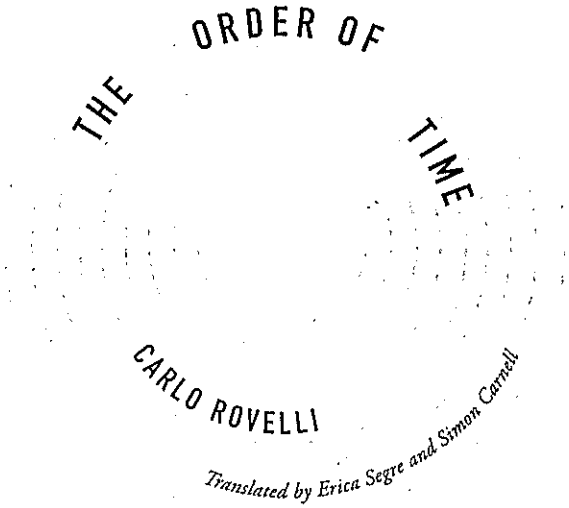


RIVERHEAD BOOKS NEW YORK 2018

12 THE SCENT OF THE MADELEINE

Happy
and master of himself
is the man who
for every day of his life can say:
"Today I have lived;
tomorrow if God extends for us
a horizon of dark clouds
or designs a morning
of limpid light,
he will not change our poor past
he will do nothing without the memory
of events that the fleeting hour
will have assigned to us." (III, 29)

Let us turn to ourselves, then, and to the role we play in relation to the nature of time. Above all else, what *are* we as human beings? Entities? But the world is not made up of entities, it is made from events that combine with each other . . . So what, then, am "I"?

In the *Milinda Pañha*, a Buddhist text written in Pali in the first century of our era, Nāgasena replies to the questions of King Milinda, denying his existence as an entity:[106]

> King Milinda says to the sage Nāgasena: What is your name, Master? The teacher replies: I am called Nāgasena, o great king; Nāgasena is nothing but a name, a designation, an expression, a simple word: there is no person here.

The king is astonished by such an extreme-sounding assertion:

> If no person exists, who is it then who has clothing and sustenance? Who lives according to the virtues? Who kills, who steals, who has pleasures, who lies? If there is no longer an actor, neither is there good or evil any longer.

And he argues that the subject must be an autonomous being that is not reducible to its component parts:

> Is it the hairs that are Nāgasena, Master? Is it the nails or the teeth or the flesh or the bones? Is it the name? Is it the sensations, the perceptions, the consciousness? Is it none of these things?

The sage replies that "Nāgasena" is effectively none of these things, and the king seems to have won the discussion: if Nāgasena is none of these, then he must be something else—and this something else will be the person Nāgasena who therefore exists.

But the sage turns his own argument against him, asking what a chariot consists of:

> Are the wheels the chariot? Is the axle? Is the chassis the chariot? Is the chariot the sum of its parts?

The king replies cautiously that certainly "chariot" refers only to the relationship among the ensemble of wheels, axle, and chassis, to their working together and in relation to us—and that there does not exist an entity "chariot" beyond these relations and events. Nāgasena triumphs: in the same way as "chariot," the name "Nāgasena" designates nothing more than a collection of relations and events.

We are processes, events, composite and limited in

space and time. But if we are not an individual entity, what is it that founds our identity and its unity? What makes it so—that I am Carlo—and that my hair and my nails and my feet are considered part of me, as well as my anger and my dreams, and that I consider myself to be the same Carlo as yesterday, the same as tomorrow; the one who thinks, suffers, and perceives?

There are different ingredients that combine to produce our identity. Three of these are important for the argument of this book:

1.

The first is that every one of us identifies with a *point of view* in the world. The world is reflected in each one of us through a rich spectrum of correlations essential for our survival.[107] Each of us is a complex process that reflects the world and elaborates the information we receive in a way that is strictly integrated.[108]

2.

