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The Enlightenment Without the Critique: A Word on Michel Serres' Philosophy

BRUNO LATOUR

Il n'est de pur mythe que l'idée d'une science pure de tout mythe
La Traduction, p. 259

The French, it is well known, love revolutions, political, scientific or philosophical. There is nothing they like more than a radical upheaval of the past, an upheaval so complete that a new *tabula rasa* is levelled, on which a new history can be built. None of our Prime Ministers starts his mandate without promising to write on a new blank page or to furnish a complete change in values and even, for some, in life. Each researcher would think of him or herself as a failure, if he or she did not make such a complete change in the discipline that nothing will hereafter be the same. As to the philosophers they feed, from Descartes up to Foucault's days, on radical cuts, on 'coupure épistémologique', on complete subversion of everything which has been thought in the past by everybody. No French thinker, indeed no student of philosophy, would seriously contemplate doing anything short of a complete revolution in theories. To hesitate, to respect the past, would be to compromise, to be a funk, or worse, to be eclectic like a vulgar Anglo-Saxon!

The revolutions were to be so deep and so complete that they left nothing intact of what they had subverted. In the new order of things, and only there, there was everything needed to think—until, that is, a new upheaval relinquished this order to the same obscurity. Needless to say, this state of affairs made life in Paris rather difficult. Everyone could *outwit* every other. No matter how radical you were, no matter how absolutely critical you might have been, someone could be still more critical, still more radical, still more revolutionary than yourself: someone who would have forced you to confess this capital sin: *naïveté*, gullibility.

Michel Serres is naive and gullible beyond description. Every time a revolution or a 'coupure épistémologique' or an intellectual *pronunciamento*, has definitely reversed the order of things, he still believes in what has been reversed; worse, he does not know how to choose between the past and the present, the losers and the winners. Not only

is he unable to choose camps but he goes on digging in the leftovers, as if the world was beginning, as if no revolution had happened, as if all the past were still present, as if the losers were equal to the winners.

For instance, it is beyond doubt that there has been a Copernican revolution that started the Enlightenment and established science as a sure and definitive access to truth, away from religion and mythology. Science has outgrown its past, and irreversibly passed over the Dark Ages of belief, opinion and story-telling. How can you doubt that? How can a French person hesitate on this evidence, after Descartes, after Comte, after Bachelard?

Well, Serres is not too sure. He wavers. He fiddles. He sees the irreversibility as reversible. It may be that Lucretius is not so *pre*-scientific. It may be that a novelist like Zola is not so *ascientific*. It may be that a fabulist like La Fontaine has things to say about logic as well. It may be that the Holy Scripture's story of the Last Supper is not so *antiscientific*.

Well, one could say, then Serres is one of these conservatives who always scream against science, one of these spiritualists who claim that there exist other ways than science to gain access to ultimate truth, one of these irrational cranks, or may be one of these Nietzschean philosophers who appeal to the unbounded forces of life against the cold and narrow certainties of science?

Not so. I said he is naive, so naive that he does not even believe what revolutionaries say of themselves; he does not see science as cold, and narrow. His hesitation to choose between scientific and pre-scientific discourse is perfectly symmetrical. Maybe Carnot, the thermodynamician, is as lively and interesting as Jules Verne, the novelist, or Turner, the painter. Maybe set theorists, the mathematicians, are as exact as Livius, the recollector of Rome's foundation myths. Maybe that Brillouin, the information physicist, is more of a philosopher than Jean-Paul Sartre. Maybe that a chemist like Prigogine is as interesting a cosmologist as Hesiod.

Hold on! Hold on! One *has to* choose between these adjectives. This is a serious matter. You cannot put the wrong labels on the packages of documents that are securely safeguarded in religion, science, literature and mythology. One might be allowed to say that Livius is 'touching' or 'charming', but not that he is 'rigorous'; or one may say that Carnot is a revolutionary in physics but not that he is so in literature; or that La Fontaine is 'amusing' but not that he is a 'structuralist'; that Prigogine is a good chemist, but not that he is a philosopher. See? You *are* sure. You distribute adjectives like 'outmoded', 'charming', 'poetic', 'rigorous', 'scientific', 'fictional', 'mythical' with great mastery.

