

## AFTERWORD

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# Politics - A Glimpse at Bodybuilding

*Bruno Latour*

It was bound to fail! How in our right mind could we have had the idea of convening in one three-day meeting political philosophers with scientists working on ants, baboons, cells, natural parks, together with historians of capitalism and—how totally bizarre!—specialists of the planet taken as a whole, namely Gaia—plus metaphysicians and historians of science thrown in, as well as a bit of legal theory and a lot of social science to stir the pot further? What did we hope to achieve by linking corporate law with embryo development, the management of Amboseli with 19<sup>th</sup> century railway investment, or the competition between baboons and farmers with the philosophy of Whitehead and the autotrophy of the earth system?

And yet the only way to have a chance of renewing the question of the extent, function and future of politics might well be to enter into this strange exercise and, against all odds, to carry it obstinately to the end. Why? Because whatever you expect from the future, you will indeed have to in some way assemble into a joint polity exactly *those various types of beings* that were brought to the table in September 2017. It is true that the term “body politic” has been disputed, but is there a better way to flag the goal of the new geohistorical epoch? No matter how disputed is the geological term of Anthropocene, the September 2017 event is exactly the sort of clarifying process that the term triggers and the sort of occasion it opens for natural and social scientists to be able to collaborate. Indeed, it has provided a new breed of diplomats with the undeserved chance of an improbable encounter, thanks to the generosity of the Cini Foundation, in one of the most beautiful setting there: the *Biblioteca del Longhena* of San Giorgio.

Actually, as Simon Schaffer is never tired of saying, none of the former inhabitants of this abbey designed by Palladio would have been surprised to hear that the nature of politics is to be connected with the order and destiny of bees, ants, cells, entrepreneurs, stars and the variegated climates of the earth. What was obvious in the premodern past is now obvious again today. In effect, what we were convened for was to write down the program of a new fresco of the *Good and Bad Government* before ordering a new Lorenzetti to get to work. And for my ear, Stockhausen's *Tierkreis*—animal circle—beautifully played in the magical auditorium *Lo Squero* the day before our meeting, had the same effect of joining political thought with the vibrations of the cosmos.

Even if it is admitted that a new body politic has to be composed from those bits and pieces—earth, cells, industries, plants, animals, people and sundry—, the key question is to decide what sort of linkages will allow such a composition to proceed, to gain some robustness and to be recognized by its partners as a legitimate form of polity. To use Kyle McGee's term, we had to raise the question of what are the "ligatures" of the new body politic?

I did not have the answer—I still don't—but I sort of knew what connector will *not* work because I have had a long career in tracking down the same failure of composition across several disciplines. Since this quest was the reason that connected the participants assembled in San Giorgio, I feel entitled to revisit the meandering path that ended up composing this particular assemblage of people.

It is in sociology, or more exactly social theory, that I first encountered this strange obsession for composing collective entities as if any inquiry had to start either from individual components or from some contextual framework. I was at the time studying scientists and engineers, and, together with Michel Callon, we were stuck by the sudden variations in the relative size of those innovations: what started in a California garage ended up becoming a gigantic multinational while in a matter of years the whole steel industry of Lorraine had shrunk to a few isolated rusty mills sustained by European funds. Not only was size in constant flux, but every actor was entertaining many alternative definitions of the "whole" inside which he or she was striving. It appeared to us that it was impossible to stabilize either the individual pole or the collective one. Hence, we found it puzzling that the discipline of sociology had to define itself as obviously divided between the "micro" and the "macro" level—or some mix of those two. Obviously, a totally different process was at work that the micro versus macro polarity did not register. There was probably something amiss in the very notion of "level" and that of "individual," as well as that of a "whole" superior to its parts... We became convinced that there was a failure in understanding composition that made it very difficult to register collective phenomena that are never situated above any individual level but that are

comprised of certain ways of being collected and circulated throughout what we called, at the time, networks.

I was still in California when I discovered that a marginal branch of sociology, called ethnomethodology, had actually grasped one of those collecting mechanisms by insisting on there being many contradictory ways in which “wholes” were circulating throughout daily encounters. Harold Garfinkel, Mike Lynch’s mentor, had been an accountant and he had put to good use the powerful ways in which humans constantly “account” for the situations in which they find themselves, to the point where, at each moment of the interactions, there exist simultaneous overlapping interpretations of what all of them are doing. Garfinkel’s insistence of methods and accounts allowed he and his students to bypass entirely the micro-macro conundrum, thereby dissolving the notion of level. “Indexicality” was the word they used to corrode the strange idea that atomic individuals with a well delineated self could then “enter into relations” with others and thereby generate the mysterious entity mainstream sociologists called “society” with its overarching influence over individual actions (1). The whole point of defining with agonizing precision the “ethnomethods” of ordinary practitioners was that it comprised the best way for those sociologists to avoid the cop-out of a social order emerging out of individual interactions. “Emergence” has always been for me an apparently scientific way to say “here a miracle occurs!”

