliterate memory, texts, and computers with respect to a possible loss of information. Further reflections could perhaps
show Freud's theory of repression to be prealphabetic: a typographical error that occurs as the result of a faulty performance can be typed over (it can be repressed), but it can also be erased. Given the limits established for this essay, however, it is advisable to resist such excursions into writing materials.

Writing paraphernalia migrates from the stationer's to my desk and from there into the wastebasket. The content of the wastebasket migrates into the rubbish, and from there into nature, to potentially migrate from there back into the stationer's as new writing material. But the return route from the wastebasket to the stationer's is unworlthy and does not enter my writing consciousness. In a sense, it isn't right to speak of writing materials after the wastebasket stage. Even in the wastebasket, they no longer deserve the name. Real writing tools start life at the stationer's. They end with the transition from the desk into the wastebasket.

To write a biography of writing materials, these things that emerge in an absurd cycle from nature through culture and back into nature, would be to write about writing. For the concept “writing material” can be understood very broadly. It can embrace the whole of literate culture. A biography of literate culture (e.g., of Western history) would then appear as an arrow that starts at a stationer's somewhere and ends in a wastebasket now. And the segment in the underworld, the part of the absurd circle no one mentions, will only become visible behind the wastebasket, in the informatic situation. We are probably the first generation in a position to write Western history from the wastebasket. So we see, when we look into the future, only the waste behind our basket. Coming generations will have to climb out of the basket and survey the whole circus.

So far, the effort to grasp the stationery and its eventual disappearance from the standpoint of phenomenology has remained fragmentary. There will be no more neglecting the crucial thing about the stationery store, the point of it all, namely, the desk.

Desks

Before desks are compared with the apparatus that will come and replace them, it is advantageous to clear the slate. An empty table is more than just a plane: it is usually made of wood and supported by four legs or is some kind of simplified artificial beast of burden. It is, in addition, an unattainable ideal: one continually sets out to relieve it of its burden, to clear the table once and for all. And one is filled with envy noticing on television the vast and empty writing desks behind which sit those said to be powerful. Putting oneself in their place, one gains a new perspective on power and the desk. The German word Macht, meaning "power," is a substantive of the verb mögen, "to like or desire." Its equivalent in romance languages is the substantive of the verb "to be able." What would the powerful still want to or be able to do while they are sitting at an empty table? Do possibilities and potentialities burst out from them into emptiness? And don't these things become realities in just that organized chaos on the writing desk? After centuries of antiphenomenological discussion, a phenomenology of power would have to start by recognizing it as an assertion of possibilities that become real in resistance, that power is not something already real with which one must comply or against which one must struggle; rather power seeks resistance to become real in the first place. Deferral of resistance (e.g., the case of the empty desk) destroys power, and one need not be Gandhi to see it. The notion of an empty desk is sufficient.

It is the will to power that seduces us into the stationery to
The Digital

Among the perspectives available for gaining insight into the way things are being reordered, science holds a special position. Since the nineteenth century at the latest, natural science has been among the very few authorities that remain to us: we accept its conclusions without being forced by any kind of executive power. From the beginning of the twentieth century, it has been saying things so new that we haven't yet begun to digest them. As varied as these new things may be, they may be grasped in two watchwords: relativity and quanta.

The first watchword means that space, once seen as absolute, and time, once seen as clearly elapsing, are nothing more than relationships between observers, which is to say, subjects. And so spacing, the interval, becomes the key issue in epistemology and, in the near future, in perception, feeling, desire, and behavior.

The second watchword means that the world, once seen as solid, is no more than a swarm of tiny particles whirling about at random. And so probability and statistics have become the mathematics best suited to this world. Causes and effects appear only as statistical probabilities. Of course, that revolutionizes our feelings, desires, and behavior. We cannot continue to live as we did before.

