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The Natural Contract

Michel Serres

Translated by Felicia McCarren

The Two Temps

Accidentally or knowingly, the French language uses only one word, *temps,* to speak both of the time that ticks by or flows, and of the weather produced by the clime and by what our ancestors called meteors.[1]

Today we focus our expertise and our concern on the latter because our industrial know-how interferes, potentially on a catastrophic level, with the natural world that these same ancestors thought did not depend on us. Yet there is no doubt not only that it does depend on us but also that our lives depend on it, this moving atmospheric system, inconstant yet fairly stable, determinist and stochastic, with pseudoperiodic rhythms and response times that vary colossally.

How do we make it vary? What grave disequilibria will result—what global change must we expect in the climate as a whole—from our industrial activity and our burgeoning technology, which pour tons of carbon oxides and other toxic waste into the atmosphere? At the moment we can-

This essay originally appeared in French as the second chapter of Michel Serres's book *Le Contrat naturel,* published in 1990 by Éditions François Bourin.

I am grateful to Nicolas Rasmussen for his assistance in the translation of the scientific and technical vocabulary. All footnotes in this translation are mine.—TRANS.

1. The French word *temps* is used throughout the original text to mean both "time" and "weather." When *temps* is used in French, only one English equivalent is given, except when both "time" and "weather" are intended.

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not estimate overall transformations on such a scale of enormity and complexity; no doubt we cannot even understand the relationship between temporality and temperature, time and weather, two seemingly disparate realities with a single common root word. Do we know a richer and more complete model of global change, equilibria, and their attractors, than that of climate and atmosphere? We are caught in a vicious circle.

To put it another way, what risks do we run? First and foremost, beyond what threshold or what date or temporal limit is a major risk constituted? In our temporary ignorance of answers to these questions, prudence—and politics—demand: What can be done? When? What can be decided and how?

Above all, who will decide?

Peasant and Sailor

Two kinds of men used to live outdoors, immersed in the intemperate weather: the peasant and the sailor, whose timetables depended, hour by hour, on the state of the sky and the seasons; we have lost all memory of what we owe to these two types of men, from the most rudimentary mechanics to the most refined techniques. An ancient Greek text divides the earth into two zones: one in which a particular tool passes for a shovel, the other in which people see it as an oar. In the West, both of these populations are disappearing from the face of the earth; agricultural surpluses and massive-tonned vessels turn the sea and the soil into deserts. The greatest event of the twentieth century remains, without contest, the disappearance of agriculture as a pilot activity of human life in general and of individual cultures.

Living only indoors, immersed only in time, not weather, our contemporaries, piled up in cities, no longer use either the shovel or the oar—

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worse, they never see one. We are indifferent to the climate, except during vacations when we rediscover the world in an arcadian and clumsy way, naively polluting what we do not know, which rarely hurts us and never worries us.

Dirty, barbarian, automobilistic peoples, we dump our trash posthaste in the space we pass through, allowing ourselves to dirty it because we do not live there.

Once again: who decides? Academics, lawyers, journalists. How do they live? And above all, where? In laboratories, where the sciences reproduce phenomena in order to define them better; in offices or workrooms. In short, inside. Never again will climate influence our work.

What do we busy ourselves with? With numerical data, equations, files, juridical texts, information on marble or teleprinters: in short, with language. In the case of science, with language in which we decide what is true and false; in the case of law, with normative language; in the media, with sensational language. From time to time some expert, a climatologist or physician of the globe, will go on a mission to collect onsite observations, like a reporter or inspector. But the essential work is done inside and with words, no longer outside, with things. We have even walled up our windows, in order to hear ourselves better and dispute more easily. Irrepressibly, we communicate. We keep ourselves busy only with our networking.

Those who share power today have forgotten nature; nature that might take its revenge but instead treats us kindly while we live only in temporality and never directly in temperature, and while we claim to be pertinently discussing and making decisions about nature.

We have lost the world: we have transformed things into fetishes or merchandise, the stakes of our games of strategy; and our noncosmic philosophers, lacking a cosmos for nearly half a century now, can only discourse on language or politics, writing or logic.

At the very moment when we can physically act, for the first time, on the entire globe, and when without question it reacts on global humanity, we neglect it tragically.

Long and Short Term

But in what kind of time do we live, now that we are reduced to living only in it? Today the universal response is, in very short term. To save the earth or respect its climate, the weather of wind and rain, we must think of the long term, and—because we do not live in it—we have unlearned how to think according to its rhythms and range. Concerned with self-preservation, politicians create projects that rarely go beyond the next elections; the lawyer reigns only over the fiscal or budgetary year, and news is broadcast from day to day; as for contemporary science, it consists of journal articles that are almost never more than ten years old; even if

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research on the paleoclimate recapitulates thousands of years it does not, itself, date even three decades.

It is as if the three contemporary powers—by "powers" I mean agencies that encounter no counterauthorities anywhere—have eradicated long-term memory, millenary traditions, experiences accumulated by cultures that have just died, or that these powers are killing off.

