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**“Of Destiny and Detrivores”**

## Of Destiny and Detrivores

So, I have colleagues who are witnessing with the protestors at Standing Rock today, and if I had not been absent from this pulpit last week, I might well be there with them. We need to talk about this ongoing resistance to the Dakota Access Pipeline project – it is a matter of ecological justice, racial justice, civil liberties, and religious freedom. I will have more to say about the specifics of these contemporary struggles next week – think of this as a two-part sermon. This morning, I want to take a long step back, and lay some groundwork for how we understand what is at stake not only there, but in the larger picture of our cultural dependence on fossil fuels, of which this is one manifestation. Once again, I need to remind you that I am a theologian, not a scientist; my work is with moral implications and symbols, with what things mean. So, I invite you to look with me beyond the usual pious liberal ecological platitudes and frantic policy advocacy, to take a really long view of how this issue arises, and its impact on what we know about the human condition.

Our religious tradition calls us to do two things that are different from most other approaches to such matters. One of these differences is to assume that in fact no one is in charge of the universe. This means on the one hand that there may be no self-conscious deity directing the traffic of human history, who can be appealed to use cosmic force in order to create some particular future or other. Rarely in human history has any significant group of people gotten the specific result they were praying for, so we suppose that various forms of supplication aren't going to help us now. We also assume a somewhat subtler implication, which is that whatever happens next is not a consciously considered moral retribution for our collective previous actions. Logical consequences, yes; but reward or punishment, no. It also means a yet more subtle implication, that **we** are not in charge of this show either. Our actions have impact, certainly, but we did not set up the ground rules of this universe, and events constantly happen in it that we did not do, and that we cannot stop. Our choices matter, but they are not always determinative. Our powers are smaller, and our knowledge less, than we often like to admit.

The other different assumption of our religious tradition is that we are invited to ask the unaskable questions, to consider the shocking possibilities that some minds simply choose not to entertain, because they challenge too many cherished assumptions and comfortable convictions. So, I invite us to consider for a few moments the heretical notion that we in fact are not in charge, and that nothing any of us can now do will serve to avert a coming global ecological crisis.

Specifically, I want to examine an evolutionary perspective originally proposed more than 35 years ago, by William Catton in his book, *Overshoot*. One thing has happened in the past quarter century that Catton did not account for, that may or may not change the results he envisioned, but his concepts are worth adding to our mental landscape, and might help to inform the global conversation that we must now have, one way or another, about what is going to happen on and to our planet in the coming generations.

Catton begins by proposing that there **has** actually been a significant evolution in our species during the past approximately four centuries. From homo sapiens, the intelligent ape,

we have developed into homo colossus, the giant ape. What distinguishes this new variant is its extensive use of what he calls prosthetics, by which he means energy-consuming tools that significantly augment the effective power of human action. We are used to thinking of prosthetic devices as replacements for missing human body pieces, but Catton greatly expands this notion. You can think of the remote control magnified tool that a surgeon uses for very delicate operations as prosthetic fingers. With a little more imagination, you can see that a bicycle is a kind of prosthetic legs, making it possible for a person to travel farther and faster than natural human abilities allow. The bicycle does not fully meet Catton's description, because it does not consume external energy. A horse, however, does, and so does a car, or a spaceship; these are examples of what he means. A car functions as prosthetic legs, vastly expanding our power to move ourselves around. A tractor is a prosthetic hoe, multiplying our ability to cultivate a crop. A back hoe is a prosthetic shovel, a mixer is a prosthetic spoon, a sewing machine is a prosthetic needle, guns and bombs are prosthetic fists. The industrial revolution is the name we give to the historic irruption of prosthetic devices – looms, saws, shovels, hammers, and so on, powered by the fossil fuels coal and petroleum – that brought into being the habits and expectations and mind set of homo colossus, and made us who we are today. I would actually argue that western culture itself is a function of another prosthetic device, for what is a book but a prosthetic memory, greatly expanding our capacity to preserve information?

This new species, homo colossus, completely dependent upon its system of prosthetics powered by external energy, was able to survive and to adapt the environment to its needs much more effectively than its predecessor, homo sapiens. Homo colossus has flourished for the past several centuries, more and more displacing homo sapiens from the ecological niche they share, and that's just good old evolution in action. The problem is, as we have become aware in the past fifty years or so, that unlike our predecessors, homo colossus is a detritivore. This is to say that in order to survive as a species, we are dependent upon consumption of the detritus left behind by some other ecological process of the earth's planetary system. Now let me hasten to observe that detritivores, despite the intuitive unpleasantness of their name, are not inherently a bad thing. Indeed, they are useful and necessary parts of a sustainable ecosystem. If not for the industrious activity of dung beetles, the world would be covered in much more literal crap than it is. Vultures and catfish and even the lowly cock roach perform an essential function in the disposal and recycling of discarded organic matter – we could not do without them. We might like to think that it is beneath our dignity as a species, but there is nothing morally wrong with being a detritivore.

