

ONE AND ALL — OR NONE AT ALL

LIFE AFTER NUCLEAR WAR

by Ruben Bauer Naveira

NOTE: this text was originally written for a Brazilian audience, and as such it contains numerous references to Brazil and to Brazilian reality and culture. Nevertheless, the effects of a potential nuclear war will be universal, and thus the recommendations applicable to Brazil extend to all other countries and peoples.

WARNING: this text contains potentially disturbing descriptions of what happens after a nuclear war, including in countries that were not directly attacked. If you are sensitive and/or do not handle anxiety and distress well, please consider not reading it.

Confronted with the tragic historical moment we have reached, this article invites us to think about the unthinkable: what will our lives look like in a post-nuclear war world?

But will a nuclear war actually happen? Probably — and regrettably — yes. To reach that dreadful conclusion, however, we must first undertake a necessary digression on the intrinsic nature of living beings, of people, and of societies.

What would you, the reader, think if I told you that "life" is not a universal phenomenon, equally applicable to all living beings without distinction, but rather an individualized phenomenon, belonging to each living being in its unique singularity — whether that being is a bacterium, a bee in a hive, an alligator, or the President of the United States? What I mean is: living beings, each and every one of them, do not live "just to live," or in order to stay alive. They live in order to continue being what each of them already is — *that* particular bacterium, *that* particular bee in *that* particular hive, *that* particular alligator. In the case of human beings (and of societies), this means that each of them lives to affirm their own historical identity, and to go on living in accordance with that identity. If the outside world were to deny them that identity, it would be, in a sense, denying them life itself. It would be inhibiting their ability to live. What difference would it make, then, to die?

And what would you think if I were to tell you that there simply is no objective reality, because the nature of each person is to create their own reality — and this not merely as a matter of interpretation or psychological bias, but by biological determination? And if I were to add that

people do not adapt to changes in their external environment, because any adjustment they may arrive at will in fact have been caused internally, not by external events?

This is not an explanation meant to illuminate some phenomenon we already understand — it is, rather, a profound paradigm shift, indispensable to the central argument of this text, which is why these questions must be addressed with the necessary depth before anything else.

With that in mind, I invite you, the reader, to turn now to the digression contained in the [appendix](#), and only then return here to continue reading this text.

July 1, 1946, and August 29, 1949, are not dates inscribed in the history books; yet they mark the boundary between distinct eras in the human mindset regarding nuclear weapons.

Prior to July 1, 1946, the world's population was entirely unaware of such weapons. Since Japan's surrender in the Second World War on September 2, 1945, it had been known that the United States possessed a new and formidable weapon that had compelled the Japanese to capitulate — but nothing was known about it, shrouded as it was in absolute military secrecy. Then, in the summer of 1946, the American military invited the world press to a presentation of the atomic bomb at Bikini Atoll in the Pacific Ocean, an event that resounded enormously around the globe — so much so that the revolutionary (itself a "bombshell" for the prevailing mores of the time) two-piece swimsuit launched around that period bears, to this day, the name of that ill-fated atoll.¹ From that first of July onward, the world's population came to know that the Americans possessed a superweapon that made them invincible before the rest of the world.

That supremacy would last only three years. On August 29, 1949, the Soviet Union successfully tested its first nuclear device, unleashing fury and a [witch-hunt](#) in the United States, which — along with the rest of the world — now found itself confronting the [prospect of nuclear war](#). A prospect so terrifying that it ultimately gave rise to a context of mutual deterrence: knowing that the adversary held the power to utterly annihilate their country, both Americans and Soviets came to the understanding that a nuclear war would have no winners, and began to regard their own nuclear arsenals solely as a safeguard ensuring that the adversary could never use theirs. Sharing this understanding, the rest of the world came to regard the possibility of nuclear war as inadmissible, and everyone had slept soundly ever since.

¹The press was invited to witness a series of three nuclear tests. At the first of them, on July 1, 1946, journalists were kept at such a great distance that they could barely take photographs, and had to make do with images provided by the military. At the second test, on July 25, the bomb proved far more photogenic. The third test was ultimately canceled.