Now we are confronting a problem caused by a civilization that has been in place for more than a century, itself engendered by long-lived cultures that preceded it, inflicting damage on a physical system millions of years old, fluctuating and yet relatively stable in its rapid, aleatory, and multisecular variations; we are facing a disturbing question whose principal component is time—in particular, a term of time that lengthens as we come to understand the size of the global system. For the waters of the oceans to mix, a cycle estimated at five millennia must be completed.

But we only propose programs and solutions for the short term, because we live for immediate payoffs and from them we draw the essence of our power. The lawyers are in control of continuity, the media controls the quotidian, and the sciences control the only project for the future that we have left. The three powers take possession of time in order to rule over or come to a decision about climate.

How can we not be amazed, parenthetically, at the parallelism between time, reduced to the instant that is passing, the only one that counts, and the news, reduced obligatorily to catastrophes, the only thing deemed interesting?[2] It is as if the very short term were linked to destruction; are we to understand, on the other hand, that construction demands the long term? The same question holds for science: what secret relationships do the very focused specializations maintain with analysis that destroys the object that is already taken apart by specialization?

We must make some decisions about the greatest object of science and experience: the planet Earth, the new nature.

Surely we can slow down the processes that have already begun, legislate in order to consume less fossil fuel, replant the devastated forests wholesale, and so on. These are all excellent initiatives, but comparable, all in all, to the image of a vessel running at twenty-five knots toward a rocky reef where it will not fail to be shattered, while on its bridge the officer in charge recommends to the engine room to reduce speed by a tenth without changing direction.

The solution of a long-term problem with maximum scope, in order

2. The French text locates this parallelism in the word *information,* used in French to mean "inquiry, investigation, acquiring of information; (law) preliminary investigation"; and also "information, piece of information, knowledge; (pl.) news, information, data" (*The Concise Oxford French Dictionary,* 2d ed. [1980], s.v. "information," p. 288).

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to be efficacious, must at least equal its range. For a long time now, peasants and sailors, those who lived outdoors in the weather of wind and rain, those whose actions implied cultures slow to part with local experience, have had no say, if they ever had it; we are the ones who do—lawyers, journalists, and academics, all of us people of the short term and narrowly defined specializations, partly responsible for the global change in the climate by having invented or propagated the means and the tools for powerful, efficacious, both good and bad involvement; unskilled at finding reasonable solutions because we are immersed in the brief reign of our power and imprisoned in our limited fields.

If there is material, technological, and industrial pollution that exposes the climate to conceivable risks, there is a second, invisible pollution that endangers time: cultural pollution, to which we have subjected the thoughts of the long term that are the guardians of the Earth, of men, and of things themselves. Without fighting this second pollution, we will lose the battle against the first. Who can doubt, today, the cultural nature of what we call infrastructure?

How can we succeed in a long-term enterprise with only short-term means? We must pay for such a project with a harrowing revision of our culture, which today rests on the three powers that rule over our brevity. Have we lost the memory of antediluvian ages, when a patriarch from whom we no doubt descend built an ark—a reduced model of the totality of space and time—to prepare for the coming flood of a glacial thaw?

In memory of those who are now silent forever, let us give those of long term their say: philosophers are still learning from Aristotle; jurists do not find Roman law to be obsolete. Let us listen to the ancients for a minute, before painting a picture of the new politics.

The Philosopher of Science

Question: Who, then, inflicts this damage on the world, the objective yet common enemy, this damage we hope is still reversible, the petroleum spilled into the sea, the millions of tons of carbon oxides evaporated into the air, acids and toxic products that rain back down on us? Where does this waste come from that suffocates our children and spots our skin? Who, beyond the individual or the public? Who, beyond the huge cities: a simple number, or a simplex, of causes? Our tools, our armaments, our efficacy, finally, our reason, of which we prove to be legitimately vain: our mastery and our possessions.

Mastery and possession: the master concepts announced by Descartes at the birth of the scientific and technological age when our Occidental reason went in conquest of the universe. We dominate and appropriate: that is the underlying philosophy common both to industrial enterprise and to the science said to be impartial—in this sense the two are un-

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differentiable. Cartesian mastery redresses the objective violence of science in a well-ordered strategy. Our fundamental relationship with objects is summed up by war and property.

War, Again

The list of damages inflicted on the world to this day equals that of the ravages that a world war would have left. Our economic relations in peacetime lead, continuously and slowly, to the same results that a quick global conflict would produce—as if war no longer belongs only to the military since they fight it or plan it with instruments as scientific as those used in research or industry. Through a sort of threshold effect, the growth of our means makes all ends equal.

We, the so-called developed nations, no longer fight amongst ourselves; we turn, all together, against the world. Literally, a world war, twice over: because the whole world, in the sense of human beings, imposes loss on the world, in the sense of things. This is how we will try to arrive at peace.