The new assertions are hardly theoretical propositions only; to be discussed at leisure; rather they have had a practical effect. They have begun to reshape our lives from the ground up. One has only to recite the words atomic power station, thermonuclear armaments, artificial intelligence, automation, and electronic information revolution. It means that we have to grapple existentially
with the new formulations daily and hourly. They have a practical orientation and open horizons of freedom and creative potential we had never suspected; on the other hand, they put our mental and physical endurance at risk. The new theoretical formulations of quantum theory are finding practical applications in technology faster than those of relativity theory. This is not to say that we should expect no astonishing practical effect from relativity theory. One has only to think of space travel. But it is to say that at present, we need to devote our full attention to problems raised by quanta. Far from being solely practical or epistemological issues, these are existential, political, and aesthetic ones. They should not be left to scientists and technicians.

In the meantime, what we once called "matter" (without quite knowing what we meant) has proven to be an affair of multiple levels. As bodies, we inhabit one level alone: that of molecules. Below this lie layers of atoms, nuclei, hadrons, and quarks, and above it are galaxies and black holes. How these levels relate to one another is an open question. Perhaps they are Russian dolls, with each doll contained by a higher one and containing a lower one, so that the astronomical universe is only a part of a previously unrecognized superuniverse—and the quark contains universes we've never suspected. Maybe it is about folds lying over folds, about wrinkles in wrinkles in wrinkles. It is in any case a lost cause to try to picture this. The crucial thing for this context is that we have discovered the following: as bodies, we inhabit the molecular level, but as thinking beings, we inhabit the level of the hadrons. Although its implications are inconceivable, this discovery already has practical applications.

Each single level has an appropriate structure. The astronomical one is Einsteinian; the molecular one is Newtonian; matter and energy swim in the atomic one; causality comes to an end in the nuclear one; the hadronic one requires a new mathematics and logic; with quarks, it makes no sense to distinguish between reality and symbol.

The boundaries between the levels blur. Astronautics goes from molecules to the stars; chemistry from molecules to atoms; particle physics from molecules past atoms to nuclei. But so far, all of them have started their journeys at molecules. That will change. Once we understand the structure of our thinking better, we will travel from the hadrons (and the leptons and gluons) to the level of molecules. We will see the world of molecules, concrete things, animals, houses, human bodies from "below"—know it from there and act from there. Using a method chemistry knew nothing about and genetics only dimly suspected, we will be able to fabricate molecular material (living and nonliving beings).

We are in debt to neurophysiology for the knowledge that thinking is a process involving electrons, protons, and similar particles. It has shown that such particles jump across intervals in the astronomical numbers of nerve synapses that constitute the brain. What we call an idea, a feeling, a wish, or a decision turns out to be a statistical summary of quantum leaps; what we call perception turns out to be a summarizing of quantum leaps into a representation. In the brain, representations are formed from distinct elements, and from these in turn spring (in quanta) ideas, desires, feelings, and decisions. Given the nearly unbelievable complexity of the brain, the detail of how this happens is incomprehensible, but a simplified form of it can be simulated in thinking machines, so this understanding of thought is pragmatically "correct."

The level where thinking occurs is inconvenient for us in two ways. First, it can't be observed without the observation affecting what is being observed, so there can be no thought of objectivity in the sense of an object without a subject. Second, this is the realm of pure chance, which can be statistically ordered into curves but where it makes no sense to try to predict the future behavior of any one particle. In other words, everything that is possible, even the most improbable things, must eventually occur there. This slipperiness (it is impossible to grasp the object) and unpredictability (anything at all possible will at some point become necessary) are therefore characteristic of thinking. It can be steered,
to be sure. Not only uncertainty and probability but also cybernetics is the appropriate discipline for thinking—which reminds us that cybernetic control itself comes from the level of uncertainty and statistical probability. This dizzying circle shows that we are beginning to reflect in a disciplined way for the first time, that is, to think about thinking.

From this incipient reflection on thinking has come, among other things and above all of them, the informatic revolution. It is a revolution because it turns from its point of departure to the world and to human beings. It no longer starts from solid things (from molecules) but rather from particles like electrons and protons, that is, at the level of thinking. Because it comes from below, it can change solid things, including human beings as bodies, more radically than any previous revolution—to say nothing of the changes it brings to humans as thinking beings. Although this revolution has only begun, it is possible to see a few of its fundamental features already. For example, it enables us to recognize solid objects as mere appearance, not just philosophically, but technically, inevitably making the world of such things less interesting. It further enables us to see particles on a screen, to compute them into images there, inevitably making the world of these particles increasingly more interesting. Third, it enables us to produce machines that think and work automatically, relying on articulated leaps of particles, demanding a reordering of all values bound up with work and thought. And finally, it enables us to analyze and synthesize thought processes from a new point of view, namely, that of informatics, and so we must learn to think differently.