The second ingredient on which our identity is based is the same as for the chariot. In the process of reflecting the world, we organize it into entities: we conceive of the world by grouping and segmenting it as best we can in a

continuous process that is more or less uniform and stable, the better to interact with it. We group together into a single entity the rocks that we call Mont Blanc, and we think of it as a unified thing. We draw lines over the world, dividing it into sections; we establish boundaries, we approximate the world by breaking it down into pieces. It is the structure of our nervous system that works in this way. It receives sensory stimuli, elaborates information continuously, generating behavior. It does so through networks of neurons, which form flexible dynamic systems that continuously modify themselves, seeking to predict[109]—as far as possible—the flow of information intake. In order to do this, the networks of neurons evolve by associating more or less stable fixed points of their dynamic with recurring patterns that they find in the incoming information, or—indirectly—in the procedures of elaboration themselves. This is what seems to emerge from the very lively current research on the brain.[110] If this is so, then "things," like "concepts," are fixed points in the neuronal dynamic, induced by recurring structures of the sensorial input and of the successive elaborations. They mirror a combination of aspects of the world that depends on recurrent structures of the world and on their relevance in their interactions

with us. This is what a chariot consists of. Hume would have been pleased to know about these developments in our understanding of the brain.

In particular, we group into a unified image the collection of processes that constitutes those living organisms that are *other* human beings, because our life is social and we therefore interact a great deal with them. They are knots of cause and effect that are deeply relevant for us. We have shaped an idea of a "human being" by interacting with others like ourselves.

I believe that our notion of self stems from this, not from introspection. When we think of ourselves as persons, I believe we are applying to ourselves the mental circuits that we have developed to engage with our companions.

The first image that I have of myself as a child is the child that my mother sees. We are for ourselves in large measure what we see and have seen of ourselves reflected back to us by our friends, our loves, and our enemies.

I have never been convinced by the idea, attributed to Descartes, that the primary aspect of our experience is awareness of thinking, and therefore of existing. (Even the attribution of the idea to Descartes seems wrong to me: *Cogito ergo sum* is not the first step in the Cartesian reconstruction, it is the second. The first is *Dubito ergo cogito*. The starting point of the reconstruction is not a hypothetical a priori that is immediate to the experience of existing as a subject. It's a rationalistic a posteriori reflection on the first stage of the process in which Descartes had articulated a state of doubt: logic dictates that if someone doubts something, they must have thought about it. And that if they can think, then they must exist. It is substantially a consideration made in the third person, not in the first, however private the process. The starting point for Descartes is the methodical doubt experienced by a refined intellectual, not the basic experience of a subject.)

The experience of thinking of oneself as a subject is not a primary experience: it is a complex cultural deduction, made on the basis of many other thoughts. My primary experience—if we grant that this means anything—is to see the world around me, not myself. I believe that we each have a concept of "my self" only because at a certain point we learn to project onto ourselves the idea of being human as an additional feature that evolution has led us to develop during the course of millennia in order to engage with other members of our group: we are the reflection of the idea of ourselves that we receive back from our kind.

3.

But there is a third ingredient in the foundation of our identity, and it is probably the essential one—it is the reason this delicate discussion is taking place in a book about time: memory. We are not a collection of independent processes in successive moments. Every moment of our existence is linked by a peculiar triple thread to our past—the most recent and the most distant—by memory. Our present swarms with traces of our past. We are *histories* of ourselves, narratives. I am not this momentary mass of flesh reclined on the sofa typing the letter *a* on my laptop; I am my thoughts full of the traces of the phrases that I am writing; I am my mother's caresses, and the serene kindness with which my father calmly guided me; I am my adolescent travels; I am what my reading has deposited in layers in my mind; I am my loves, my moments of despair, my friendships, what I've written, what I've heard; the faces engraved on my memory. I am, above all, the one who a minute ago made a cup of tea for himself. The one who a moment ago typed the word "memory" into his computer. The one who just composed the sentence that I am now completing. If all this disappeared, would I still exist? I am this long, ongoing novel. My life consists of it.

It is memory that solders together the processes, scattered across time, of which we are made. In this sense we exist in time. It is for this reason that I am the same person today as I was yesterday. To understand ourselves means to reflect on time. But to understand time we need to reflect on ourselves.