To master, but also to possess: the other fundamental relationship that we maintain with the things of the world is summed up in the right of ownership. Descartes's master concept amounts to applying the right of ownership, individual or collective, to scientific knowledge and to expert technical interventions.

Property and Dirtiness

I have often remarked that in imitation of certain animals that mark their territory by pissing on it, in order to make it their own, many men mark and dirty, in a kind of defecation, the objects that belong to them in order to keep them, or other objects in order to make them their own.[3] This stercoraceous or excremental origin of the right of ownership seems to me a cultural source of what we call pollution, which, far from resulting from involuntary actions—like an accident—reveals our deep intention and our primary motivation.

Let us say we are having lunch together; when a communal bowl of salad is passed around, if one of us spits into it, he is appropriating it for himself, because no one else will want to share it. He will have polluted this particular domain, and we will consider dirty what is now his property. No one will penetrate into the places devastated by those who take them over in such a manner. Thus the dirtying of the world imprints onto it the mark

3. The French term used in this section is *le propre,* referring both to what is clean and what is one's own.

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of humanity, or of its dominators, the filthy seal of their conquest and appropriation.

A living race, ours, succeeds in excluding all others from its territory, now global: How can they feed themselves on, or live in, what we cover with refuse? If the dirtied world is in danger, it is the result of our exclusive appropriation of things.

Forget the word *environment,* used in such cases. It assumes that we others, the masters and possessors of nature, are seated at the center of a system of things that gravitate around us, the navel of the universe. That recalls a past era, when the Earth—how can we imagine that it represented us?—fixed at the center of the world, reflected our narcissism, this humanism that elevates us above things, as their excellent completion. No. The Earth existed without our unimaginable ancestors, could well exist today without us, and will exist tomorrow and later on without any of our potential descendents, whereas we cannot exist without it. So that we must consider things at the center and ourselves on their periphery, or even better, things everywhere and ourselves at their heart, like parasites.

How did the change of perspective come about? By the power and for the glory of human beings.

Turnabout

Mastering the Earth, we have become both so much and so little its masters, that it threatens to master us again in its turn. Through it, with it, in it, we share a single temporal destiny. The more we possess it, the more it is going to possess us as it did before, when ancient necessity subjected us to natural constraints, but this time with a difference. Back then, locally; today, globally.

Why must we try to master our mastery? Because pure mastery—unruly, exceeding its goal, counterproductive—turns against itself. Thus former parasites, their lives endangered by the excessive demands placed on their hosts—who can neither feed nor house them any longer after death—become obligatorily symbiotic. When the epidemic ends, even the microbes disappear for lack of means for their proliferation.

Not only is the new nature, as such, global but it reacts globally to our local actions.

We must change course and move away from the direction set by the philosophy of Descartes. Because of these crossed interactions, mastery only lasts a short time, and turns into servitude, and in the same way, ownership remains a short-lived expropriation, or ends in destruction.

This is history's bifurcation: either death or symbiosis.

But this philosophical conclusion, once known and practiced by

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agrarian and maritime cultures—even if locally and within narrow temporal limits—would be no longer observed if it were not inscribed in a law.

The Jurist: Three Worldless Laws

The social contract. The philosophers of modern natural law sometimes trace our origin to a social contract that we would have made—at least virtually—amongst ourselves in order to enter into the collective that made us the people we are. They say that this contract, which strangely says nothing about the world, made us leave a state of nature in order to form society. After this pact, everything happens as if the group that had signed it, substituting for the world, were rooted only in its own history.

We could call it the local, historical description of the rural exodus toward cities. It signifies clearly that from this moment on we have forgotten so-called nature, which is from now on distant, silent, inert, withdrawn, infinitely far from cities and people, texts, and publicity. From now on, this last word is the essence of the public that will become the essence of human beings.

Natural law. The same philosophers call natural law a set of rules that would exist outside of all formulation: because they are universal, they flow from human nature; the source of positive laws, they follow from reason as it governs all men.

Nature is reduced to human nature, which is reduced either to history or to reason. The world has disappeared. Modern natural law is distinguished from classical law by this annulling. Their history and their reason remain sufficient for people. Curiously, this reason attains in the juridical domain a status quite close to the one it holds in the sciences: it controls all laws because it is the foundation of law.

The Declaration of the Rights of Man

In France, we celebrated the bicentennial of the French Revolution and, at the same time, the *Declaration of the Rights of Man,* which issues directly, its text says, from natural law.

Like the social contract, it ignores the world, says nothing about it. We no longer know the world because we have vanquished it. Does anyone respect his victims? But this so-called declaration was pronounced in the name of human nature and in favor of the humble, the poor, those

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exiles who lived outside, immersed body and soul in the wind and the rain, and whose lifetimes were shaped by the weather: those who enjoyed no rights at all, who had lost every imaginable war, who possessed nothing.

Monopolized by science and all the technologies linked to the law of ownership, human reason has vanquished external nature in a combat that has been going on since prehistory, but accelerated in a severe manner during the industrial revolution, more or less contemporary with the other revolution whose bicentennial we celebrate: the technological revolution and the political one. We must once again give rights to the vanquished, by writing the law of beings who have no rights.