And soundly they continue to sleep, even as the geopolitical bonfire crackles louder with each passing day. After all, no one would be stupid enough to start a nuclear war in which everyone would die — including those who started it. This text aims to show, however, that those historical conditions have changed, and that nuclear war is now not merely possible but probable. By placing their faith in mutual deterrence, however, the vast majority of people will be plunged into profound shock — with no prior warning — if and when nuclear war comes.

A parenthetical note: although the meaning of "probable" is clear, it bears emphasizing: I am *not* asserting that nuclear war will occur. What I am positing is that there are now far greater chances of it occurring than of it not occurring. On what grounds? Based on my personal reading of events. End of parenthetical note.

Mutual deterrence requires, above all else, that decision-makers be rational: leaders who will not "push the button" under any circumstances, because they know, rationally, that they too will die — and with them the population of their country. But what has been going unnoticed is that we have entered an era in which decision-makers appear to have become irrational, especially in the so-called West. A few contemporary examples:

- Germany spent the past several decades structuring the country's energy security around Russia's natural gas — abundant, inexpensive, and relatively clean compared to the old coal-fired and nuclear power plants that had been decommissioned. Yet the moment the United States called upon its European allies to unite against Russia, all of that was summarily abandoned (nuclear energy and coal were even reactivated), with the country deindustrializing and the population growing poorer in the face of the abrupt rise in energy prices. The most glaring symbol of this self-destructive process was the German government's silence in the face of the terrorist destruction of the NordStream pipelines — an act that amounted to an energy death sentence for Germany;
- Israel, using the October 7, 2023 Hamas attacks as a pretext, embarked on a campaign of open genocide against the Palestinian people, as well as a campaign of escalating provocations against Iran aimed at drawing it into a large-scale war (which is now indeed underway), and has stubbornly maintained this course even in the face of its own moral ruin and resulting global isolation — even after it has become clear that not only will it prove impossible to exterminate the Palestinians, but that a Palestinian state will eventually be created,² with the result that the current Israeli government has greatly increased the future [risks](#) to the continued existence of the state of Israel;

²See, for example, paragraphs 34 and 35 of the joint declaration of the BRICS Foreign Ministers (Brazil, Russia, India, China, South Africa, Egypt, Iran, the United Arab Emirates, and Ethiopia), meeting on June 10, 2024, in Nizhny Novgorod, Russia, [published in English](#) by the Indian Ministry of Foreign Affairs. In brief, those two paragraphs express, respectively, the condemnation by those countries of Israel's military actions in the Gaza

- The United States embarked on a massive campaign against Russia in Ukraine (economic sanctions that harm the Western economies themselves, military aid totaling billions of dollars with no expectation of repayment, the destruction of the NordStream pipelines) with the declared objective of inflicting a strategic defeat on Russia, after which Russia would be weakened and new destabilization efforts might be able to bring down the Putin government and subjugate Russia. However, already since June 2020 — two years before the invasion of Ukraine — Russian nuclear doctrine explicitly established that nuclear weapons would be used by the Kremlin not only in retaliation for a nuclear attack, but also in the event of an existential threat to Russia. And what would the imposition of a "strategic defeat" on Russia be, if not an existential threat to the country? Were the United States counting on the Russians — in the event of a Ukrainian (read: NATO) victory in the war — passively and resignedly foregoing a nuclear response, one they had explicitly declared they would adopt? In any event, that American strategy could never have succeeded, because Ukraine cannot defeat Russia militarily; but the fact that it was formulated and pursued was anything but prudent.
- *Observation:* this text was written well before the United States' kidnapping of Venezuelan President Nicolás Maduro; however, the brazen repudiation of international law explicitly by the Trump administration — in favor of the assertion of the law of the strongest — is certainly the greatest act of irrationality of all, as it will still bring dramatic and unforeseeable consequences.