But Serres is devoid of this mastery. He has never acquired this know-how. Faced with a novel by Balzac he really does not know for

sure if it is part of the discipline of thermodynamics, of history of religion, or of literary criticism. See how naive he is? Worse. Faced with a Tintin comic strip, he cannot tell for sure if this is not the best theory of modern communication that has ever been written. Who is a better analyst, Hergé or Habermas? *You* know. He does not.

1. Critique—an Acritical Philosophy

His ignorance introduces us to what I see as one of the first important feature of Michel Serres' philosophy. He is not part of the 'Critique' philosophical movement. He does not see philosophy as the discipline in charge of founding knowledge, debunking beliefs, adjudicating territories, ruling opinions. Philosophy is not a crepuscular bird similar to Minerva's owl. If anything it is a light and bright morning bird. Not sad and wise, but naive and brisk.

A 'critique' philosopher sees his task as that of establishing a distinction between beliefs on the one hand and knowledge on the other, or between ideologies and science, or between democracy and terror—just to take three avatars of the 'Critique'. To be taken in, that is the main worry of a 'critique' philosopher. Since Descartes, we are looking for the minimum that could be said to be safe and certain. We, the knights of the Critique, do not ask much. We are ascetic and thrifty. Provided we can hold to one thing, even minuscule, to the *cogito*, to the transcendental, to the class struggle, to language analysis, to discourse, one tiny thing that allows us to see through the rest, we feel happy and safe. The Critique work is that of a reduction of the world into two packs, a little one that is sure and certain, the immense rest which is simply believed and in dire need of being criticized, founded, re-educated, straightened up . . . Out on rough water, the Critique always looks for a lifeboat.

Well, Serres is by training a sailor and no doubt this trait will appeal to Englishmen. Like St John Perse, one of our greatest poets, Serres is one of the very few French for whom the oceans are the only *firma terra*. Thus, out on rough water he is not looking for a lifeboat like seasick passengers, but stays at the stern like a weathered helmsman.

Do we really need a Critique to survive? Is the Critique the only vocation of philosophy? His answer is no. There exist many other ways, many less sterile vocations for philosophers.

To understand in what sense Serres is not a Critique philosopher, we have to take the word critique in the mundane sense of literary criticism. I have two reasons for starting from this point. First, for a large part of his career Serres published books which appear to pertain to that genre, and it is inside language departments that he is still best known abroad. But also, it is my conviction that every science, including the

hard ones, is defined by a certain way of practising a peculiar kind of exegesis. Tell me how you comment on a scripture or an inscription, and I will tell you what sort of epistemology you hold on to. Understanding Serres's conception of the commentary is thus also a way of understanding his conception of the sciences.

The literary critic comments upon a text (see Figure 1). He or she has a vocabulary; so has the text or the work under scrutiny. First, there is a question of direction. Which one is doing the interpretation? The critic of course. He or she is the one who provides the *metalanguage* that makes sense of the infra-language of the text. Second, there is a question of size. The critic's vocabulary is enormously shorter than the text's repertoire. This is why the metalanguage may be said to explain something. With one word in the critic's repertoire, for instance 'Oedipus' complex', you can explain four dozen novels and five hundred plays. Third, there is a question of precedence or of mastery. Who dominates the other? Answer: the commentator. Critics are much stronger than the text they dominate and explain, establish and analyse. The mastery is so complete, Serres argues, that the texts, the novels, the plays, the myths, slowly disappear, buried beneath stronger and more powerful commentaries.

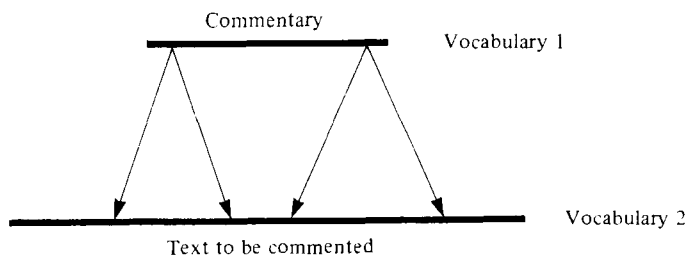


Figure 1

Serres is first of all a reader, a marvellous reader. As much as any other commentator, he uses all the tricks and instruments that exegesis may have invented over the centuries. But he does it with a difference. It is not that he appeals to the pure beauty of the untouched texts beyond the boring scholarship of the critique, although there is some of that ploy in his writings—he hates for instance the lovely Anglo-Saxon art of footnoting. What he does is to reshuffle the cards on the commentator's table (see Figure 2). First, *there is no metalanguage*. Second, it is impossible to distinguish who is providing the explanation; is it the commented text or the commentary? Third, and consequently, there is no precedence and no mastery either.