A recent book by Dean Buonomeno devoted to research on the functioning of the brain is entitled *Your Brain Is a Time Machine*.[111] It discusses the many ways in which the brain interacts with the passage of time and establishes bridges between past, present, and future. To a large extent, the brain is a mechanism for collecting memories of the past in order to use them continually to predict the future. This happens across a wide spectrum of time scales, from the very short to the very long. If someone throws something at us to catch, our hand moves skillfully to the place where the object will be in a few instants: the brain, using past impressions, has very rapidly calculated the future position of the object that is flying toward us. Further along the scale, we plant seed so that corn will grow. Or invest in scientific research so that tomorrow it might result in knowledge and new technology. The possibility of predicting something in the future obviously improves our chances of survival and, consequently, evolution has selected the neural

structures that allow it. We are the result of this selection. This being between past and future events is central to our mental structure. This, for us, is the "flow" of time.

There are elementary structures in the wiring of our nervous system that immediately register movement: an object that appears in one place and then immediately afterward in another does not generate two distinct signals that travel separately toward the brain, but a single signal correlated with the fact that we are looking at something that is moving. In other words, what we perceive is not the present, which in any case makes no sense for a system that functions on a scale of finite time, but rather something that happens and extends in time. It is in our brains that an extension in time becomes condensed into a perception of duration.

This intuition is an ancient one. Saint Augustine's ruminations on it have remained famous.

In Book XI of the *Confessions*, Augustine asks himself about the nature of time and, despite being interrupted by exclamations in the style of an evangelical preacher that I find quite tiresome, he presents a lucid analysis of our capacity for perceiving time. He observes that we are always in the present, because the past is past and therefore does not exist, and the future has yet to arrive, so it

does not exist either. And he asks himself how we can be aware of duration—or even be capable of evaluating it—if we are always only in a present that is, by definition, instantaneous. How can we come to know so clearly about the past, about time, if we are always in the present? Here and now, there is no past and no future. Where are they? Augustine concludes that they are within us:

> It is within my mind, then, that I measure time. I must not allow my mind to insist that time is something objective. When I measure time, I am measuring something in the present of my mind. Either this is time, or I have no idea what time is.

The idea is much more convincing than it seems on first reading. We can say that we measure duration with a clock. But to do so requires us to read it at two different moments: this is not possible, because we are always in one moment, never in two. In the present, we see only the present; we can see things that we interpret as *traces* of the past, but there is a categorical difference between seeing traces of the past and perceiving the flow of time—and Augustine realizes that the root of this

difference, the awareness of the passing of time, is internal. It is integral to the mind. It is the traces left in the brain by the past.

Augustine's exposition of the idea is quite beautiful. It is based on our experience of music. When we listen to a hymn, the meaning of a sound is given by the ones that come before and after it. Music can occur only in time, but if we are always in the present moment, how is it possible to hear it? It is possible, Augustine observes, because our consciousness is based on memory and on anticipation. A hymn, a song, is in some way present in our minds in a unified form, held together by something—by that which we take time to be. And hence this is what time is: it is entirely in the present, in our minds, as memory and as anticipation.

The idea that time might exist only in the mind certainly did not become dominant in Christian thought. In fact, it is one of the propositions explicitly condemned as heretical by Étienne Tempier, the Bishop of Paris, in 1277. In his list of beliefs to be condemned, the following can be found:

> *Quod evum et tempus nichil sunt in re, Sed solum in apprehensione.*[112]

In other words: "[It is heretical to maintain that] the age and time do not exist in reality but only in the mind." Perhaps my book is sliding toward heresy. . . . But given that Augustine continues to be regarded as a saint, I don't suppose that I should be too worried about it. Christianity, after all, is quite flexible. . . .