What does this have to do with the question of the body politic, one could ask? Well, it turned out that the discipline of sociology, elaborated in the 19<sup>th</sup> century to absorb the huge transformations brought about by industry and city life, had no time and energy left to escape from the *summa divisio* that had been imposed by liberalism a century earlier in order to invent economic relations. The invention of the market had formatted the figure of the “individual agent” with such force that it was impossible to escape its power except by inventing the counterforce of “society”—hence the endless and obviously sterile debates about the two levels and the thousand ways of overcoming the division. For centuries, as was witnessed by participants of the meeting in the opening ceremony through readings of Aesop and Shakespeare, the best way to ridicule the Fable of the Members and the Stomach was to tell the opposite Fable of the Bees of Mandeville’s fame.

Both myths are so familiar that they have entrenched the choice of composing the body politic in the most trenchant way: either the whole is superior to the parts by design long *before* the parts take conscience of themselves by going on strike—and thus dying—or the whole—that is, the greatest good, namely the market—appears to be bigger and better *after* the individuals (bees or industrialists) have entered into the most selfish competition, and only if they succeed in remaining as selfish as possible all the while. What those two traditional models share is the

certainty that there exists a superior level either before or after the parts play their role, a framework that is able to provide some sort of optimum. No wonder that social theory has had such great difficulty extricating itself from those two fables. And yet those fables have a virtue: they bring bees and body parts into the picture. It seems to me that what might have been worn out metaphors for Shakespeare or Mandeville, could be made *literal* with a bit more attention to how real bees and real cells construct their own collectives.

Observing this construction was just the opportunity I benefited from when I was asked by Shirley Strum to meet her baboons in Kenya. Ethnomethodology had discovered that the utter implausibility of the “individual versus society” explanation was somewhat hidden in human collectives because of the role technology played in providing social ties with a sort of ghostly but long-lasting presence. What of baboons? They have no way of stabilizing their interactions for long. They have to regularly refresh the structure of the troop and each of them has to incarnate the collective in some individualizing ways (2). The act of collecting—as central in primatology as in ethnomethodology but more clearly visible in the former—was done through a whole range of “ethnomethods” that Shirley was able to delineate by her careful accounting, day after day, year after year, for the highly complex process of decisions about ranks, foraging pattern, mating, and grooming—complex but not complicated, as we were quick to explain (3). Because, in lacking speech the baboons had to register their behavior moment by moment, it was clear to me that Shirley’s baboons were offering a powerful alternative to both of the Fables at once. There were neither individual baboons nor an overarching social order but something else, still difficult to name, that was escaping the grasp of the “liberal” versus “organicist” view (4). And this was not a fable but a most exquisite study of a real animal collective of which every single animal had been thoroughly individualized by extending the record of its family and interactive network. At last, in a powerful way, the equivalence between *individualizing* an actor and *extending* its network further through the collective could be made empirically verifiable—and thus demonstrating the complete superposition of those two dimensions. It was thus possible to dispense altogether with the very idea of two levels and to operate what I liked to call a “flattening” of collective assembling.

It is the shock of this discovery that turned my attention back to Hobbes’s Leviathan, so important for our dialog and so well analyzed by Simon Schaffer’s exegesis throughout our meeting. Behind the implausible mechanism of the “social contract,” Hobbes, when inventing his Leviathan, had clearly something else in mind, something that was revealed so strikingly in his most famous frontispiece and which is as far as possible from the two competing Fables that could have been merged in one single story of “the selfish bees and the selfish stomach.” As Simon

had demonstrated, the body politic is not a precursor of “society” as it will be understood in the 19<sup>th</sup> century, but an attempt at superimposing *in the same optical space* and the same conceptual movement, the overlapping partners of the collective which are simultaneously individualized (protected and defined) and extended so as to be the sovereign in some fashion (5). So when in 1981 Callon and I formalized the alternative sociology under the name of actor-network-theory (ANT), it was to Hobbes’ Leviathan that we turned:

“The originality of the problem posed by Hobbes is partly concealed by his solution—the social contract—which history, anthropology and now ethology have proved impossible. The contract, however, is merely a specific instance of a more general phenomenon, that of translation. By translation we understand all the negotiations, intrigues, calculations, acts of persuasion and violence, thanks to which an actor or force takes, or causes to be conferred on itself authority to speak or act on behalf of another actor or force. (...) The social contract displays in legal terms, at society’s very beginnings, in an once-and-for-all, all-or-nothing ceremony, what processes of translation display in an empirical and a reversible way, in multiple, detailed, everyday negotiations. The contract need only be replaced by process of translation and the Leviathan will begin to grow, thus *restoring to Hobbes’ solution its originality*” (6).