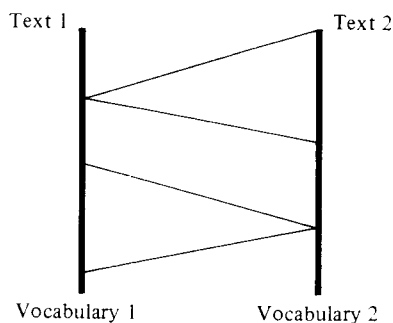


Figure 2

For instance, take Lucretius' *De Natura Rerum* and place in the two systems of interpretation I just sketched.

It is a poem in verse. So, the critics say, you cannot take it too seriously, can you? It is an amusing and outmoded way of exposing the naive physics of those ages. Lucretius was wrong on every point of physics. Just think of his clinamen. Poor thing! Let us explain why Lucretius wrote it, and do not forget the footnotes on the way. Better read the commentary than the text. It will be much faster.

In comes Michel Serres. Remember that there is no metalanguage. So our definition of physics may not be the best judge of what the poem says. Remember also that there is no order of precedence. So why could the poem not teach us something on our physics? What? This non-sense of the clinamen could be the judge of our own commentary? Sure, Serres argues, provided you read the text. What is it about? Clouds, flows, fluxes, meteors, fluctuations, turbulences, chaos, the world and its emergence. If by physics you mean the tiny repertoire of solid and falling bodies started by Galilean physics, yes indeed, Lucretius is rather out of the way. If by physics you mean fluid state physics, how old is Lucretius' passionate description of it? It is still *tomorrow's* physics.

People, I remember, laughed when Serres offered this answer a few years ago. Today, even the *Scientific American* carries articles on the physics of chaos. This turbulent object is slowly being reintroduced in the mainstream, so to speak, of physics. Serres argues that Lucretius, all along his poem, offers a longer, richer and more accurate vocabulary to understand fluctuations than the confined repertoire of concepts used to comment on the Epicurian poem. We thought of this philosophy as of an outdated remnant of the pre-scientific era; but here it is, anew, resurrected, helping us to grasp what the best laboratories try to measure up to: non-laminar flows and turbulences.

I know I have not convinced you. How can a mere poem carry weight

in physics? We all know too well that poetry has no objective meaning, it has survived to these days only by keeping safely away from objectivity and science. To be sure a poem may have other qualities, like beauty and depth, but it cannot compete with *Physics Review* or with the *Proceedings of the Royal Society*. This objection is strong if you believe that the literary genre of science has definitely overcome and outdated every other genre—at least as far as access to the objective world is concerned. But again, Serres does not believe in this overcoming and outdateding. To call the *De Natura Rerum* a poem, for Serres, does not mean that, on his desk, this morning, it is not as fresh as the weekly issue of *Nature*—not that it is a nice way of relaxing after reading science, but because it might be technically accurate.

Still, I feel I have not convinced you. You believe (even on the other side of the Channel) that there have been revolutions in science. The past has been abolished by the present state of knowledge. To be sure it may survive as an object for antiquarians, or as a footnote in the textbooks, but it is fundamentally *disactivated* when handed out to historians. The past of science, for Serres, is still active. No revolution in physics has covered up the Epicurian approach of fluctuations, no more than the invention of the genre of scientific writing has disactivated mythology, cosmogony, foundation stories or fables. He does not only say that you should be fair to the losers of the history of science; he claims that they are not losers at all, that they are still tackling the same problems at hand as the modern sciences do. 'There is only one myth: that of a science purified from all myths.'