The problem for us is that detritivores are extremely vulnerable to ecological cycles of boom and bust, depending on the available supply of their particular nutrient. Homo colossus has had the misfortune to evolve into a dependence upon a long accumulated legacy of carbon deposits that is not being recreated. Like the algae in the spring pond, we will flourish and multiply as long as the rich tea of the winter's leaf mold lasts, and having exhausted that crucial resource, we will, in the natural course of things, die off. Perhaps we will be extinguished altogether, or perhaps just a fragmentary colony will remain, awaiting the next opportunity to bloom again. Now we might consider this prospective die off sad, if we like homo colossus, or we might consider it a good thing, if we find our species aesthetically corrupt, but notice that this

process says nothing about homo sapiens. It might well be that the exhaustion of the detritivore breed would open up the ecological niche again, and the predecessors would move right back in. It is also possible, of course, that homo colossus will so poison the planet with our own waste that no hominid species will survive. I am inclined to think that the algae and the dung beetles would go right on without missing a beat, and from an evolutionary perspective, that just makes really big brains an experiment in genetic strategy that didn't work out so well. I confess that this prospect does not make me frantic; I accept my own eventual death as a sad inevitability, and the extinction of our species appears to me also likely at some point in the further future. I am glad to have been part of the experiment, and I mean for all of us to have the best time we can while we are here, but in the long run, I don't need to be in charge.

At the same time, I think that there are a couple of wild cards in this deck that may yet make the outcome unpredictable. The algae in the pond have no capacity for intentional adaptation, and it is in fact our innovative abilities that got homo colossus into this dilemma in the first place. I can imagine three scenarios that go beyond sheer organic fatalism, and since this is, after all, a sermon, you may suppose that I want to suggest one of them as morally preferable, and you would be correct.

The first scenario involves a process of de-evolution back to the constraints of homo sapiens, to the limits of what our own bodies can accomplish with simple tools. We have always been a tool using species; the question is whether the tools consume external energy. It may be that the increasing disciplines of gradual exhaustion of our carbon detritus supply will force a return to a somewhat more sustainable hominid culture, with some of the same suffering and drudgery that characterized human existence prior to the 16<sup>th</sup> century. This might be accompanied by greater or lesser cultural, political or military trauma, including war, famine, epidemics, the re-enslavement of women or other groups, and similarly unattractive features of earlier homo sapiens living patterns. There might even be a handful of lasting gains in well being from the brief bloom of homo colossus. Perhaps this, and only this, is a sustainable hominid presence in the global ecosystem, but arriving at it probably isn't going to be pretty.

A second imaginable possibility would be that homo colossus will evolve again by adaptation to prosthetic devices powered by something other than fossil fuels. We may have been detritivores for the past few centuries, but we are nothing if not inventive, and it may be that we can come up with ways of collecting the sun's energy more directly, so that the exhaustion of carbon deposits won't mean the end of our species. This capacity for innovation, which is part of our legacy from homo sapiens, is one of the wild cards that I mentioned. When we look at the broad sweep of human history, we see the bronze age, the iron age, the emergence of agriculture, of literacy, and the industrial revolution. These developments appear linear only in hindsight; there is no way that a participant in one of those cultures could have predicted the outcome of the changes that would characterize the next age. There is no way in which they could have rationally prepared for what the future held. If history is any guide, the problems that we are now stymied by, and working so desperately to solve, are not the problems that will matter in the next chapter. The paradigm shift will come from somewhere that we least expect, bringing its own set of daunting challenges. I recall a science fiction writer who observed that

authors had been imagining the possibility of human beings somehow traveling to and walking on the moon for centuries, but no one had ever predicted that millions of people would watch it happen via televisions. The synergies of human invention simply don't operate according to our plans or efforts or even imaginations. Not that plans and efforts aren't necessary, but they generally produce something other than what we expected.