Well, as is made clear through our meeting, one can say that the Leviathan has not stopped growing ever since! When, in 1975, I stumbled on E.O. Wilson’s *Sociobiology* in the green alternative bookstore of La Jolla—a book I was impelled to buy at once in spite of its price—I never believed for a minute the author’s artificial extension of economic models to bees, wolves, ants or indeed humans. On the contrary, I was fascinated that exactly the same conundrum held for humans as it did for non—or more than—human collectives. While the purpose of the author was to naturalize or biologize human societies, it was clear, on the contrary, that any theory of associations, no matter what sort of life forms it applies to, suffered from the same difficulty in accounting for the composing of collectives (7). Sociobiology, even at the heyday of its enthusiasm for treating animals and genes as so many Wall Street golden boys or Ayn Rand characters, established a fascinating continuity between different types of beings long before the advent of the Anthropocene forced all of us to consider their linkages again and in a new way. Our meeting, in my mind, was just that: an occasion to rearticulate and reboot some sort of a sociobiology that had been launched so clumsily during a time of extreme deregulation and neoliberalism.

The reason for my resistance to the belief in the extension of neo-Darwinism to animals came in part from Garfinkel’s attention to the process of accounting, but above all from Michel Callon’s powerful application of sociology of science to the



very heart of economics. If the work of Timothy Mitchell is so important for exploring what he calls “the Economy”—a rather recent and by now fully localisable phenomenon (8)—it is because he realized, just like Callon, that no event is calculable in itself without a calculative device of some sort (9). In most human affairs, calculability is the *performative result* of the availability, extension and imposition of formatting rules that render calculations possible. Such an achievement—and it is an immensely costly achievement!—does not mean in any way that the situations are calculable in themselves and for all eternity. It just means that it makes no sense to use calculability as though it were simply present “in principle”: either you have a device and you calculate, or you don’t have a device and states of affair are simply not calculable. Period.

If this essential point of method has been of enormous importance for bringing “the Economy” back to its historical and relatively limited network as we saw during the meeting thanks to Mitchell’s argument on capitalism, it has been, I realized, of even greater importance on the direction taken by sociobiology. The whole neo-Darwinist paradigm, and indeed Darwin’s adaptation principle itself, relies on the hidden possibility that fitness can be calculated, if not by the organism itself, at least by the evolutionary biologists recording their transformations. However, if we follow the performative definition of what is calculable, there is one thing that is surely impossible in the complex interactions of life forms with one another: the ability to calculate which one wins and which one loses. And for a good and magistral reason: to be able to calculate fitness you not only need a device of some sort, but above all you *need a self* with well-defined boundaries to which you can attribute gains and losses! Such a self is exactly what is missing everywhere, except in the most implausible Fable of the Bees & the Stomach. If the selfish bee is a fable it is above all because it imagines that there exists a bounded self. The intricate involvement of overlapping life forms draws a picture infinitely messier than the landscape drawn by the “laws of the jungle” that delighted sociobiologists so much. A jungle where fitness is calculable is called a market—heavy with techniques, accounting, laws and state police—not an ecosystem.

When I had the chance to meet Deborah M. Gordon at Stanford, I realized several things at once: first, that ANT was aptly named after all! Two, that the long kidnapping of ants to play a role in the fight between organicist versus market-based models of society could finally come to an end. And third, that alternative ligatures could be invented empirically for composing the anthill and thereby escape the appeal to any superorganism. Just as Shirley Strum had done, Deborah abandoned the 1, 2, 3 scheme: 1) atomic individuals which then 2) “enter into relations” with others, 3) relations that have the miraculous power of generating emergent properties (10). She was devising for ants what Shirley had done for baboons,

devising a new equivalence between individualizing and extending the network (what I had claimed to be also the definition of the Leviathan). In a long series of equally remarkable studies, she has shown the plasticity of roles ants were having to play—breaking down organicist views of the anthill as a superorganism—but equally the presence of an overlapping entity—the colony—having a quite robust ability to last in time—breaking down just as much the market view of the anthill.

By following each interaction of each ant with the others, the amazing result is that at no point do you need to suppose that there exist atomic individuals entering into relations—the selfish metaphor—nor super-organisms imposing their will over the parts—the “Member and the Stomach” fable. In effect, it is possible to dispense simultaneously with parts and with wholes (11). Wholes—that is the colony—is the fuzzy, uncertain, partially reversible superposition of the multiple activities through which each ant has been able to collect interactions in its own ways (12). In ANT terms, contrary to “Wilsonian” ants, “Gordonian” ants provide the ideal showroom for demonstrating that it is possible to dispense with the two levels that have paralyzed social theory for so long. The ant colonies were entirely “flattened.”

At that point, it became possible, in my view at least, to contemplate an alternative definition of the ligatures of the new body politic by attempting to bring together the different scientists I had become acquainted with.