Much has been written about the historical process of political degeneration in Western societies, in which rampant individualism has isolated people and eroded any possibility of meaningful collective action. Solidarity requires empathy — the capacity to be moved by the suffering of others. In the face of the genocide in Gaza carried out by Israel, or of the São Paulo Military Police's effective "license to kill" indiscriminately, there are those who rejoice, avowed fascists that they are — but far more numerous are those who criticize out loud only because it is socially acceptable, without losing any sleep over it. It bears emphasizing that, however intense the social and cultural pressures toward individualism, the renunciation of identification with others is never anything other than a choice.

It was only to be expected that such profound social degradation would result in a kind of numbness (indifference, more than tolerance) in these societies toward the process by which their leaders rise to power, and toward the actions of those leaders once in office (at least when these do not directly affect the individual). The flip side of this coin is that an equivalent process of "race to the bottom" has been advancing among the leaders themselves. The comparison between a decrepit Biden or a

Strip and its disregard for international law and the resolutions of the United Nations and international tribunals; and those countries' support for the creation of a sovereign, independent, and viable Palestinian state within the internationally recognized June 1967 borders, with East Jerusalem as its capital.

narcissistic Trump (or Clinton, or Obama, or Bush Jr.) and a Carter, a Kennedy, or an Eisenhower — or between Macron, the Rothschilds' errand boy (or the nullity Hollande), and a Mitterrand, a de Gaulle, or a Chirac — is frankly unequal, and not in ideological terms (at bottom, they are all cut from the same cloth), but in terms of stature, of preparation for the responsibilities of office (statesmanship). The growing inability to hold to rationality in strategic long-term matters — in favor of short-term circumstantial conveniences that will prove irrational in the long run — is symptomatic. It was no accident that successive American administrations discarded all the arms-control agreements painstakingly built up over decades with the then-Soviet Union (including the agreement on non-expansion of NATO eastward, the fuse that lit the Ukraine war), eroding global security.

Yet this decline in rationality is not sufficient by itself to allow us to predict the future occurrence of nuclear war. To better understand this decline, we turn in the [appendix](#) of this text to the theory of *autopoiesis* developed by Chilean biologists Humberto Maturana and Francisco Varela, which also allows us to understand another even more critical element: the role of the identity proper to each society (each country) in determining its actions.

We said that the behavior of governmental decision-makers appears to be becoming irrational. At bottom, it is not. According to the theory of *autopoiesis*, "irrational" expresses *our* judgment as external observers, based on our own identity, regarding their behavior:

- Germany's elites discern that what is ultimately at stake is the preservation of the *status quo* of the unipolar world order — in which financial turbo-capitalism reigns and upon which those elites depend at all costs — above even the risks of rising energy prices for German industry;
- Israel is, overwhelmingly (though with some internal dissent), driven by the Zionist project with its biblical underpinnings³ of territorial expansion toward "Greater Israel" — the totality of the lands historically inhabited by the ancient Jewish peoples — and this identity blocks any contrary position;
- American identity is founded on planetary hegemony and on the accumulation of wealth that flows from it; accordingly, there are no limits to the actions taken in defense of that hegemony — including military confrontation with Russia, a nuclear superpower, or, equally reckless, the summary consignment of international law to the dustbin.

³Particularly in the Torah, which contains the first five books (Genesis, Exodus, Leviticus, Numbers, and Deuteronomy) of the Old Testament; the concept of "Greater Israel" is not found therein, but is rather a contemporary political and ideological interpretation based on descriptions of geographical borders present in certain passages of those scriptures.

Autopoietically speaking, notions such as "homeland," "national wealth," "the world," "world order," or "war" are by no means absolute or universal; they are necessarily referenced on the basis of the identity proper to each society, each nation.

Let us take "stupidity" as a synonym for "irrationality": Albert Einstein said that *"Two things are infinite: the universe and human stupidity; and I'm not sure about the universe"*. No individual will see their own behavior as stupid (or as irrational), but here the external observer (Einstein) was referring to the human species as a whole, as a way of expressing that human beings have a tendency to cling to their identities (rather than being predisposed to update them) even when those identities are clearly out of step with the circumstances of their environment, putting their very survival at risk.