All of which is to say that homo colossus *might* find ways to preserve our prosthetic existence without remaining detrivores. Now, whether that would make our current bloom in population, and the impact that we are having on the environment otherwise, sustainable, is another question. But here's my second wild card, and the one that William Catton, in 1982, can scarcely have foreseen. If a book is a prosthetic memory, then a computer is... what? A prosthetic brain. And although in their infancy computers were power hogs, even at this point solar powered lap tops are practicable. So, it seems to me that we need not remain detrivores in order to keep our prosthetic brains. And maybe, just maybe, that evolutionary move could open up a third possibility for our future. If we were lucky, and smart; if the oil and coal hold out just long enough; maybe we could figure out some kind of balance, some steady state of dynamic tension between population, and energy, and deep understanding of ecological realities, that would enable homo colossus to evolve forward, rather than backward, into homo whatever it is that comes next. Having solved some of the ancient challenges of homo sapiens, like war and disease and starvation, yet having resumed some of that species' modesty toward the earth – not out of ignorance or fear, but out of knowledge and a spirit of cooperation – we might be just creative enough to stop blooming. Not like the die off of algae in a pond, but like a seasonal perennial plant, that can only afford a certain period of reproductive energy, if it is to survive for more than one summer.

The remains of previous millennia of plant and animal life, in the form of coal and oil, *are* going to be exhausted – if not absolutely, at least in the easily available quantities that have fueled the current exuberant bloom of homo colossus. It may always be possible to squeeze one more drop of fossil fuel out of the ancient rocks, but not in the way that will sustain today's prosthetic life style and existing population numbers. The crash of our detrivore culture appears inevitable, no matter how many Priuses we manufacture, or how faithfully we turn off the overhead lights. And that's not because we are bad people, any more than the algae in the pond is bad phytoplankton. We did not aspire to become detrivores, and what is precious in human existence doesn't require that we must remain so. Nor is there any divine oversight that is either going to step in and rescue us from the consequences of our collective actions because we are so appealing, or insist that we suffer in order to atone for our appalling hubris even if we are lucky enough to figure out how to adapt to the constraints of the next age. But evolution has yet to occur as a pain-free process; we didn't get where we are without suffering, and I can see no reason to think that there won't be suffering involved in whatever happens next, because that's the way life always has operated. But homo colossus now has an opportunity unprecedented in the evolutionary history of this planet, which is that we can at least make an effort to be intentional about the direction in which the next chapter will move. This is why I think it still matters to turn off the air conditioning and build light rail systems and limit families and not pollute the aquifers with oil spills; not because these choices will solve our problem in its current

terms, but because they will help to give form, in ways that we do not and cannot exactly foresee, to a future different from anything we can now predict.

Those of us who have announced ourselves content with Darwin's vision of a dynamic ecosystem characterized by struggle, experiment, and change, must be prepared to accept that no god is controlling this process, and neither are we. Life and the future, like the earth, do not belong to us; we are temporary tenants, and our lease here is subject to change without notice. This doesn't mean that we have a license to destroy things arbitrarily, for there are consequences to what we do. We may find, armed with our shiny new prosthetic brains, that we can get enough of a handle on things to steer our future in the direction of something both enduring to the human spirit and sustainable to the planet. It could happen, and obviously, that's the scenario that I am rooting for, even though I don't think that you or I can *make* it happen. And even if this or something like it does come to pass, it will be messy, and painful, and unpredictable, because evolution always is.

To me, this is what it means to be a part of the interdependent web of all existence. As Chief Seattle once reminded us, we did not weave the web, we are only a strand in it. We did not choose to become homo colossus, any more than our ancestors chose to develop opposable thumbs, or to walk upright. Like them, our recent forbears responded to the opportunities and the challenges of their environment, and so do we. As it happens, our environment includes the prosthetic tools of the last several centuries, as well as the prosthetic brains that have just irrupted within our own lifetimes. It includes the challenge of knowing that we are detrivores blooming in response to a non-renewable store of accumulated nutrients. This is a new game – no one has ever been *here* before. It's one more chapter in evolution's grand experiment. We do know what happens when mindless detrivores find themselves in this situation – they bloom intensely, and then die off. It may be no different for us; we are, after all, creatures of the natural world, in many ways like every other living thing. Yet we are also evolution's wild card; in some way – perhaps importantly – *unlike* every other creature, because of the awareness made possible by these extravagant brains. In the end, that may make all the difference, or it may make no difference at all.

We must do – we will do – what makes sense to us in the light of what we know and the options that are available. But we are not ultimately in charge. We never have been. No one is. It's a heck of a show, though, and it's going to be fascinating to see what happens next. Part of what happens next is being played out as we speak, on the Native American lands and rivers of North Dakota, where the unreflective culture of homo colossus is striving to ensure its access to a steady supply of the detritus that has been its sustenance. The violence with which it is meeting a very low level threat to that access should focus our moral attention, our thought, and perhaps our resistance. More of that next week. For now, let's sing together.

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