What had been until then a rather arcane problem of social theory interesting not many people apart from myself, gained a completely different relevance when I began to face an entity that could not possibly be taken as an organism—no matter how inflated you could imagine it to be—and yet that still had to be considered as some sort of completely new form of body politic: namely Gaia. At the scale of the planet, it was clear that all body metaphors were breaking down, not only because, as Tim Lenton showed, Gaia is not heterotrophic (13), but simply because it has literally, as one member of the public mentioned, neither head nor tail. It is not an animal (14). Nor is it some sort of motherly goddess. It is not a superorganism. It is not a whole. And yet it appeals, rather mysteriously at first, to some sort of sovereignty and it bears some family resemblance to the Leviathan. It became clear to me at once that it would be necessary to draw for this new figure a lot of new images in the line with the famous frontispiece of Hobbes’ book, but born out of a totally different pencil.

If I found the task so exciting, it was because the Gaia hypothesis had been devised by two scientists who, by attacking the problem at opposite ends, had again entirely dissolved the two levels models I had been tracking down for years. When James Lovelock wondered where the gas that kept the Earth atmosphere in such a peculiar disequilibrium were coming from, Lynn Margulis was wondering where all the gas she was seeing leaking out of her bacterial mats were going. Gaia, as I began

to reconstruct its original shape, was the aggregated result of the multiple action, over eons of times, of the minuscule beings whose output spread, in a network fashion, *next to next*, creating new conditions for still other critters, without ever jumping to another level. This process could be only be understood if thoroughly “flattened” in some sort of networky way (15). Paradoxically, the “biggest” object of all, much bigger than societies of humans, ants or bees, was also the one that could most clearly *not* be framed by the two Fables of organism or market.

This was made just as clear by taking Lovelock’s side of the problem—there was no governor, nor engineer, nor providence to steer the planet—as by starting from Margulis’s side. Even more interestingly, the small was just as multiple as the big. In a series of stunning discoveries in biology, so elegantly gathered by Scott F. Gilbert’s textbooks (16), it became clear, as he said, that “we have never been individuals” (17). The sheer implausibility of life forms being selfish that I had detected earlier, was now taking on a stunning empirical dimension with the notion of holobionts. Even if the ability of selfish genes to calculate accurately could be granted, the multiplicity of the partners implied in any interaction would play havoc to any balance sheet. What does it mean to calculate the relative fitness of a bull if the fitness of its gut bacteria is not taken into account (18)? What had appeared, in Margulis’s earlier career, as a set of puzzling exceptions—the presence of foreign DNA in cells—turned out to be the rule: endosymbiosis.

What I found so exciting in the “intrusion of Gaia”—as Isabelle Stengers called it (19)—was that just at the time when a complete overhaul of political theory was needed, the “intrusion” offered the best scientific arsenal to reconfigure all at once the tiniest parts as well as the biggest wholes. Paradoxically, Gaia was fragmenting any metaphor of the body at the same time it was also requesting a political alternative to the composition of life forms. This is what Tim Lenton introduced in his enigmatic attempt at comparing Gaia 2.0 with Gaia 1.0 (20). If not parts and wholes then what? The moral and obviously religious project that had always been associated with the two-level stand point and its claim to reach an optimum as dramatized in the joint fables of the “selfish bees and the selfish stomach,” could not possibly work for the greatest power on earth, that of earth itself. Clearly, a fully secular version of social order had to be devised. And this in spite of the daring proposition by Lovelock that Gaia had a goal function, namely that it involuntarily but obstinately ended up being the sturdiest way to improve habitability. With the intrusion of Gaia, things were becoming more interesting but also much more difficult: there was a clear rupture in the long history of imagery of the body politic. Other resources clearly had to be brought in.

Which means we needed philosophers! In the same way as the disputed notion of the Anthropocene was signaling a new geohistorical epoch, it was clear that an



older philosophical period was coming to a close. In spite of its name, the “philosophy of organism” developed by Whitehead was not an extension of any organic metaphor but an end to what he had called “the bifurcation of nature” and, more pointedly, an end to the apparently commonsense idea of “simple localization.” As Didier Debaise pointed out in the meeting, there is nothing simple in simply localizing any entity with the use of coordinates, since such localization implies that a point in space and time can be defined without its predecessors and successors, and without its neighboring events (21). Such a fallacy might be the source of all the difficulties associated with the composition in parts and wholes I had been vainly trying to overcome. Thus, if any meeting was to be assembled to compose the new body politic, Whiteheadian philosophers had to be, if not the arbiters, at least the indispensable go-betweens to navigate the variegated life forms we would have to consider together. We were not expecting from them some sort of conceptual police or some all-terrain philosophy of nature, but an attention to the mistreatment of the conceptual tools inside which empirical results were framed.