We conceive of rights as proceeding from a subject of rights;[4] the idea of such a subject developed gradually. It used to be that not just anybody could become one; in France, the *Declaration of the Rights of Man and of the Citizen* gave to all men in general the possibility of attaining this status of subject with rights. The social contract, suddenly, came to a close, but closed in on itself, leaving out the world, the enormous collection of things reduced to the status of passive objects of appropriation. Human reason major; external nature minor. The subject of knowledge and of action enjoyed all rights and his objects none at all. They have still not attained any juridical dignity. This is why, since then, science has all rights.

This is why we necessarily will all things of the world to destruction. From the epistemological point of view, they are mastered and possessed; they are minors in the pact pronounced by the law. Yet they receive us like hosts; without them, we would die tomorrow. Our exclusively social contract for the perpetuation of the species, its objective and global immortality, becomes deadly.

What is nature? At first the set of conditions of human nature itself, its global constraints of rebirth or extinction, the hostel that gives us shelter, warmth, and food; more and more it takes them away from us as we misuse them. Nature conditions human nature that, then, conditions it in its turn. Nature behaves like a subject.

Use and Abuse: The Parasite

In its very life and practices, the parasite regularly confuses use and abuse. Sometimes it exercises its self-appointed rights—against its own interests—by hurting its host; it will destroy him without realizing it. Neither use nor exchange have any value for the parasite because it appropri-

4. The French word *droit* used throughout means both "right" and "law."

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ates things—we could even say, steals them—before either one: it stalks things and devours them. Always abusive, the parasite.

No doubt we can inversely define the law, or rights in general, as a minimum and collective limitation of parasitic action. Essentially, such action follows a simple arrow, like a flux moving in one direction but not in the other; this one-way movement is in the exclusive interest of the parasite, who takes everything and gives nothing back. As for the judiciary, it invents a double arrow whose two directions seek to equilibriate the flux by exchange or contract; in principal at least, it denounces leonine contracts, gifts without return gifts, all such kinds of abuse.[5] From its creation, the just balance of law contravenes the parasite: it sets up a program of equilibrium in opposition to all unbalanced abuse.

What is justice if not this two-way arrow, this very balance, or the continued effort to establish it among relations of force?

We must move on to an agonizing revision of modern natural law that supposes an unformulated proposition, in virtue of which man alone—individually or collectively—can become the subject of law. Here parasitism reappears. The *Declaration of the Rights of Man* had the merit to say "all men" and the weakness to think "only men," or men alone. We have not yet set up a balance in which the world has any weight in the final program. Objects themselves are subjects of the law and no longer the simple passive props of appropriation, even collective. The law tries to limit abusive parasitism between men but says nothing about this same action done to things. If objects themselves become the subjects of law, then all balances will tend toward equilibrium.

Equilibria

There exist in nature one or more natural equilibria, described by mechanistic philosophy, thermodynamics, the physiology of organisms, ecology, or systems theory; in the same way, cultures invented one or more equilibria of a human or social type, defined, organized, maintained by religion, laws, or politics. We have failed to conceive, construct, and put to work a new global equilibrium between these two.

Social systems, balanced and closed on themselves, with their new weight, their networks, their object-worlds and activities, put pressure on the natural systems that are themselves balanced; just as in the old days these natural systems made social systems run the risks, in the age when necessity was more powerful than the means of reason.

Back then, natural fatality was blind and deaf; it failed to make a specific contract with our ancestors, whom it crushed; today we take our

5. Such a contract gives all advantages to one party, or to a group; the Latin juridical term for such a group is *societas leonina*.

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revenge for this ancient abuse with a reciprocal modern abuse. It remains for us to conceive of a new, delicate balance between these two balanced groups. In French, the verb *penser,* to think, or ponder, is close to *compenser,* to compensate or balance; both words have no other origin that I know of beside *pesée,*[6] this weighing or pressure of justice. Today, this is what we call thought. This is the most universal law for the most extensive global systems.

The Natural Contract

From this time forth, people come back to the world, the worldly to the worldwide, the collective to the physical; almost as in the age of classical natural law, but with big differences, all of which come from the recent passage from the local to the global and to the renewal of the relationship that we once held with the world, our former master and now our slave, always our host, in any case, and now our symbiont.

A return to nature! This would mean drawing up and appending to our exclusively social contract a natural contract of symbiosis and reciprocity; a contract in which our relationship to things would no longer involve mastery and possession, but an admiring stewardship, reciprocity, contemplation, and respect, in which knowledge would no longer imply ownership, nor action mastery, and in which neither ownership nor mastery would imply stercoraceous conditions or results. Like an armistice in the war of objects, this would be a symbiotic contract: the symbiont admits the host's rights, whereas the parasite—that is our status today—condemns to death the host he pillages and lives off of without being aware that at the same time he is condemning himself to extinction.