You might now guess the main source of pleasure and strength of Michel Serres's writings. He visits our past like the Charming Prince visits Sleeping Beauty's palace. Lucretius had been put safely asleep far away in the pre-scientific era; a kiss; and here it is, yawning, stretching, breathing again, as young as when it was written. Livius's foundation myths had been mothballed for centuries. They are standing alive today, and it is today that the Vestals are stoned by the *turba*, the *mob*, revealing in front of our very eyes the foundation of Rome and the creation of the ob-jects, *ob-jicere*, that is, what lies, stoned by the mob, buried under a tumulus of stones. So many commentators give venerable texts the kiss of death, that, to all those who have heard Serres talk, this resurrection echos what was said to Lazarus: 'Take off the grave clothes and let him go' (Jn. 11: 43).

After this brief encounter with Serres's exegetic principles, we can now see how little he is a 'Critique' philosopher. Since Kant we define the Critique has a Copernican revolution that makes, at last, the things turn around the mind (or around whatever has since Kant been defined as the focus and master that occupies the Centre: the Unconscious, the

Society, the Economy, the Language, the Epistémè and so on). How could Serres accept that a Copernican revolution has ever taken place? Consider again his principle: the text under scrutiny is always more rigorous, more lively, more modern, than the commentator and always provides a richer repertoire. Who turns around them? The commentator. Who overmasters him? The humble and outdated texts.

Still, one could say, this is a philosophy of texts, a typically French overemphasis on discourse. Not so. What Serres does on the relation of commentary to texts, he also does it on the relation of language to things. The things? How can one talk about the things? How can a Frenchman talk about them after hundred years of idealism? Serres does, and unabashedly at that. Again, things are not reduced to our knowledge of it; they, too, are richer, more accurate, more precise than our commentary on them. In his latest book, *Les Cinq Sens* ('The Body's Five Senses'), Serres provides a pre-Copernican version of things, things seen before the commentary of the sciences. To my knowledge, this is a rare attempt, in philosophy, to see things from the point of view of the *known*, not of the knowing. A French person who would also be an empiricist—even though a queer sort—who could imagine that? That is the difficulty of Serres, so French in his language and culture, and so totally un-French, that is to say un-German, in his philosophical tradition.

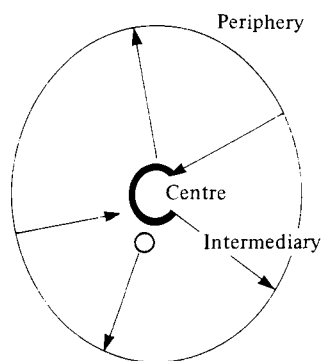
What Serres does on the relation of the commentary to the texts, and of the texts to the things, he also does it on the relations of the sciences to the world. I said that there always exists a link between the practice of exegesis and the definition of what is a science. In Serres, this link is still clearer. Scientific knowledge does not reduce or abolish the world, nor does it reveal its essence. Nothing is more foreign to Serres than the problematic of hiding and revealing things, the problematic of Light and Darkness, of the Enlightenment. Scientific knowledge is *added* to the world; it is inside it; is part of its beauty, mystery and monsters, part, in brief of its myths, of its culture. Serres is one of the very few French philosophers since Bergson who reads science, who has been well educated in it, and who does not despise or worship it. It is part of his naiveté, as I said, to take the sciences to be as interesting as Livius or Jules Verne, as mythical as Homer. I insist on this essential point: Serres does not say that there is beyond, or above, or below, or beside the sciences, other ways of thinking and believing than science, who would deny that? He says that there is one huge reservoir of attempts none of them having been overcome, outmoded, outwitted, *aufheben*, by the present state of science. They are ready at hand, irreducible, all offering the measure of each other.