Looking back, there was a last missing component Schaffer and I had to consider in proposing our gathering to the Cini Foundation. Just as with the Leviathan, the new body politic, whatever it turns out to be, had to end up establishing a *legitimate* form of polity. Michel Serres had predicted many years ago in his *Natural Contract* that legal and empirical ties had to be merged in some way (22). As Kyle McGee argued throughout the meeting, law has the uncanny ability to build connection *next to next* without ever having to stoop to either essentialism or constructivism (23). Its casuistic way of arguing is indifferent to the two opposed forms of interpretation of its power that play the same role in legal theory as in the two-level standpoint in social theory: it can be described just as well by essentialist as by constructivist tools (24). The formidable capacity of law is to show constantly and literally, case by case, that parts and wholes are simultaneously made. Any practicing lawyer, according to Kyle, knows to produce this miracle of relatively unshakeable wholes out of relatively disjointed parts by reinventing both each time, in each case. (A point that Gabriel Tarde, the putative founder of ANT, had shown long ago because he had been a judge for thirty years before turning sociologist). What struck me in the study of law is that its ligatures look a lot like those that Lovelock and Margulis were devising for Gaia.

With philosophy and law, the ring was closed. Which ring? The one that made sure the problem we had gathered together to tackle would not escape elsewhere. As Schaffer and I had written in convening the dialog: “There has always been a two-way stream of exchanges between biology, law, religion and social theory to the point that it is very difficult when people talk about ecosystems, identity, genetics, organism or globalization to decide if they speak about human or non-human en-

tities. Biologists don't seem to worry that they import social theory to talk about organs and tissues, sociologists don't hesitate to use a legal conception coming from Church history to define the individual, while economists happily mobilize what they take as a "naturalistic" notion of competition to render the optimum calculable, while organization theorists borrow offhandedly the DNA metaphor of cell organization, and so on. Metaphors travel freely, transporting the same unexamined perplexities from field to field. (...) The difficulty is constantly papered over by vague concepts such as organism, emerging properties, systems, totalities." Only if we could assemble enough scholars to close the ring, we could be sure that the problem of composing political collectives would not escape our chase.

After reading the transcript of the discussions of those three days, it is clear that there will be as many interpretations of what has been achieved as there were people around the table and in the audience. But after having retraced the path leading to the speakers arrayed around the table of the *Biblioteca del Longhena*, perhaps I might be permitted to emphasize a few results which might help in starting future meetings about the same topic.

Three principles of composition have shown their fecundity, in my eyes at least. The first is that no matter how empirically different are the collective bodies we considered, it is fully legitimate to compare the few conceptual tools used to make sense of them. The phenomena reviewed in this meeting are indeed thrown in the same vortex that defines politics today. So, even if we had great difficulty in articulating bees, ants, capitalism, conservation, climate, cells, laws and ecosystems with human endeavors, that is not proof of a vain pursuit for some global synthesis, nor of a return to a mythical past, but the practical necessity of today. At the time of the Anthropocene, all the elements that in the past were composing the body politic *metaphorically* are now composing it *literally*. Whether we like it or not, the composition of politics must be extended to all those phenomena in a way that is reminiscent of the premodern past but now in a fully empirical way. When at the concluding talk, Schaffer showed Athanasius Kircher's image of a 16<sup>th</sup> century medical and cosmological chart, I could only think of the parallel with one of Lovelock's books, *Gaia. The Practical Science of Planetary Medicine* (25). The parallel is not one of the same disciplines, it is not the same result, it is not the same style, not the same diseases nor the same cures, but it has the same cosmopolitical goal, except that it has taken on an urgency, a materiality, and a scale that no premodern thinker could anticipate.

The second principle that was fully validated (admittedly my view is biased) is that composition follows the path of "next to next," without jumping to a higher level so as to travel faster and without rolling in some sort of superior global level. It is an old sociology of science result, of course, that a "global view" is never bigger

than the screen of the instruments that scientists are looking at, but here it takes a much more powerful meaning. The adjective “collective” never refers to a change of levels, but to the superposition of collecting endeavors—scientific instruments and accounting devices being the most obvious ones. Although the meeting has not come up with a common definition of terms like “holism,” “emergence,” “wholes,” “parts” and so on, it has clearly traced a path away from the “cop out,” the “miracle” of extracting a society out of individuals. In considering the activity of life forms we have to accept that they overlap with one another in such a way that it is impossible to stress the individuality of one partner without further extending the list of interacting participants. Many of the terms we discussed—“indexicality,” “holobionts,” “commoning” (26), “ligatures,” “autocatalytic networks”—had the same result of complicating the idea that the “whole is superior to the parts” and shifting attention to something more like “wholes are *in continuity with the parts* and *circulate through them*.” While common sense would require starting any inquiry from a stable definition of the “self” or of the “overall context,” it is clear on the contrary that we should start composing life forms from their overlaps. This is the problem of scale and scaling that David Western mentioned throughout the meeting as simultaneously a source of worries and a possible solution. How can large scale be transformed so as to allow the spread of experiments and traditions which, in his view, are always simultaneously local and translocal? It was reassuring for me to see that the one of us who had the longest experience in managing complex ecosystems was also the one who had the most serene view of the possibility of avoiding the general collapse.