Just as it was mentioned above that Russia will resort to nuclear war in the event of an existential threat to the country, the same applies to the United States. The difference is that the United States will be (if it is not already) under direct existential threat.

Who holds real power in the United States? Approximately a dozen families (more precisely, family dynasties, generation after generation) who, through cross-shareholding arrangements, control practically all major corporations in the US, and who constitute the plutocracy that effectively "pulls strings." At the other end of those strings are the agents of this plutocracy (see [here](#) and [here](#)) — in the White House and its Departments, in Congress across both parties, in the Pentagon and the military-industrial complex, in media corporations, in intelligence agencies, in universities and think tanks. This complex web goes by the name of the deep state — that is, a government (the *de facto* government, though elected by no one, and worse, operating in the shadows) that governs from within the government (the *de jure* government, official and formal).

What is the historical identity (generation after generation...) of this plutocracy? The ever-growing [accumulation of wealth and power](#). This character does not express the totality of the identity, but it is its inviolable core, its hard nucleus. If necessary, some other "less central" aspects of that identity may be "recycled" in the service of preserving what constitutes its vital mark: the ever-growing accumulation of wealth and power.

This is illustrated by the shift in American foreign policy, made explicit — as [Arnaud Bertrand points out](#) — in the episode of the aggression against Venezuela: *"Venezuela killed the US. Or rather, it revealed it was already dead. In the history of the US's relation with Latin America, what just happened in Venezuela is hardly unique: the U.S. government has intervened to change governments in Latin America a total of 41 times. What is unprecedented however is the brazenness, the unabashedly predatory nature of the intervention. Trump is not pretending this is about anything else than resource extraction. He explicitly stated 'we're going to be taking out a tremendous amount of wealth out of the ground' and that this wealth would 'go to the United States of America in the form of reimbursement for the damages caused us by that country'. (...) there is absolutely zero pretense there: submission to the U.S.'s will is the only variable that matters. Never before in its*

entire history has the U.S. been so nakedly... bad. This might sound almost trivial. 'So what if they admit they're bad, at least they're not hypocritical about it anymore', you might tell yourself. Some might even find that refreshing in its honesty. Quite the contrary. The story a nation tells itself is not trivial – it is everything”.

Bertrand continues: “We, human beings, for better or worse, are structured by mythology and self-deception. Think about yourself, what drives your own behavior? You have, doubtlessly, ideals you want to live up to. If you have kids you have ideals of what a good parent ought to be. If you have a spouse you have ideals of what fidelity and partnership mean. If you have a job you have some conception of integrity. You probably fall short - we all do - but the ideals still structure your behavior. They give you something to reach for, they provide the terms in which you can be criticized - including by your own internal dialogue. They make it possible for you to do better tomorrow. The hypocrisy - the gap between ideal and reality - is not the problem. It's the proof that the ideal still has a hold on you, that you can still be called back to it. As the saying goes, hypocrisy is the tribute vice pays to virtue. Now imagine you renounce all this. Imagine you stop being a hypocrite in the sense that you abandon your ideals entirely, that you start owning up to your worst self and become comfortable with your vices. You cheat on your spouse and stop pretending it bothers you. You neglect your children and make peace with it. Have you thus become 'refreshingly honest'? Maybe. But you've also died inside. You've become something deeply broken - beyond shame, beyond appeal. You've lost the internal architecture that makes moral life possible. The little light that said 'this is not who I want to be' is extinguished. That is what the United States just did. The consequences of this are, frankly, terrifying. What happens when a nation stops telling itself it should be good?”

Bertrand stops short of saying it outright, but by "terrifying consequences" he means the propensity to do absolutely anything deemed necessary to prevent the loss of — or, faced with the inevitability of that loss — that accumulation of wealth and power. Including pushing the nuclear button.