Instead of the image of the Copernican revolution, that pictures a definitive and irreversible reversal of the force relations between centre

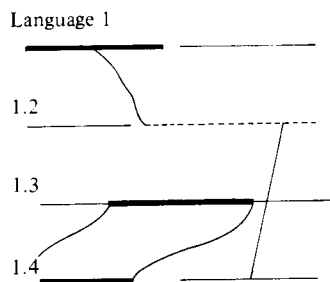
and periphery he offers another geographical metaphor, a much *less* radical one, that of the North-West Passage, this chaos of islands and lands and ice and packs disseminated in North Canada. No direction; no obvious mastery; no clear-cut divide between the firm lands of science and the soft resources of the humanities. If one wanted an image for the Two Culture debate that so much obsesses the humanists, here it is: the two cultures do not exist, except as the infinitely far horizons of Canada on the one hand and the North Pole on the other. What exists is this chaos of passages and dead ends. Where is 'the sure path of the science' so dear to Kant's heart in this Daedalian labyrinth? Lost. No! It is there, but local, only local and transitory when the wind is good and the fog has cleared . . .

Before closing this first part, we can see again the relations between two conceptions of science, two ways of practising commentaries and also two ways of disciplining disciples and defining the seriousness of a study. 'Critique' philosophers firmly install their metalanguage in the centre and slowly *substitute* their arguments to every single object of the periphery; organizing the Critique is a tantamount to a careful, obstinate and deliberate empire-building. A powerful critique being one that ties, like a bicycle wheel, every point of a periphery to one term of the centre through the intermediary of a proxy. At the end, holding the centre is tantamount to holding the world. A scholarly work is recognizable to the continuity, homogeneity and coherence of the metalanguage used all along to subsume the periphery.

Serres' pre-critical philosophy lives under rather different assumptions. There is no centre and no substitution of one metalanguage that would overmaster the others. The result of his commentary is a *cross-over*, in the genetic sense, whereby characters of one language are



Substitution of the metalanguage
to the infralanguages
of the periphery



Cross-over from one
repertoire to another

Figure 3

crossed with attributes of another origin. To take a less humble metaphor, his aim is to produce a local Pentecost, each reader listening to the same argument in his own mother tongue.

Needless to say, such an aim prevents the creation of students, of deputies, of *thésards* extending the concepts of the centre to still another domain. Who does not want to take over a centre, does not need to train a retinue of followers. 'Be as inventive as the text, be as inventive as I am when inventing the text anew', is not a *mot d'ordre* to overpower positions and chairs. (As to the tell-tales that allow one to decide whether a study is serious or not I will tackle this question at the end of my presentation.)

To sum up, I would say that, for Michel Serres, the Critique has been a long parenthesis that is now put to a close. The task and the duties of the 'Critique' philosopher is to reverse the pecking order, to reverse the force relations between masters. The 'Critique' philosopher wants to bring religion to an end and make all disciplines, including philosophy, enter 'on the sure path of a science'. The political overtone of this reversal of power relations was to at last emancipate the people and the mind from the tyranny of the senses, of beliefs, of the things, of the world.

What does the task of philosophy look like when you do not believe in metalanguage, do not consider that history has been divided up by revolutions, when you do not take the new focus of mastery as having definitively overmastered the world? What sort of Enlightenment do you get when you put the Critique to rest? What emancipation is there in store, if any? Serres' philosophy is an attempt to explore these questions without being too influenced by what philosophy has done during the Critique parenthesis, let us say since the mid-eighteenth century.

I am struggling for a word that would best describe Michel Serres' philosophy. 'Positive' would come to mind if Comte had not given this word a dubious posterity—let us not forget however that Serres knows his Comte very well. All the words like *dépassement*, *aufhebung*, *overcoming*, *outwitting*, *overmastering*, are foreign to his vocabulary. Nothing overshadows, nothing buries anything else. Serres never overcomes anything. Serres' philosophy is free from negation. We all believe that negation and thus dialectics are the great masters of history, the midwives of our societies. Nothing is achieved, we all admit too quickly, without struggle, and dispute, and wars, and destruction. Serres' philosophy is first of all a reflection on violence, on what violence may or may not achieve, and this he does in all spheres of life, in politics, in economics, in scholarship, in physics. The world is innocent as well as positive and new. There is no divide, no camps, no

limes, no boundaries that are worth a crime. It is not that, like in Nietzsche, the man of resentment becomes, after endless crisis, the man of affirmation, the later-day adept of a *gaya scienza*. No, Serres is born endowed with this *gaya scienza*. We can say of him what Péguy said of Victor Hugo: he was born into a world as fresh as it was when leaving the Creator's hands.