The third principle of composition, and for me the most relevant, is that the intrusion of Gaia weighs on any definition of what politics could mean in the future. On this score, Lenton’s interventions in the meeting have been decisive. And it is worth stressing that if he was the most engaged in the discussion it was, I think, because he represented the least well-defined entity, while the spokespersons of ants, monkeys, cells or ecosystems, or indeed humans, were dealing with collectives that had been delineated and appropriated long ago. Scholars from the past and from the present have a long experience in making up the body politic out of humans or cells, and of comparing societies of wolves, baboons, birds, microbes or plants. They have none in coping with the utter originality of Gaia (27). To the point that, sixty years after the Lovelock and Margulis hypothesis, the exact scientific import of such a discovery is still debated (28). As to the political nature of this emerging form of power and sovereignty, it remains unfortunately a blank page. Other meetings will have to fill it in.

Over the course of three days we covered many more topics, all of which are important for the future task of composing the body politic, but a few moments

struck me as especially important for the future.

One is Didier Debaise's intervention around the notion of simple localization and the discussion about story telling that ensued. Biologists always had the difficulty of having to *reclaim* the very definition of the life forms they study from their preliminary pulverization in a cloud of unconnected data points. In other words, simple localizations that might have some sort of likeness to those used in surveying physical entities (those descending the entropic cascade), are transforming any representation of biological entities (those ascending the entropic cascade) into monstrous artefacts. This breaking down into data points to which relations have to be added from the outside has forced biologists, if they wish to be faithful to the peculiarity of their actors, to invent many reclamation tricks, including the telling of their own stories in order to follow their actors—vitalism, cybernetic feedbacks, autopoiesis, and so on. In that sense, the history of biology is a long attempt to bring together what had been put asunder by simple localization. It is the situation out of which Bergson had tried to extricate philosophy of nature but at the price of a new divide between mechanism and biology. The question is not one of overcoming reductionism or going “beyond” mechanistic metaphors, but of bypassing the preemptory operation of simple localization.

Following Debaise, it would make much more sense, instead of breaking down the connections between overlapping entities and then trying to patch them up by a great deal of story-telling in order to vivify again what has been made dead, to start from the peculiarity of life forms and accept the two principles that make them alive: they *depend* on others within which they are imbricated and this dependence makes them *precarious* (29). These are the two principles that are common to story and to history. Narrativity is not a superficial way to patch up the strict objective description comprised of data points, but the very way in which life forms have to gain their precarious existence through the overlap with others. To tell stories is to be objectively faithful *to their ways* of exploring the world. To be a natural scientist is to start from this precariousness, especially today when Gaia is finally understood as a substitute to nature (30).

Such a decision would lead to the second point that is at the heart of the meeting and on which we spent a lot of time: namely, should we abandon the very metaphor of the body politic? Allegedly, one is no longer allowed to use the term because it is an organicist one that has been rendered obsolete by the artificial building of Hobbes's Leviathan. But as many of us said in the meeting, and Scott F. Gilbert especially well (31), it entirely depends on what is a body. It is clear that John of Salisbury, Christine de Pisan, Saint Paul, Shakespeare—to mention the beautiful texts that were invoked at the beginning—could not envision the sort of body building that Lenton calls Gaia 2.0. And yet we are indeed faced with constructing

a legitimate polity out of totally new components. The point is not to wheel in the overused notion of biopolitics (remarkably absent from our discussions), but to redescribe both biology and politics thanks to the novel views of what life forms are after. So, in the end there is no reason to deprive future discussions from the use of that metaphor of the body, but to recognize that history, a bit like Kantorowicz's insistence on the translation from one King body to the next, entails a similar succession—Gaia being the strangest and newest of all the figures that we have to face.

One of the features of any life form is some sort of consciousness, or goal function, and Lovelock attributed to Gaia the (non-teleological) goal of looking for habitability, which is another way to name precariousness and dependence. In his view, life forms leak out leftovers that make occasions for other life forms to thrive and it then turns out that some of those niches appear to be more robust than others. Habitability will be favored in the end through what Lenton called “sequential selection” (32). This sort of minimalist goal-function, being much less demanding than the natural selection and adaptation requested by Darwin, and devoid of the two-level optimization of Neo-Darwinism, takes on a very different meaning when the Anthropocene is brought in. With this new geohistorical epoch, the notion of goal function of the Earth no longer has a disputed metaphorical dimension; it is supposed to become literal because of the intervention of what *human beings* call having a goal. The increasing weight and visibility of humans is supposed to introduce foresight, planning, learning curves and some of the cognitive abilities they are so proud of.