In pursuit of this goal of perpetual accumulation of ever more wealth and ever more power, the United States has been subjecting the rest of the world to economic spoliation — in a word: hegemony. Hegemony is the [expression of the identity](#) proper to the United States. This hegemony rests on two pillars — the dollar as the universal store of value, and unchallenged military might — and both are crumbling, in an interconnected fashion (a potential military humiliation of the Americans could be so demoralizing as to accelerate the global process of abandoning the dollar). Underlying these is a further auxiliary pillar — a "share in the spoils," offered by Americans to the economic elites of other countries as a kind of bribe to betray their nations' aspirations for sovereignty and instead align themselves with US hegemonic interests.

The United States is the only country in the world (and in all of history) that can afford the luxury of a public deficit tending toward infinity, because to refinance it they can simply print more money

(dollars) backed by nothing.⁴ To do so, they need the rest of the world to need dollars, which in turn requires that virtually all trade between countries be conducted in dollars (and the Americans buy whatever they need from around the world, paying in the dollars they print and that the rest of the world needs to acquire). To ensure that no one questions this state of affairs, the United States needs armed forces that are feared by the rest of the world (the number of US military bases and outposts abroad approaches a thousand, scattered across the entire planet). The American government's military expenditures account for an immense and ever-growing share of total public spending (just as the arms industry drives US GDP), contributing to making the public deficit ever more stratospheric — and thus the circle closes.

Those countries throughout the Global South that aspire to sovereignty — freeing themselves from the compradors within their own elites — intend to end their dependence on what is the preeminent instrument of [hegemonic domination](#): the dollar. To do so, however, they need the majority of other countries to also emancipate themselves — yet no viable path exists for that to happen in the short term. The primary precondition for the Global South to proceed *en masse* with a massive dedollarization has not yet been met: namely, the advent of a new reference currency, this time supranational, conceived in consortium with the creation of an international payments system that constitutes an alternative to the SWIFT system — implanted and controlled by the Americans and their allies. Russia and China have been working intensively toward launching precisely such an alternative currency and system within the framework of BRICS, and the crucial variable will be the timing with which they manage to establish them (several initiatives in this direction were [launched](#) at the group's summit in Kazan, Russia; new countries' accessions to BRICS will surely be conditioned on their determination to join this endeavor).

In any event, one can say that the historical process of emancipation has already begun for those countries that still orbit within the American sphere out of fear of Washington's military power; this will ultimately lead to the abandonment of the dollar as the reference currency for world trade, which will lead to the exhaustion of the conditions for refinancing the American public deficit, which will bring about an unprecedented economic crisis — with deep and abrupt impoverishment of the American population — which will lead to the collapse of American institutions as we know them, if not the disintegration of the country itself. In a word: collapse. And here we are speaking only of the economic collapse resulting from dedollarization by the rest of the world. Add to this factors such as the country's social disintegration resulting from ever more radicalized polarization, and what we have is a perfect storm culminating in collapse.

Sooner or later, the collapse will come. How will the Americans respond? Will they resign themselves to relinquishing their historical identity, becoming just another country among others

⁴This since 1971, when the United States — having perceived that the rest of the world was already sufficiently conditioned to the use of the dollar — unilaterally ended the convertibility of the dollar into gold, an event considered the [watershed moment](#) in the transition from industrial capitalism to financial capitalism.

— both impoverished and subject, for the first time, to austerity policies that will deepen that impoverishment? Will they accept the reality of a multipolar world and participate in building, together with other countries, a new world order — more just and less unequal? Will they assimilate their loss of power with the dismantlement of their hundreds of military bases scattered across the globe — they who have grown accustomed to believing themselves militarily unbeatable?

I do not believe they will.

And how will the plutocracy respond — those who actually hold the power to make the nuclear button be pushed? They, who have never known any reality other than the perpetual accumulation of more wealth and more power? Will they accept the prospect of being reduced to the condition of ordinary people? Will they accept the prospect of being held personally accountable for all the pain and suffering inflicted upon Libya, Iraq, Afghanistan, Serbia, Ukraine, Palestine, and the rest of the world?

I believe that even less.