The parasite takes, giving nothing in return: the host gives, taking nothing. The law of mastery and ownership can be reduced to parasitism. On the contrary, the law of symbiosis is defined by reciprocity: as much as nature gives to man, he must return to it, now that it has become a subject of law.

What, for example, do we give back to the objects of our science from which we take knowledge? Whereas in days gone by the cultivator who worked to take away some of the earth's fruits gave back what he owed it by maintaining its beauty. What ought we give to the world? What should we put on the list of restitutions?

In the last century, we pursued the ideal of two revolutions, both of

6. The *Dictionnaire Petit Robert* gives both the popular Latin word *pesare* and the classical Latin word *pensare* from which the French *peser,* "to weigh," is derived.

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them egalitarian: the people take back their political rights, given back because they had been stolen; and the proletariat recovers the enjoyment of the material and social fruit of its labor: seeking equilibrium and equity at the heart of the exclusively social contract, formerly injust or leonine, and ceaselessly verging on becoming so again. Our animality is so wildly intent on reestablishing hierarchy that such a quest will never end; while we pursue it, a second one begins that will characterize our history to come as the preceding one has marked the past century with its seal: the same search for equilibrium and justice, but between two new partners, the global collective and the world as such.

We will no longer know, in the scientific sense of knowing; our industries will no longer work in the entrails nor transform the face of the peaceful earth, as they have done: collective death hovers over this contractual global change.

We could say that the reign of modern natural law begins at the same time as the scientific, technological, and industrial revolutions, with the mastery and possession of the world. We have imagined being able to live and think by ourselves, while things dutifully slept, completely overwhelmed by our expropriation of them: human history took pleasure in itself in a noncosmic world of inert and other living things. We can make history of everything and everything is reduced to history.

Slaves never sleep for long. This interval ends on the day when the reference to things serves as a violent reminder. Irresponsibility lasts only as long as childhood.

What language do the things of the world speak; how can we come to some understanding with them, make a contract? After all, the old social contract itself remained unstated, unwritten; no one has ever read the original, no one has even read a copy. We do not know the language the world speaks, or rather we only know its various animist, religious, or mathematical versions. When physics was invented, the philosophers said that nature was hidden in the code of numbers or algebraic letters; this word *code* came from law.

In fact, the Earth speaks to us in terms of force, bonds, and interactions, and that suffices to make a contract. In symbiosis, each one of the partners, by law, owes his life to the other under penalty of death.

This law would no longer be observed if we did not invent a new politician.

The Politician

When he talks politics, Plato sometimes cites the example of the vessel and the crew's submissiveness to the pilot, the expert governor; but he

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never says, undoubtedly because he does not know, what is exceptional about this model.

Ordinary life differs from the heaven or hell of the sea in the diversity of possible retreats: on board, a social existence is inescapable; no one can simply withdraw into his privative tent, as Achilles the pedestrian warrior once did. On a boat, there is no easy way out, nowhere to pitch a tent, where the collective is closed in behind the strict limit designated by the handrail; beyond the lifelines, we drown. This social whole, which enchanted the philosopher for reasons that we would judge ignoble, holds the navigators by the law of politesse, understood in its most eloquent, most political sense. There is locality, *dasein,* when space offers refuges.

Since antiquity, sailors are no doubt the only ones who know and practice the distance and the consequence of subjective war with objective violence, because they know that they condemn their bark to shipwreck if they come to blows amongst themselves, if they attack the internal adversary. The social contract comes to them directly from nature.

In the impossibility of all private life, they constantly live in danger of anger. Thus a single law reigns on board, this divine courtesy that defines the sailor, this contract of nonaggression, the pact between navigators, at the mercy of their fragility, under the constant menace of the ocean, which, inert but formidable, secures their peace with its force.

Completely different from the pact by which other human groups organize and even begin, the social pact of courtesy at sea is in fact the same as what I call the natural contract. Why? Because here the collective, if it is torn apart, immediately gives itself up to the destruction of its fragile niche with no possible recourse or retreat, the destruction of a habitat with no supplement like the refuge of Achilles' tent, that private little fort where he withdrew, angry with the other foot soldiers—the words themselves tell us that they did not know the life of the sea. With its absence of refuges to retire to, the vessel makes us see a model for the globe: *dasein,* locality, indicates earthliness.

From the beginning of our culture, the *Iliad* is contrasted to the *Odyssey* just as behavior on land is contrasted to the mores of the sea: the first only takes account of men, the second deals with the world. The soldiers of the first poem, a *chanson de geste* or historical epic, become the companions of the second, literally both a text and a geographical map, where the known Earth writes itself, and where we already observe this natural contract, left unspoken out of fear or respect, between the scolding anger of the loud social animal and the chaotic noise, sound, and fury of the sea. A contract between unhearing Ulysses and the clamoring Sirens, a pact between the figurehead and the waves, the peace of men facing the winds. But what language do the things of the world speak? The voice of the elements comes through the throats of these mysterious women who sing in the straits of fascination.