Unfortunately, this is just at this juncture that Tim Mitchell brought us the third and most disturbing point of this meeting. Contrary to Lenton's hopes for Gaia 2.0, the introduction of human consciousness in planetary politics might be impossible, in Mitchell's view, because capitalism is tailored to render foresight and reactivity impossible. Because of its way of colonizing the future, it is made to blind humans to what is coming. Contrary to the dreams of the geo-engineers, the Anthropocene is not the advent of reflexivity and rationality but the demonstration, on a planetary scale, that some life forms *cannot learn* from their mistakes. The weight of the technosphere, that is, all the decisions to capture savings and transform the future into a debt that has to be repaid through massive investment in hardware, has made it immensely difficult for human societies to adjust to the new situation they themselves created. They have lost their ability to adjust. The expansion of capitalism's blinding of collectives and its breaking of the path of learning takes us back to Milton's version of Aesop “the Fable of the Wen and the Members” where what he said about the Pope would work even better for Mitchell's capitalism: “The head by right takes the first seat, and next to it a huge and *monstrous Wen* little less than the Head itself, growing to it *by a narrower excrescency.*” Our collective ability



to think rationally might have been vastly overstated and the idea of the human race becoming the good steward of planet a sheer impossibility. Lovelock again: “I would sooner expect to see a goat to succeed as a gardener than expect humans to become responsible stewards of the Earth.”

Well, in the end, no matter how neatly we had closed the ring, the problem we had wanted to capture might have escaped us once more. Were we really much further than Tuesday night, when we heard Saint Paul’s beautiful description of the Church?

“For the body is not one member, but many. If the foot says, ‘Because I am not a hand, I am not a part of the body,’ it is not for this reason any the less a part of the body. And if the ear says, ‘Because I am not an eye, I am not a part of the body,’ it is not for this reason any the less a part of the body. If the whole body were an eye, where would the hearing be? If the whole were hearing, where would the sense of smell be?” (1<sup>st</sup> Cor 12)

The problem of composing the body politic rightfully and in time and at the proper scale remains the enigma that is still agitating us all. It is possible that this is not the sort of problem one chases, but a challenge that is slowly approached by retelling with slight modifications all the fables that have been told but in different genres and for different audiences. If this were to be the case, we would then find ourselves much closer to *One Thousand Nights and One* than to *The Leviathan*.

#### REFERENCES

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5. Schaffer, Simon. “Seeing Double: How to Make Up Phantom Body Politic.” *Making Things Public*. Eds. Latour, Bruno and Weibel, Peter. Cambridge, Mass: MIT Press, 2005. 196-202.
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- Actors Macrostructure Reality.” *Advances in Social Theory and Methodology. Toward an Integration of Micro and Macro Sociologies*. Eds. Knorr, Karin and Aron Cicourel. London: Routledge, 1981: 277-303.
7. Latour, Bruno, and Shirley, Strum. “Human Social Origins. Please Tell Us Another Origin story!” *Journal of Biological and Social Structures* 9 (1986): 169-187.
  8. Mitchell, Timothy. *Carbon Democracy. Political Power in the Age of Oil*. New York: Verso, 2011.
  9. Callon, Michel, and Fabian, Muniesa. “Economic Markets as Collective Calculative Devices.” *Organization Studies* 26.8 (2005): 1229-1250.
  10. Gordon, Deborah M. *Ants At Work: How An Insect Society Is Organized*. New York: Free Press, 1999.
  11. Gordon, Deborah M. “The ecology of collective behavior.” *PLoS Biol* 12.3 (2014): 1-4.
  12. “Thus there is no such thing as the colony identity, except this aggregate of all of the different, changing, shifting boundaries of the ants.” p. 41.
  13. Lenton: “The planet is an almost perfectly materially closed system at the total scale of Gaia, so it has very little material environment frankly to interact with, just an energetic environment. It has to be an autotrophic and materially cyclic future, technosphere etc. and that is absolutely fundamental.” p. 108.
  14. Baptiste Morizot: “The body begins with the animals and it begins with this kind of beings which have a head. It’s head-oriented. So it’s all over the images of the picture, when you talk about a body, one part of your theoretical unconscious looks for the head. That’s the first thing for me. The other thing is that when you talk about the body you’re outside of it.” p. 224.
  15. Lenton, Tim, and Andrew Watson. *Revolutions that made the Earth*. Oxford: Oxford University Press, 2011.
  16. Gilbert, Scott F., and David Epel. *Ecological Developmental Biology. The Environmental Regulation of Development, Health and Evolution*. Sunderland, Mass: Sinauer Associates, Inc, 2015.
  17. Gilbert, Scott, Jan, Sapp, and Alfred, Tauber. “A Symbiotic View of Life: We Have Never been Individuals.” *The Quarterly Review of Biology* 87.4 (2012): 325-341.
  18. Gilbert: “The term, holobiont appears to be a useful term. It was independently coined at least four times. The current usage of the word was introduced by Lynn Margulis in 1991. It designates the amalgamation of the big organism (the macrobiont, the host) plus its persistent symbionts. The holobiont view claims that the host and the symbionts form the complete organism. For instance, when we think of a cow, we think of this bovine mammal that eats grass. Only, cows cannot digest grass. There’s no gene in the cow’s genome that encodes an enzyme allowing cows to digest cellulose. That’s provided by that rich community of symbionts living in its gut.” pp. 78, 79.
  19. Stengers, Isabelle. *In Catastrophic Times Resisting the Coming Barbarism* (translated by Andrew Goffey). Open Humanities Press, 2015.
  20. Lenton: “I come to the meeting as a child of the Anthropocene, unashamedly thinking about how we could use a little of this scientific understanding to help us construct a