2. Crisis—an Anthropology of Science

What has been lost with the Critique parenthesis? A certain belief in the sciences, a certain confidence in their abilities to reconcile humans together. Serres did his thesis on Leibniz, the reconciliator *par excellence*. But then he slowly realized that the sciences were not a way to limit violence but to fuel it. He decided to hear and to feel this terrible earth shaking tremor travelling from Hiroshima, the only date in history that he takes as a real turning-point; the earth has been shaking ever since. His rupture with epistemology, with Bachelard, with Canguilhem, with the Critique project, comes from this realization: all these eminent gentlemen are deaf to the noise made by the atomic bomb; they go on as if physics was business as usual; as if the emergence of *thanatocracy*—his word for the black triad made by scientists, politicians and industrialists—had not reshuffled for ever the relations between society and the sciences.

The Enlightenment of the eighteenth century was defined by a confidence in the abilities of science to dissipate away the darkness of religion; a certitude that objectivity could replace the endless struggles of subjectivity; and a firm belief that a democratic process could replace the power of one by that of many. Two centuries later we are in a completely different situation. The same atomic holocaust fuses together total illumination and total darkness; it is through a growth of objectivity that political struggles grow; finally, the one leader can kill us all, reversing the old relation between the people and their single victim. If we may dare use again the word 'Enlightenment', a completely new understanding of violence, of the collective, of the object and of the sciences, is necessary. Such is the crisis this 'positive' philosophy is living up to.

How can objectivity and terror be related to one another? A first possible solution is offered by the French philosopher and theologian René Girard exiled in the United States and a very intimate friend of Serres. The mob in a state of crisis cannot *agree* on anything but on a victim, a scapegoat, a sacrifice. Beneath any boundary is buried a sacrificial victim. Marking the boundary of Rome is the same as killing one of the two mythical twins. The object of agreement is stoned to

death. Of course, René Girard deals only with people, with social relations inside the collective. Objects are very much absent in his religious anthropology. Literally, they do not count, since they are never worth a fight, since struggles are 'without object', without reason or justification. The only role for objects in Girard's account is to give the illusion that something is really at stake.

Serres, on the other hand, takes objects much more seriously than Girard. They are not illusions unfairly accused, by Girard, of being worthless. They are *substitutions* of one type of non-human victim for a human one. Objective knowledge is not different in kind from subjective politics, it is a latecomer in a long series of substitutions of one victim for another. The objective knowledge of atomic physics is not different in kind from the stoning of a primitive hero; it is different *in scale*; it allows a bigger collective thus to be defined. Instead of taking apart the collective and the objects, Serres tries to measure how they both grow. Violence is not mopped up by science but fantastically increased.

Instead of believing in divides, divisions, and classifications, Serres studies how *any* divide is drawn, including the one between past and present, between culture and science, between concepts and data, between subject and object, between religion and science, between order and disorder and also of course, divides and partitions between scholarly disciplines. Instead of choosing camps and reinforcing one side of the divide, of the crisis, of the critique—all these words are one and the same—Serres sits on the fence. Instead of dealing with a set, he always takes as the only object worth the effort the extraction of the set *from its complement*. If Serres were choosing the inside of the set, he would be a rationalist; were it to take the side of the complement, he would be called an irrationalist. How would you call someone who chooses the extraction of the set from its complement? Hyper- or infra-rationalist? I call him provisionally an *anthropologist of science*. We are in the habit of thinking that anthropology's goal is to make sense of whatever non-scientific, pre-scientific, or anti-scientific beliefs and cultures there are left. How do Trobrianders or Jamaicans or lower class Britons live, that is part of anthropology. But how Thales, or Carnot, or Prigogine thinks, this, we gather, does not pertain to anthropology. Studying how all of them divide and order, studying what is to *pertain to* something, this is the purview of an anthropology of science, the new task before us now that the Critique parenthesis has been closed.