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In politics or economics we can define power by means of sciences; but how can we conceive of fragility? By the absence of supplement. Inversely, force has reserves; it locates its defense somewhere else, takes other lines of attack, doubles back into entrenched positions, and, like Achilles in his tent, can consume its provisions; whereas a full and rigid totality can break, by rigor or hardness, like the prow on the cape, facing the high seas. Thus the resistance of fluid ensembles, full of spaces, a diversity of refuges.

There is nothing weaker than a global system that becomes unitary. When there is only one law, it means sudden death. The individual lives much better when he becomes numerous: the same with societies, or with existence in general.

Now we can call the formation of contemporary society worldwide in two ways: occupying the whole Earth in solidarity like a block, in its criss-crossed interrelations, it has not a single refuge, retreat, or recourse, no "outside" in which to plant its tent. It knows, as well, how to construct and utilize technology with the spatial, temporal, and energetic dimensions of the phenomena of the world. Our collective power thus attains the limits of our global habitat. We begin to resemble the Earth.

Equipotential with the world, our group reunited de facto remains in contact with it as the handrail's stanchions separate the solid, rocking bridge of the ship from the fluctuating expanse of the sea, and yet touch both. Everyone sails on the world like the ark on the floodwaters, with no reserves outside of these two groups, that of men and that of things. Our ship has set sail. For the first time in history, Plato and Pascal, who never sailed, are both right at the same time; because here we are constrained to obey the laws on board, moving from the social contract, the long-time protector of cultural subgroups moving freely in a large environment full of reserves to absorb all damage, to a natural contract demanded by a compact, unified group reaching the absolute limits of the force of objects.

There, the global range of our arms and technology have repercussions on the whole world whose wounds, inflicted by them, in turn have repercussions on all peoples. Henceforth politics has for its objects these three connected totalities.

On Government

The pilot governs. Following his designated route, depending on the direction and force of the swell, he tilts the rudder. Will acts on the vessel which acts on the obstacle which acts on the will in a series of looped interactions. First and then last, first the cause and then the consequence, before becoming the cause again, adapting thus in real time to the conditions that modify it endlessly, but through which it remains obstinately

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unvarying, the design determines the vessel's fine, subtle list, differing with the tendencies of the movement of things, so that finally a course is steered amidst the set of constraints.

In Greek, the art of governing the helm, symbiotic in the strictest sense, is called cybernetics, steering a course guided by feedback loops created by angles of direction, loops that then create other angles of direction: the special technique of the pilot's work at sea, recently adapted to technologies as intelligent as this mastery of marine instruments, and from this level of sophistication to the understanding of more general systems that would not be maintained nor change globally without such cycles. But all this methodological equipment was only in a metaphorical state for the art of governing people politically. What does the pilot at the tiller teach the governor?

At this point their difference disappears. Today everyone's occupation inflicts damages on the world that, looping around in an immediate or predictably deferred return, become the givens in everyone's work. I am deliberately playing on the variations of the same word of exchange: we receive gifts the world donates and we inflict damage on it that it returns to us in the form of new givens or data.[7]

Cybernetics returns. For the first time in history, the human world is face to face with the worldwide world, with no strategy, refuge, or recourse for the entire system, as on a ship. The government and the pilot at the helm are identical in the same art of governing.

The pilot acts in real time, here and now, on a local circumstance from which he plans to produce a global result—the same as the governor, the scientist, and the philosopher. The scientist does not hesitate, when he brings together his local models into a set that imitates the Earth, to describe his intervention with the Earth in these terms.

Up to now, the politician, immersed in the exclusively social contract, countersigns and rewrites it, makes it be observed; expert only in public relations and social science, eloquent even to the point of being a rhetorician, cultivated to the hilt, understanding the inner workings and the dynamics of groups, very much the administrator, necessarily good with the media, and in essence a jurist, he himself is produced by law and produces law: it is useless for him to become a physicist.

None of these discourses speak about the world; they can speak about human beings indefinitely. Once again, publicity defines itself as the essence of the public, as the rules of word formation reveal; thus more than anyone else, the politician does not devote himself to any discourse or action without immersing them in publicity. What is more, recent history

7. Serres is playing on the similarities between, and the possibly similar derivation of, the French words *don* [gift], *dommage* [damage], and *donnée* [given, data].

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and tradition have taught him that natural law expresses only human nature. Caught in the social collective, he could splendidly ignore the things of the world.

All of this has recently changed. Henceforth, we deem the word *politics* to be inexact, because it refers only to cities, to the space of publicity, to the administrative organization of groups. Yet those who live in cities—formerly called bourgeois—know nothing of the world. From now on, the governor must get out of the social sciences, streets, and city walls and make himself into a physicist, emerge from the social contract and invent a new natural contract by reinstating the word *nature* with its original meaning of the conditions in which we are born—or in which tomorrow we ought to be reborn.

Inversely the physicist, in the ancient Greek sense, and also in the most modern sense, approaches politics.