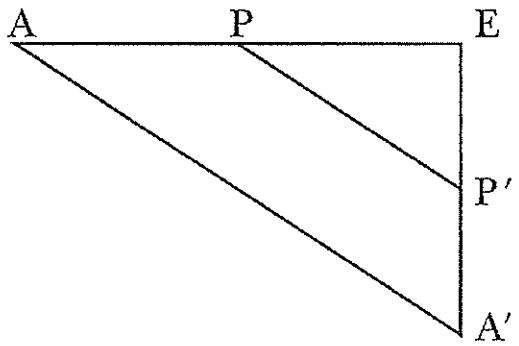
It may seem easy to refute Augustine by arguing that the traces of the past that he finds within himself may be there only because they reflect a real structure of the external world. In the fourteenth century, for instance, William of Ockham maintained in his *Philosophiae Naturalis* that man observes both the sky's movements and the ones within himself and therefore perceives time through his coexistence with the world. Centuries later, Edmond Husserl insists—rightly—on the distinction between physical time and "internal consciousness of time": for a sound naturalist wishing to avoid drowning in the useless vortices of idealism, the former (the physical world) comes first, while the latter (consciousness)—independently of how well we understand it—is determined by the first. It is an entirely reasonable objection, just so long as physics reassures us that the external flow of time is real, universal, and in keeping with our intuitions. But if physics shows us instead that such time

is *not* an elementary part of reality, can we continue to overlook Augustine's observation and treat it as irrelevant to the true nature of time?

Inquiry into perception of the *internal* rather than *external* nature of time recurs frequently in Western philosophy. Kant discusses the nature of space and time in his *Critique of Pure Reason*, and interprets both space and time as a priori forms of knowledge—that is to say, things that do not just relate to the objective world but also to the way in which a subject apprehends it. But he also observes that whereas space is shaped by our *external* sense, that is to say, by our way of ordering things that we see in the world *outside* of us, time is shaped by our *internal* sense, that is to say, by our way of ordering internal states *within* ourselves. Once again: the basis of the temporal structure of the world is to be sought in something that closely relates to our way of thinking and perceiving, to our consciousness. This remains true without having to get tangled up in Kantian transcendentalism.

Husserl reprises Augustine when he describes the shaping of experience in terms of "retention"—using, like him, the metaphor of listening to a melody[113] (the world, in the meantime, has become bourgeois, with

melodies replacing hymns): in the moment that we hear a note, the previous note is "retained," then that one also becomes part of the retention—and so on, running them together in such a way that the present contains a continuous trace of the past, becoming gradually more blurred.[114] It is by way of this process of retention, according to Husserl, that phenomena "constitute time." The diagram on the following page is Husserl's: the horizontal axis from A to E represents time passing; the vertical axis from E to A' represents the "retention" of moment E, where the progressive subsidence leads from A to A'. Phenomena constitute time because, at the moment, E, P', and A' exist. The interesting point here is that the source of the phenomenology of time is not identified by Husserl in the hypothetical objective succession of phenomena (the horizontal line) but rather in memory (similar to anticipation, called "protention" by Husserl), that is to say, by the vertical line in the diagram. My point is that this continues to be valid (in a natural philosophy) even in a physical world where there is no physical time globally organized in a linear way but only traces generated by varying entropy.



In the wake of Husserl, Martin Heidegger writes—as far as my love of the clarity and transparency of Galileo's writing allows me to decipher the deliberate obscurity of Heidegger's language—that "time temporalizes itself only to the extent that it is human."[115] For him also, time is the time of mankind, the time for doing, for that with which mankind is engaged. Even if, afterward, since he is interested in what being is for man (for "the entity that poses the problem of existence"[116]), Heidegger ends up by identifying the internal consciousness of time as the horizon of being itself.

These intuitions of the degree to which time is inherent to subjectivity remain significant also to any sound naturalism that sees the subject as part of nature and is

not afraid to speak about "reality" and to study it—while at the same time acknowledging that our understanding and our intuition are radically filtered by the way in which that limited instrument—our brain—works. This brain is part of that reality that consequently depends on the interaction between an external world and the structures with which the mind operates.

But the mind is the working of our brain. What (little) we are beginning to understand of this functioning is that our entire brain operates on the basis of a collection of *traces* of the past left in the synapses that connect neurons. Synapses are continually formed in their thousands and then erased—especially during sleep, leaving behind a blurry reflection of that which has acted on our nervous system in the past. A blurred image, no doubt—think of how many millions of details our eyes see every moment that do *not* stay in our memory—but one which contains worlds.

Boundless worlds.