Expressed in the terms of *autopoiesis*⁵ as conceived by Maturana and Varela: in the name of their self-conservation as living beings, will they manage to recreate their historical identity, transforming it almost entirely, so as to reestablish congruence with an external world that no longer permits them to maintain that historical identity?

I consider something of the sort to be practically impossible. Also in the terms of Maturana and Varela, life and the identity of the living being are one and the same thing, such that a suppression of identity is experienced in practice as death.

This notion can be expressed in other ways. For example: for any country that possesses nuclear weapons, if that country is placed under an existential threat, it will use them — period. And what would constitute an existential threat for any country? The threat of conquest by a foreign country, or of colonization, or of loss of sovereignty, or of territorial dismemberment.

So far, this is obvious. But what we are seeking to bring into reflection is that threats of other, less obvious natures may also come to be felt as existential, depending on the cultural context specific to each country.

At the time this text is being updated, the outcome of the war against Iran remains uncertain. What, then, would be the risk of that war culminating in a nuclear war? In my view, it would be the risk of the Persian Gulf monarchies deciding (or finding themselves compelled) to abandon the terms of the 1974 petrodollar agreement.

⁵See [Appendix](#).

In the aftermath of the Yom Kippur War and the oil embargo of 1973, the US struck an agreement with Saudi Arabia — subsequently endorsed by all the other Gulf monarchies — whereby they would sell their oil only in dollars, thus compelling the rest of the world to obtain dollars in order to buy oil. Furthermore, those countries would reinvest in the United States the profits from oil sales by purchasing American Treasury bonds — but not only that: there are trillions of petrodollars invested in stocks traded on the New York Stock Exchange, in real estate in major cities, in stakes in Wall Street private equity funds and hedge funds. The Gulf monarchies are also among the principal financiers of the Artificial Intelligence boom in the US. In exchange, those countries were finally granted the freedom to set their own oil prices.

A potential end to the sale of oil in dollars, together with a potential end to the reinvestment of oil profits in the US and its corporations, would amount to something like a death sentence for the already weakened American economy — and that would represent an existential threat for the United States, as understood by those who command it.

What will the plutocracy do to preserve its historical identity — that of the perpetual accumulation of wealth and power? It will try to prevent the collapse. Yet there would be only one sure way to prevent it from occurring: to "reset" the game (rewrite its rules) by "erasing" the United States' public debt as if it had never existed — which would require the submission of the rest of the world (its creditors), particularly Russia and China, who would be the backbone of any resistance by the rest of the world against such an act of arbitrariness (there is already a great deal of speculation that this [maneuver](#) would consist of liquidating the physical dollar and replacing it with a new "digital dollar," to be backed by cryptocurrencies). In short, the ability to rewrite the rules of the game would require provoking a world war — and, of course, winning it (and, of course, without the inevitable resulting nuclear strikes destroying the United States beyond an assimilable threshold, or triggering a nuclear winter that is too severe).

In this regard, American identity incorporates a particularly ominous element: the American nuclear doctrine — oriented toward military supremacy, as is everything else in that identity — encompasses, unlike Russian doctrine, the prerogative of the first strike: the right to a surprise nuclear attack aimed at decapitating the enemy's leadership (then Soviet, now Russian as well as Chinese) and at mitigating their retaliatory capabilities, without giving them time to react. (It was for this reason that Russia could not tolerate the prospect of nuclear missiles stationed in Ukraine, a mere four minutes' flight time from Moscow.) To be ready to launch a first strike, the Americans have taken measures such as the following:

- They stationed in Europe a significant fleet of stealth aircraft (supposedly invisible to radar), enabling them, in a surprise attack, not only to deliver nuclear bombs but also to suppress Russia's advanced missile defense systems;
- They converted four of their Ohio-class submarines (the USS Ohio, Michigan, Florida, and Georgia) from ballistic missile launchers (each submarine carrying 24 Trident missiles) to

cruise missile launchers (each now carrying 154 Tomahawk missiles), which are far more difficult to detect and strike their targets with greater precision;