future world with a sustainable, happy future for humanity within Gaia – and that’s what I’d call Gaia 2.0 – just to recognize that it will include our conscious agency and reflection in some form.” p. 33.

21. Debaise: “The two main operations are the *bifurcation* and the *simple localization*. If we understand well the status of these two operations, the reason why they were so important in the constitution of modern sciences, we will understand to which interests correspond the invention of nature and to what kind of problem the invention was supposed to give an answer. So the general question ‘what is nature?’ can be reformulate: what kind of gestures produced during the 17<sup>th</sup> century what we call ‘nature?’” p. 31.
22. Serres, Michel. *The Natural Contract* (translated by E. MacArthur and W. Paulson). Ann Arbor: The University of Michigan Press, 1995.
23. McGee: “What happens when a chain of legal reasons is articulated and a decision is reached. The court has to reach a decision, it’s going to come to a resolution. That outcome is truly an element of the process, not something distinct from it, and it lends itself to being recirculated to become a new value object in subsequent interactions, in subsequent adjudicative processes.” p. 133.
24. McGee: “My point now is simply that there’s something about the law that seems to *demand* this kind of movement, this kind of vacillation. It’s a requirement or a constraint that is grounded in the bifurcation of person and body. We can see in legal doctrine, and even in contemporary legal practice, a repeated shuttling and shifting back and forth between two registers that are thought to exhaust the real: we would say materiality and discourse today, but we could also say naturalism and constructionism or ontology and epistemology or being and thought.” p. 179.
25. Lovelock, James. *Gaia. The Practical Science of Planetary Medicine*. No mention of place: Gaia Books Limited, 2000.
26. Stengers: “Not rules demanding the definition of good and bad, but what Bruno would call the ‘cultivation of ways of overlapping’ and what those concerned claim when they affirm ‘no commons without commoning.’ Commoning is not altruistically forgetting about the ‘interests of the self.’ It is cultivating ways of activating the experience that the selves we are is indeed overlapping with everything which compose the commons.” p. 163.
27. Except the Maasai who have been David Western’s educators: “Selfish herders are ostracized by their neighbors. A tribe of selfish individuals falls prey to tribal neighbors who manage their grassland better and are more collaborative and cohesive as a society. The social networks, common identity and cohesion is not built around the body politic in the Western philosophical sense, for mobile pastoral societies have no central seat of government or political representatives. Social networks are built instead around the around a body of the cow. The cow is the economic and ecological thread and social epicenter of life that binds and bonds the Maasai to work cooperatively for greater collective gain.” p. 189.
28. Dutreuil, Sébastien. James Lovelock’s Gaia hypothesis: “A New Look at Life on Earth” ... for the Life and the Earth Sciences.” *Dreamers, Visionaries, and Revolutionaries in the Life Sciences*. Eds. Harman, Oren and Michael Dietrich 2018; Latour, Bruno, and

Timothy Lenton. "Extending the Domain of Freedom, or Why Gaia Is So Hard to Understand." *Critical Inquiry*. Spring (2019): 1-22.

29. Debaise: "So, the question of the meeting, if I may rephrase it, is how to articulate all the beings without subtraction? (...) This would be my proposition: to reintroduce stories as an important tool, a real method inside scientific practices." p. 250.
30. Debaise: "If we need other stories, instead of the 'bifurcation of nature,' it is because we cannot anymore reduce the precarity of each existence to the general stability of nature." p. 252.
31. Gilbert: "So, what's the body of the body politic? If we wish to talk about the body of the body politic, it would be good to know something about the body. I profess embryology, the science of body construction, a science which is full of metaphors, full of similes, full of analogies and full of images trying to understand how bodies are made." p. 29.
32. Lenton: "Well, just keep that in your mind and let me try to build on that and introduce this idea I'm calling sequential selection. I partly started thinking about because of correspondence I was having with Bill Hamilton in the late 1990s. This is from a letter (...): "I imagine that 'learning' through repetitions over time alone in a sufficiently complex system has to be shown able to replace the currently understood and I'm sure much more powerful 'learning' through repetitions over both time and space that is natural selection as we know it," from Bill Hamilton to Jim Lovelock." p. 146.