They are those worlds that the young Marcel rediscovers, bewildered, every morning, in the first pages of *Remembrance of Things Past*, in the vertigo of the moment when consciousness emerges like a bubble from unfathomable depths.[117] That world of which vast terri-

tories are then revealed to him when the taste of the madeleine brings back to him the flavor of Combray. A vast world, a map of which Proust slowly unfolds during the course of the three thousand pages of his great novel. A novel, it should be noted, that is not a narrative of events in the world but an account of what's inside the memory of a single person. From the fragrance of the madeleine at the beginning, to the last word—"time"—of its final part, "Time Regained," the book is nothing but a disordered, detailed meandering among the synapses of Marcel's brain.

Proust finds a limitless space and an incredible throng of details, fragrances, considerations, sensations, reflections, re-elaborations, colors, objects, names, looks, emotions . . . all within the folds of the brain between the ears of Marcel. This is the flow of time familiar from our experience: it is inside there that it nestles, inside of us, in the utterly crucial presence of traces of the past in our neurons.

Proust could not be more explicit on this matter, writing in the first book: "Reality is formed only by memory."[118] And memory, in its turn, is a collection of traces, an indirect product of the disordering of the world, of that small equation written earlier, $\Delta S \geq 0$, the

one that tells us the state of the world was in a "particular" configuration in the past and therefore has left (and leaves) traces. "Particular," that is, perhaps only in relation to rare subsystems—ourselves included.

We are stories, contained within the twenty complicated centimeters behind our eyes, lines drawn by traces left by the (re)mingling together of things in the world, and oriented toward predicting events in the future, toward the direction of increasing entropy, in a rather particular corner of this immense, chaotic universe.

This space—memory—combined with our continuous process of anticipation, is the source of our sensing time as time, and ourselves as ourselves.[119] Think about it: our introspection is easily capable of imagining itself without there being space or matter, but can it imagine itself not existing in time?[120]

It is with respect to that physical system to which we belong—due to the peculiar way in which it interacts with the rest of the world, thanks to the fact that it allows traces and because we, as physical entities, consist of memory and anticipation—that the perspective of time opens up for us, like our small, lit clearing.[121] Time opens up our limited access to the world.[122] Time, then, is the form in which we beings, whose brains are made

up essentially of memory and foresight, interact with the world: it is the source of our identity.[123]

And of our suffering as well.

Buddha summed this up in a few maxims that millions of human beings have adopted as the foundations of their lives: birth is suffering, decline is suffering, illness is suffering, death is suffering, union with that which we hate is suffering, separation from that which we love is suffering, failure to obtain what we desire is suffering.[124] It's suffering because we must lose what we have and are attached to. Because everything that begins must end. What causes us to suffer is not in the past or the future: it is here, now, in our memory, in our expectations. We long for timelessness, we endure the passing of time: we suffer time. Time is suffering.

Such is time, and because of this we are fascinated and troubled by it in equal measure—and perhaps because of this, too, dear reader, my brother, my sister, you are holding this book in your hands. Because it is nothing but a fleeting structure of the world, an ephemeral fluctuation in the happening of the world, that which is capable of giving rise to what we are: beings made of time. That to which we owe our being, giving us the precious gift of our very existence, allowing us to create

the fleeting illusion of permanence that is the origin of all our suffering.

The music of Strauss and the words of Hofmannsthal sing of this with devastating delicacy:[125]

I remember a little girl . . .
But how can that be . . .
Once I was that little Resi,
and then one day I became an old woman?
. . . If God wills it so, why allow me to see it?
Why doesn't he hide it from me?
Everything is a mystery, such a deep mystery . . .
I feel the fragility of things in time.
From the bottom of my heart, I feel we should
cling to nothing.

Everything slips through our fingers.
All that we seek to hold on to dissolves.
Everything vanishes, like mist and dreams . . .
Time is a strange thing.
When we don't need it, it is nothing.
Then, suddenly, there is nothing else.
It is everywhere around us. Also within us.
It seeps into our faces.

It seeps into the mirror, runs through my temples . . .
Between you and I it runs silently, like an hourglass.
Oh, Quin Quin.
Sometimes I feel it flowing inexorably.
Sometimes I get up in the middle of the night
and stop all the clocks . . .