- They introduced the technology they call super-fuze in their warheads, whereby detonation occurs upon reaching an optimal altitude above the target — with the deviation (trajectory imprecision) from the target already computed — which now allows less powerful warheads to assure the destruction of heavily protected targets (such as Russian missile silos);
- They have been pursuing a miniaturization of warheads (potentially reaching yields lower than that of the bomb dropped on Hiroshima), based on the premise that missiles that are harder to detect and that detonate at an optimal proximity to their targets would assure the annihilation of Russian and Chinese retaliatory capabilities even with less powerful warheads — thereby minimizing the effects of the resulting nuclear winter;
- More recently, in the face of the supremacy of Russian hypersonic weapons demonstrated in the Ukraine war, the Americans have been developing means to surpass them, under a project called [Golden Dome](#).

Would all of this be merely a vestige of the Cold War era? Well, the RAND Corporation — the preeminent think tank to which the Pentagon has entrusted the formulation of its strategies for more than half a century (and which has always advocated for first-strike capabilities) — recently released (February 9, 2024) a study titled [Planning for the Aftermath](#), containing guidance to steer the American war effort following a defeat in the Ukraine war. Among the scenarios outlined, along with proposed actions appropriate to each, there appears on page 28: *"(...) we assume that the United States adopts a strategy of nuclear superiority on the postwar period (...) Washington seeks a force posture that could, in a crisis, allow the United States to launch a strike that would destroy large numbers of Russian and Chinese nuclear forces simultaneously, with the aim of limiting damage from any retaliatory attack"*. So then: old-fashioned first strike, pure and simple.

One might also mention the recent [interview](#) of Jamie Dimon, CEO of the financial mega-conglomerate JPMorgan, in which he condemns Russia and China — whom he calls an "axis of evil" — for seeking to dismantle the global systems created by the West, while arguing that the United States cannot afford not to intervene against them: *"We cannot take the risk that this (the global geopolitical conflict) will resolve itself. We need to make sure that we are involved in doing the right thing."*

The foreboding I hold — that the day will come when the Americans find their capacity to parasitize the rest of the world exhausted, and that on that day they will not shrink from "pushing the button" — is also sensed in Russia. In a recent [article](#) published by the news agency RIA Novosti, it is proposed that *"(...) one should not count (on the part of the United States) on the 'instinct of self-preservation,' for the subject that claims to have a superpower, by definition, does not possess one. Suicide is precisely its greatest achievement and its inevitable fate. After all, a super-subject becomes*

such by spending resources uncontrollably — something that eventually runs out. However, unlike the Soviet Union, which accepted the ideological poison of anti-communism and died quietly in its bed, the United States will try to take everyone else down with it. Because it lives at the expense of others and not at its own expense. And others, sooner or later, will stop feeding the dragon”⁶.

When will the catastrophe occur? In my view, not for now. As long as the prospect of collapse has not materialized in a palpable way, the logic of mutual deterrence will continue to prevail, and even the plutocracy commanding the deep state will not wager on nuclear war. The moment of collapse cannot be foreseen; it will most likely come about as the result of a cascade of interconnected events, and that is something that may still be a long way off — or may not. It will only be when the collapse erupts, or when it is already felt as imminent, that the plutocracy will give the order — whether as a desperate attempt to turn the game around through a first strike (the more likely scenario), or to destroy everything at once (the less likely, but not impossible, scenario).

Some, however — such as [Peter Haenseler](#) — already see this collapse as imminent: “(...) *the unstable situation in the financial markets – especially in the Collective West – could lead to huge economic turmoil at any time (...) I would like to express my astonishment that the instability in the financial markets and the astronomical debt levels of this world are ignored by the vast majority of geopolitical observers. (...) it is the biggest geopolitical risk that I can identify. The question is not if, but when this risk will turn into a catastrophe, suddenly and 'unexpectedly'. We will certainly hear from 'experts' that such a turn of events could not have been expected. Really? – This collapse will plunge entire countries into misery and cost millions of people their lives and many politicians their sanity. It is a mystery to me that so few people recognize this danger*”.