At least two things characterize this relearning of thought: first, that we think images and only images, for everything we called perceptions—whether external or internal—are nothing but images computed in the brain; second, that thinking is not a continuous, discursive process—thinking "quantizes." That is an insight diametrically opposed to the concept of thinking that distinguishes Western culture. For us, thinking was, and still is, a process that moves forward, that frees itself from images, from representations, that criticizes them, thereby becoming increasingly conceptual. We have the alphabet to thank for this understanding of thought and this understanding of thought to thank for the alphabet (feedback). The new digital codes arose from the new understanding of thought, and feedback is making us think in quanta and images more clearly the more we use the new codes.

The quantum structure of the new codes will be treated here in isolation from its image-making function, although structure and function are obviously coordinated. The linear structure of the alphabet, too, can be thought independently of its function in writing stories, although structure and function are mutually conditional. Because of the particular construction of the apparatuses for which they are designed and that are supposed to decode them, the new codes are digital—and, in fact, usually binary, of the type 1–0. We are dealing with apparatuses that—like the telegraph—either let streams of electrons through (1) or interrupt them (0). Basically, all the new codes are supposed to do is give this mechanical turning on and off of the stream a meaning, to codify it (as flagging code lends meaning to the lifting and lowering of arms).

Apparatuses incorporate the 1–0 structure because they simulate the structure of our nervous system. There, too, we are dealing with a mechanical (and chemical) turning on and off of streams of electrons between the nerve synapses. From this standpoint, digital codes are a method—the first since human beings began to codify—of giving meaning to quantum leaps in the brain from the outside. We are faced with a self-concealing loop. The brain is an apparatus that lends meaning to the quantum leaps that occur in it, and now it is about to turn this meaning-giving function over to apparatuses of its own accord, then to reabsorb what they project. So the new codes are digital basically because they are using simulated brains to simulate the meaning-giving function of the brain.

This codification is an extraordinarily fast addition and subtraction of particulate impulses. It need not be linear, that is, in
the form $1 + 1 + 1$. It can proceed in multiple dimensions. The particulate impulses can be added and subtracted into surfaces, for example, so that strange images made of particles appear. This can be called "computing," for the particles can be so tightly compressed, computed, that their mosaic structure disappears from view. Something similar happens in the brain, and the images computed there are called "representations." The apparatuses simulate this brain function. What we see on their screens are simulated representations, whether they are images of objects in the world (houses, trees, people) or images of internal brain processes (equations, projections, fantasies, intentions, desires). From the images themselves, it is impossible to determine whether they represent external things (putative reality) or internal (putative fiction) ones. But that cannot be determined from brain representations either. Projecting brain function onto apparatuses raises exactly this question, whether this ontological distinction between real and fictional—this critique of images—is possible at all, and if it is possible, whether it is meaningful.

Simulation is a kind of caricature: it simplifies what is being imitated and exaggerates a few aspects of it. A lever is a simulation of an arm in that it neglects all aspects of an arm except the lifting function, but because it exaggerates this one function to such an extreme, it lifts much more effectively than the arm it is simulating. Thinking that expresses itself and makes images in digital codes is a caricature of thinking. But it is practically a public danger to underestimate this new way of thinking as somehow stupid or even narrow. The lever was the first caricature of the body's muscular function. By way of the Industrial Revolution, it led to mechanisms that have eliminated the muscular function of the human body from most areas. With regard to the simulation of thinking, we are at the high end of the lever. We are just beginning to learn, in the sense of projecting brain processes outward, so as to be able to free them from psychological, philosophical, and theological ideologies and get them going to full capacity. It is not that those who hold this new caricature of thought in ideological contempt can keep thought from emerging from its cranial cover, but they can make the path to free thought, laborious in itself, even more difficult. So critics and pundits nourished on alphabetic, historic thinking paradoxically become obstacles to the effort to free thinking from its physiological condition.