The mixing up of objectivity and violence is best visible in the ways in which scientific professions organize their trade. In the Critique tradition, we love concepts and disciplines. We sit firmly inside the set and take as our main source of pride the extension of concepts and the

defence of the propriety of the words we use against any metaphorical contamination. In a position akin to that of Mary Hesse, Serres is not a 'literalist' believing that there is a strong distinction to be made between literal and metaphoric meaning. Like Hesse, he is not for a 'police of metaphors' that would forbid certain uses and turn others into precise, literal ones. Instead he describes in many pages the works, deeds and rites of purification. How clerics, ancient priests and scientists alike wash out the world, forbid double meanings and extenuate analogies. How they establish properties and proprieties, allocate classes and camps. How they polish and police metaphors so as to discipline them into proper names. The work of classifying and conceptualizing, the work of clarifying and measuring, is not what make our sciences different in the end from religion, from beliefs, from our bloody and confusing past; it is what plunges us *deeper into it*. Serres, in this respect, marks the antipodes of Bachelard, and it is no doubt the French tradition of epistemology that provides him with his best specimens (in no country is the love of purity and the hatred of colleagues pushed to such extremities).

His passion for the extraction of a set from its complement has led Serres to a very different ontology that, in many ways, anticipates the most advanced ideas of physics and cosmology. This is a better known aspect of his work, a reversal of foreground and background, a *Gestalt* switch. In many previous philosophies disorder is what should be ignored, kept at bay, repressed, eliminated, mopped up; order is what counts; in between there exist strong divides that have to be enforced. Order is the rule; disorder the exception.

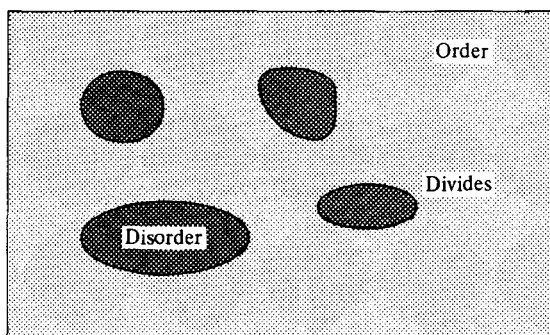


Figure 4a

Serres reverses this image: disorder, fluctuations, noise, randomness, chaos is what counts; they are the rules, order is the exception, it has the shape of pockets, of islands of stability, of fragile and tiny archipelegos. Thus what becomes most interesting are the transitions and bifurcations, the long fringes, edges, verges, rims, brims, auras,

crenellates, confines . . . all the shores that leads from one to another, from the sea of disorder to the coral reefs of order. I would say that a third of Serres' sixteen books is devoted to a systematic exploration of all the metaphors, myths and data, from the birth of Venus out of the sea to the bifurcations in Besnard's cells, that allow him to understand those fringes, what he calls a miracle, that is order from noise.

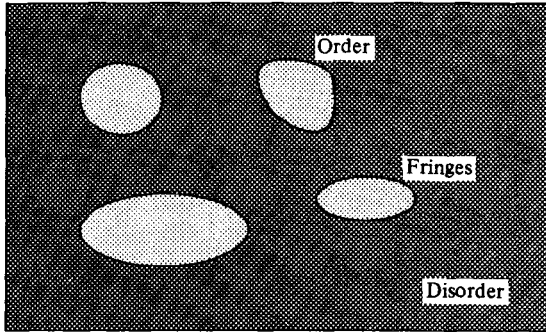


Figure 4b

This *Gestalt* switch reshuffles entirely the pack of arguments around rationalism and irrationalism. Serres does not defend the margins against the totalitarian empire of the sciences, or the rights of obscure thinking against the tyranny of clarity and rigour. On the contrary, his main source of inspiration, especially in his earlier books, is no doubt the mathematics that he practised for many years. He is all for clarity and rigour, all for the sciences, provided they are to be seen as local. The sciences are not to be worshipped, and not to be despised, they are local achievements extracted from the world. They do not replace it, and cannot be substituted for it, no more than any other metalanguage. It is true that Serres might be seen, after a cursory reading, as ambivalent about the sciences. Sometimes they seem to add *lumen* to the world, sometimes, especially since his book, *The North-West Passage*, they appear to add more *numen*. But it is not that Serres is ambivalent about the sciences, it is the sciences themselves that are a new mixture of *lumen* and *numen*, of light and terror, a new anthropological puzzle. To understand this mixture, one should remember that there is no path that leads 'naturally' from the local to the global. No way of mopping up the varieties of the world. Thus, the extension of a science, the substitution of one metalanguage to a language, has to be payed and paved by violence. Again, his main question is to understand how come that the sciences do not end the violence, but add to it.