On a memorable page where he describes the art of government, Plato portrays the king weaving the threads of the rational woof with those of a warp that would carry less reasonable passions. Today, the new prince would have to cross the woof of law to the warp coming from the physical sciences: from now on the art of politics will imitate this weaving.

Elsewhere, I named the place where these two types of science converge the Northwest Passage, but I did not know, in doing this, that I was defining today's political science: a geopolitics, in the sense of the real Earth; a physiopolitics, in the sense that institutions that groups create for themselves will from now on depend on explicit contracts that they will make with the natural world, no longer our possession, neither our private nor communal property, but henceforth our symbiont.

History, Again

Although we conceive of it mythically, the social contract marks the beginning of societies. Because of one necessity or another, certain men decide, on a certain day, to live together and thus to federate; since then, we no longer know how to live without one another. How, when, or why this contract was or was not signed, we do not know and will never know. It doesn't matter.

Since this fabled time, contracts of the juridical type have multiplied. We cannot decide if these were established on the model of the first, or if, on the contrary, we imagine the fiction of the original based on the model of the usual contracts fixed by our laws. Again, it doesn't matter.

But these laws had and have the genius to delimit objects, attributed by them to subjects defined by them.

We imagine that the social contract brings together naked individuals

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purely and simply, whereas laws, because they treat causes and recognize the existence of things, bring things into society as constitutive members, and thus stabilize society by anchoring inconstant subjects and their unstable relations, weighting them with ponderous objects. No human collective can exist without things; the relations between men move through things; that is the slightly more stable space that is described by the law. Sometimes I imagine that the first object of law was the cord, the bond—the thing we read only abstractly in the terms of obligation and alliance, but more concretely in the terms of attachment—the cord that materializes our relationships or changes our relations with things; if our relationships fluctuate, this solidification fixes them.

On the model of these contracts, a new collective is organized, at dates that from now on we know, in order to stabilize objects even more. The contract of scientific truth synthesizes a social contract, exclusively intersubjective, for constant reciprocal surveillance and agreement in real time on what should be said and done, and a truly juridical contract for the definition of particular objects, for the setting of standards, experimental procedures, and the attribution of ownership. So little by little things leave our network of relationships to take on a certain independence; the truth demands that we speak of them as if we were not there. A science, from the moment of its birth, brings together the collective and the world indissociably, the accord and the object of the accord.

The contractual act makes these three kinds of association resemble one another, globally collective for the social contract, dispersed into a thousand subgroups by the thousand kinds of law, local and global simultaneously in the case of science; but their relationship to objects distinguishes them. Totally absent from the first, as in the social sciences, the world slowly permeates collective decisions. In how few philosophies does the collective live in a global world?

From now on, by "natural contract" I mean first the precisely metaphysical recognition by each collectivity that it lives and works in the same global world as all the others; not only each political collective associated by a social contract, but also every kind of collective: the military, commercial, religious, and industrial associated by a contract of law, but also the expert collective associated by the scientific contract. I call this natural contract metaphysical because it goes beyond the usual limits of diverse local specializations and, in particular, physics. It is as global as the social contract and makes it, in some way, become history.

Virtual and not signed with the same right as the first two, because it really seems that the fundamental big contracts remain tacit, the natural contract recognizes an equilibrium between our present power and the forces of the world. In the same way that the social contract recognized equality between the human subscribers to its accord, as different legal contracts seek to equilibrate the interests of different parties, just as the scientific contract is obliged to return in reason what it receives in infor-

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mation; in the same way, the natural contract recognizes first the new equality between the force of our global interventions and the globality of the world. The thing that stabilizes our relations or the thing that measures science remains local, well defined, limited; the law and physics define it. Today it grows to the dimensions of the Earth.

Finally, the scientific contract of truth succeeds brilliantly in giving us the object's point of view, just as other contracts, through their obligatory bonds, give us the point of view of other partners in the agreement. The natural contract leads us to consider the point of view of the world in its totality.

Every contract creates a set of bonds, whose network canonizes relationships; today nature is defined by a set of relationships whose network unifies the entire Earth; the natural contract connects the second to the first in another network.

The Priest

We are continuously losing our memory of the mysterious devotional acts of the priests who, alone in their somber and secret retreats, dressed the statue of a god, ornamented him, washed him, put him on a pedestal, presented him in public, prepared meals for him and spoke to him at length—did all this every day and every night, at dawn, at dusk, when sun and shadow reached their acme. Did they fear that a single break in this continuous infinite maintenance would result in formidable consequences?

We are amnesiacs to believe that they worshipped the god or goddess sculpted of stone or of wood. No; they gave speech to the thing itself, marble or bronze, in giving it the appearance of a human body endowed with a voice. Thus they celebrated their pact with the world.

In the same way, we forget why the Benedictine monks rose before dawn to sing matins and lauds, the canonical hours of prime, tierce, and sext; or when they held off sleep late into the night to chant more, at compline. We do not preserve the memory of the necessary prayers or the unending rites. And yet, not far from us, Trappists and Carmelites still pray the divine service without respite.