As the alphabet originally advanced against pictograms, digital codes today advance against letters to overtake them. As once, thinking that depended on the alphabet actively opposed magic and myth (pictorial thought), thinking that depends on digital codes is today actively engaged against process-oriented, "progressive" ideologies, replacing them with structural, systems-analytic, cybernetic ways of thinking. And as images defended themselves from history, from being strangled by texts, the alphabet is setting up its defenses at present so as not to be strangled by the new codes—only a small consolation to all those who continue their engagement with writing texts, for the whole thing has been accelerating. Only in the eighteenth century, after a three-thousand-year struggle, did texts succeed in pushing images, with their magic and myth, into such corners as museums and the unconscious. The current struggle won't take so long. Digital thinking will triumph much more quickly. It is true that the twentieth century is marked by a reactionary revolt of images. Should we anticipate a reactionary revolt of repressed texts against computer programs in an unpredictable future?
Subscript

We have to go back to kindergarten. We have to get back to the level of those who have not yet learned to read and write. In this kindergarten, we will have to play infantile games with computers, plotters, and similar gadgets. We must use complex and refined apparatuses, the fruit of a thousand years of intellectual development, for childish purposes. It is a degradation to which we must submit. Young children who share the nursery with us will surpass us in the ease with which they handle the dumb and refined stuff. We try to conceal this reversal of the generation hierarchy with terminological gymnastics. While we're about this boorish nonsense, we don't call ourselves Luddite idiots but rather progressive computer artists. And we try to aggrandize ourselves, to ourselves and to others who go on writing and thinking by the old methods, by writing learned and lofty comments on our nonsense. But it can't fool anyone. What we're doing as we sit before our Minitels, Apples, and Commodores is so primitive that no symposia, workshops, or seminars can cover it up. It is just a caricature of thinking.

Our tradition has a ready vindication for this, our intentional relapse. Didn't Jesus suggest, for example, that should we wish to enter into the kingdom of heaven, we should become as little children? Only a consciousness that has been laboriously achieved and energetically defended is not quite so easy to get rid of. In Jesus's time, it was surely about undermining Greek art and science, Jewish theosophy, and casuistry so as to clear a space for naive faith. The result, as we know, was that strange mixture of the primitive, barbarous, and decadent we call the early Middle Ages. In hindsight, we
do recognize the seeds of a splendid development in this mixture. It brought dismantled Greek thought forward as the Renaissance and dismantled Jewish thought as the Reformation. We don't have sufficient distance from contemporary crudity, barbarism, and decadence to be able to recognize seeds of splendor, however clearly we may sense them. It is not a principle of hope that propels us back to kindergarten but rather a principle of desperation, namely, the common persuasion: we can't go on like this.

So the curtain is falling on the stage where the drama of written culture, that struggle of the spirit against the powers of obscurantism, played itself out. In the course of this drama, there have been grim scenes: when the antagonist, perhaps in the form of national socialism, took center stage; when the protagonists themselves as, say, Inquisitors injured themselves horrifically. Such scenes cast doubts on any engagement with the departing culture. And still we are unable to take any lighthearted leave of this drama. It was a splendid show, and we are still taken by it. "I come to bury Caesar, not to praise him."

As people first began to write in that easterly corner of the Mediterranean more than three thousand years ago, the lifeworld was small compared to ours and was filled with obstacles. It was only a few human generations old, and there were people giving a firsthand account of its beginnings. The world's span was large, but one could still walk around it. To move anywhere in this circle was to bump into superhuman powers, extracting a terrible revenge on any who did not make sacrifices and prostitute themselves. These powers, antagonistic to human beings, surrounded people everywhere in the form of threatening images. Only rarely and reluctantly, then, did people leave the protective space of the village, that human segment of an inhuman lifeworld that had been culturally secured. Monsters lay in wait for those who left culture for adventure. A stranger coming into the village constituted an invasion of what was livable, familiar by something monstrous. People lived out their relatively few years in thrall to such communities.