One aspect of Serres's originality is never to offer us a discourse for or

against the sciences taken as a whole—and of course not a discourse beyond or above or below them. He offers us a principle to *sort* and select them in their finest details. When the sciences *add* variety to the world, they are to be used. When they *subtract* variety they are to be rejected. He often compares the relation of the sciences to the rest of the world with the relation of plant geneticists to a primitive forest. Plant breeders extract a very few varieties and breed them into an endless number of pure lines, infinitely more productive, but, one should add, infinitely more fragile. The philosopher, on the contrary, thrives on the varieties of the forest; to be sure he never cultivates highly productive breeds, or even reproducible results, but he prepares the ground and the selection of new more robust possibilities. This is why Serres does not define philosophy as arriving *after* the sciences, like Minerva's owl, or as being subservient to them, or as surviving in the few clearings left by the universal extension of rationality. On the contrary, philosophy is beyond the research front, gambling far in the primitive forest, into the world, cultivating unexpected hybrids. Philosophy does contribute to the sciences either because it anticipates their results, or because it plunges them in their anthropological matrix they too quickly forget—and also because maybe philosophy frees the sciences from part of their violence.

Conclusion

I would be pleased if I had convinced someone to read Michel Serres carefully. However, before ending this presentation, it would be unfair not to warn the English reader that his writings make at first a difficult reading. It is not that they are obscure, or convoluted, or technical, or written in one of these many stilted tongues of our modern Babel. It is simply that his style is part and parcel of his very philosophical argument. This is a difficulty in general with the French. They never believe, like so many English philosophers do, that language is simply a means of communication. For writers as different as Diderot, Bergson, Péguy, or Lacan, language is the very material on which to experiment for any argument to gain some meaning. The deepest content of what they have to say is first of all a style, a form, a particular way of saying it. Hence the accusation, often levelled at them by English-speaking writers, of being superficial: 'Why can't they all say in plain language what they have to say?' Because, what they have to say is that the plain language is to be transformed for something to be said.

But the difficulty of reading Serres comes from a transformation of the 'plain' language of scholars; paradoxically, it is *too* plain; it is clarity without a scholarly domain. We are so used to thinking inside one of the

feuds defined by the Conflicts of the Faculties that we can barely understand someone who writes without pertaining to any one of them. Serres writes as he thinks, unbounded by the delineation of territories. He does not use one metalanguage, but many, and he does not substitute his commentary for what he is commenting on. Instead of mobilizing the referent inside the text as scholarly works do—by footnotes, descriptions, pictures, diagrams, instrumentation, allusions—Serres inserts his texts as a *legend* for us to read our world. Hence the difficulty. When you read his commentary of La Fontaine's *Fables*, you always wonder *where* are the fables he is talking about. When you read his description of Auvergne's landscapes or of the North-West Passage, you are never presented with a textual substitute for them. When Carnot's thermodynamics is put to use in order to understand Zola, neither of them is first explained to you. The referents in Serres's texts are neither absent nor made present in the text. They remain there, in front of your eyes, provided you know your La Fontaine by heart, provided you have been to Auvergne and yourself crossed the North-West Passage, provided you are well versed in Carnot and in Zola. Serres's texts are more difficult than most because they require us to know directly and by ourselves what they are *about*, but they are easier to read than most, because we do not need to abandon the world we know in order to read them. Serres does not worship the text, does not believe they are a useful—or dangerous—substitute for the world. As everything else they have to be *added* to the world. What appears allusive, impressionistic and poetic when his text alone is taken, appears technical, precise and accurate, when the text is read together with the world it is pointing at. Serres just provides the soundtrack of this movie: the world. It is in that modest sense that he offers 'the Enlightenment, without the Critique'.¹

- ¹ I thank Bernadette Bensaude-Vincent and Isabelle Stengers for helpful comments on this paper.