They do not follow time, they maintain it. Their shoulders and their voices, from biblical verses to orisons, bring one minute to the next all through the fragile *durée,* which, without them, would break. And inversely, who convinces us of the absence of lacunae in the threads or tapestries of chronicles? Penelope, who, day and night, never left her tapestry. Thus religion crosses, threads, knots, gathers together, collects, ties, reties, restores, reads, or sings the elements of time. The word *religion* itself speaks of this traversal, this recuperation or prolonging, the reverse of which is negligence, which continues to lose the memory of these mysterious words and actions.

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The learned say that the word *religion* could have two origins or sources. According to the first, it would derive from a Latin verb *to bind.* Does it bind us to each other, does it assure the bond between this world and another? According to the second derivation, close to the preceding one, more probable though uncertain, it would mean to gather together, collect, restore, traverse, or reread.

But they never say what sublime word language uses in contrast to the religious, in order to negate it: it is *negligence.* Someone who has no religion must not call himself an atheist or a disbeliever, but negligent.

The notion of negligence allows our two *temps,* time and climate, to be understood.

In the temples of Egypt, Greece, or Palestine, the ancients, I believe, sustained time, as if they were anxious about potential lacunae. Today we are worried about catastrophes in the protective upper atmosphere, the heavens that are no longer responsible for temporality, but temperature. These ancients worked at binding, gathering together, collecting, restoring, and, like the monks, worked all day without stopping. What if, by chance, history and human tradition exist simply because people devoted to the longest imaginable long-term time ceaselessly stitched time together?

Modernity is negligent, in the absolute sense of the term. It does not understand the temporally or spatially global; it cannot, and does not want to, think about it or move toward it.

In our exclusively social contracts, we have dropped the bonds that attach us to the world, those that bind temporality to temperature, time to weather, those that put social sciences and physics, history and geography, law and nature, politics and physics, into relation; the bond that directs our language to silent, passive, obscure things that because of our excesses take back their voice, presence, activity, light. We can no longer neglect it.

In the disquieting lull before a second deluge, can we practice a religion diligent of the world?

It is said that certain organisms disappeared from the surface of the Earth because of their tremendous size. It still surprises us that the biggest things are the most fragile, like the entire Earth, humans in the megalopolis, or an all-being, God. Having taken pleasure at the death of these fragile giants for so long, philosophy today takes refuge in the little details that give it security.

Whose diligent shoulders can support, from now on, this huge, fissured sky that we fear, for a second time in a long history, will fall on our heads?

Love

Without love, there is no bond or alliance. These are, finally, the two double laws.

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Love one another, that is our first law. For two thousand years, no other law has known how or been able to help us escape hell on earth, at least for rare moments. This contractual obligation is divided into a local law that asks us to love our neighbor and a global law that requires us to love humanity, at least, if we do not believe in a God.

It is impossible to separate the two precepts, under penalty of hatred. To love only one's neighbors or similars leads to team spirit, the sect, gangsterism, racism; to love humanity in general while exploiting one's neighbors is the frequent hypocrisy of those who preach moralism.

This first law is silent about mountains and lakes, because it speaks to people about people, as if there were no world.

Here, then, is the second law, that asks us to love the world. This contractual obligation is divided into the old local law that attaches us to the land in which our ancestors are buried and a new global law, which no legislator whom I know of has yet written, that requires of us a universal love of the physical Earth.

It is impossible to separate these two precepts under penalty of hatred. To love the entire Earth while destroying the surrounding land; this is the frequent hypocrisy of the moralists who confine the law to men and the language they use and master; to love only the ground underfoot brings on inexpiable wars due to the passions of proprietorship.

Sometimes we know how to love a neighbor, and more often, the land; we have difficulty learning to love the humanity that used to be so abstract and that we now run into more frequently; here, all around us, we must learn and teach the love of the world, or of our Earth, that from now on we can contemplate as a whole.

To love our two fathers, natural and human, the land and our neighbor; to love humanity, our human mother and our natural mother, the Earth.

It is impossible to separate these two double laws under penalty of hatred. To defend the land, we attacked, despised, and killed so many people that some of them believed that these killings would be the motor of history. Inversely, to defend or attack other men, we have ravaged the countryside without thinking, and we are approaching the destruction of the entire Earth. Thus the two contractual obligations, social and natural, have between them the same solidarity as those that bind human beings to the world and the world to human beings.

These two laws make a single one that combines with both natural and human justice, and which together demand that everyone move from the local to the global, a difficult trail and one not well marked, but one that we must blaze. Never forget the place you come from, but leave it and

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join the universal. Love the bond that links your earth and the Earth, and that makes the familiar and the foreign, the near and the far, resemble each other.

Peace be to the formalists and to the children of the Earth, to those who attach themselves to the land and those who announce the law, peace to separated siblings, to the idealists of language and the realists of things themselves, and may they all love one another.

There is nothing real but love, and no law other than this.

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