When they died, it was murder, by human or superhuman hands, and that had to be avenged by the survivors.

Alphabetic lines broke through this narrow magical circle. They opened sweeping vistas. The origin of the world was pushed back far beyond the human scale, measurable only in such existentially meaningless terms as, say, fifteen billion years. The world's circumference expanded into the immeasurable and collapsed into the inconceivable. To move just far enough anywhere, whether in the enormous or the minute, is to encounter emptiness. Not only have we seen through the superhuman powers that condition us (and that is all four forces: gravitational, electromagnetic, "strong," and "weak"), we have in part enlisted them in our service. In this world that has become vast, empty, and in part serviceable, we move about with increasing speed and agility. As we do, we bump only into one another. We delay death as long as we can and then suppress or deny it. All these violent changes in the lifeworld, completely improbable three thousand years ago, are the result of alphabetic lines.

One might say that alphabetic lines and the thought that moves along them illuminated the stolid darkness of the magical–mythical lifeworld, that they cut windows in this world, letting the light of critical thought in. But that would not give the alphabetic reordering credit for its final consequences. It did begin to open windows, but later critical thinking also built doors people used to go out and experience the world. Finally, it tore down the walls. Today the clear light of critical thought floods the whole environment from all sides. Even the individual human being is illuminated in his innermost being with such cold X-rays. This means there is nothing left to illuminate. There is nothing to stop the rays of critical thinking. They run into a void.

With this, alphabetic writing and thinking have reached and exceeded their original goal. To think further, one would have to use new codes. But to maintain that linear consciousness has overshot its goal and is about to lose itself in nothingness is to
practice historical critique and so linear thought after all, for it is to say that history is a process that led from the narrow abundance of prehistory to the open emptiness of posthistory.

The goal of historical consciousness is unattainable for this peculiar reason: only historical consciousness has goals (it is linear); other levels of consciousness do not. Therefore, in setting itself the goal of reaching a level of consciousness without goals, historical consciousness will come to a false conclusion. Goals can be pursued within history but not in mythology and not in the new. Only in this sense are we justified in saying the history has over-shot its goal: a new form of aimlessness has emerged from it. That is to say, history can go ahead and pursue its goals (which it can never achieve), but to the new consciousness, observing it all from above, it doesn't matter.

The level of consciousness that prevailed before history is articulated pictorially, the historical alphabetically, the new digitally. Abysses open between them. Each alphabetic attempt to bridge the abyss in the direction of the digital will fail because it will carry its own linear, goal-oriented structure into the digital, covering the digital up. So the alphabetic model of consciousness just proposed should be erased after use. The same is true of this entire alphabetic essay to the extent that it tries to write past writing. The provisional assistance it offers is to be applied to the new with justified mistrust and then erased.

Inasmuch as this essay has tried to write past writing, it is to be erased after use. Inasmuch as it has written about writing (and obviously not written far enough), it should be read as a subscript to writing—and this in a double sense: as confirmation of what has been written (underwriting) and as the last written thing before the end (signature).

The objection could be raised that writing does not need to be confirmed. Surely it is presumptuous of a writer to except himself from wanting to underwrite this ancient and splendid articulation of the spirit with his own name. But is it not common today for petitions and protests to circulate to collect thousands of signatures? This essay, this subscript, wants to be read as one among thousands, one underwriting of a petition in support of a writing that stands accused, one signature on a protest against the threat of secondary illiteracy, even as stifled tears. But how can the tears be completely stifled when writing is being carried to its grave, even if, at some level of consciousness a hair's breadth thick, tears seem inappropriate?

The last writing—that's ridiculous, some will say. Certainly more tides of writing will flow through the presses and technically advanced reproduction apparatuses and into the environment. The writer of this essay will, with certainty bordering on probability, write more: he cannot do otherwise. And in light of such text inflation, it does make sense, in the final analysis, to call them all last writings. The present essay has tried to suggest this. There are people who write because they think it still makes sense, and there are people who no longer write but go back to kindergarten. And then there are people who write despite knowing that it makes no sense. This essay is actually directed at the first two but dedicated to the third.