Please do not misunderstand me. I am not saying that nuclear war will only happen with the collapse of the dollar — it may happen before that, for a myriad of reasons (including by accident). Nor am I saying that the collapse of the dollar will only happen with the advent of a new reference currency for international trade — it may happen before that, due to factors related to the dysfunction of the American economy. Such factors are, however, unpredictable, and I prefer not to speculate about them. The only thing that can be predicted with any confidence is that the advent of a new currency will lead to a collapse of the dollar, which will lead to a denial of identity (tantamount to death) for the plutocracy — which will, almost certainly, lead to nuclear war. In the meantime (until the end of the dollar comes), I cannot predict the future, but I believe that mutual deterrence through the fear of mutual annihilation will prevail — and thus, however imminent nuclear war may appear, it will continue to be postponed.

Until one day it happens.

⁶Translation from Russian by artificial intelligence.

For those with no idea what a post-nuclear war world looks like, I insert at this point in the text the article *On Going Seriously Boom*, by Fred Reed, [published](#) on *The Saker* blog:⁷

What would such a war (the US against Russia and/or China) be like? Let's guess.

America is fragile. We don't notice because it works smoothly and because when a local catastrophe occurs – earthquake, hurricane, tornado – the rest of the country steps in to remedy things. The country can handle normal and regional catastrophes. But nuclear war is neither normal nor regional. Very few warheads would serve to wreck the United States beyond recovery for decades. This should be clear to anyone who actually thinks about it.

Defense is impossible. Missile defenses are meaningless except as money funnels to the arms industry. This is not the place to go into decoys, hypersonics, Poseidon, maneuvering glide vehicles, bastion stationing, MIRV, just plain boring old cruise missiles, and so on. Coastal cities are particularly easy targets, being vulnerable to submarine-launched sea-skimming⁸ missiles. Washington, New York, Boston, San Diego, Los Angeles, San Francisco, Seattle for starters, all gone.

A modern country is a system of systems of systems, interdependent and interconnected – water, electricity, manufacturing, energy, telecommunications, transportation, pipelines, and complex supply chains. These are interconnected, interdependent, and rely on large numbers of trained people showing up for work. Modern warheads are not the popgun squibs of Hiroshima. Talking of repair any time soon after the nuclear bombing of a conurbation is foolish because the city would have many hundreds of thousands of dead, housing destroyed, massive fires, horrendously burned people with no hope of medical care, and in general populations too focused on staying alive to worry about abstractions like supply chains.

The elimination of transportation might cause more death than the bombs. Cities, suburbs, and towns cannot feed themselves. They rely on a constant, heavy influx of food grown in remote regions. This food is shipped by rail or truck to distribution centers, as for example Chicago, whence it is transshipped to cities like New York. Heavy megatonnage on Chicago would disrupt rail lines and trucking firms. Trains and trucks need gasoline and diesel which come from somewhere, presumably in pipelines. These, broken by the blast, burning furiously, would take time to repair. Time is what cities would not have.

What would happen in, say, New York City even if, improbably, it were not bombed? Here we will ignore the likelihood of sheer, boiling panic and resultant chaos on learning that much of the country

⁷Now deactivated; the link points to the archive site containing the blog's collection.

⁸ This [video](#), showing Russian Kalibr cruise missiles filmed by Dagestani fishermen over the Caspian Sea *en route* to Ukraine, gives an idea of how close to the water such missiles can fly. The Kalibr model is neither submarine-launched nor hypersonic, whereas the Zircon model is both.

had been flattened. In the first few days there would be panic buying with shelves at supermarkets being emptied. Hunger would soon become serious. By day four, people would be hunting each other with knives to get their food. By the end of the second week, people would be eating each other. Literally. This happens in famines.

Most things in America rely on electricity. This comes from generating plants which burn stuff, usually natural gas or coal. These arrive on trains, which would not be running, or in trucks, not likely to be running. They depend on oil fields, refineries, and pipelines unlikely to function. All of the foregoing depend on employees continuing to go to work instead of trying to save their families. So – no electricity in New York, which goes dark.

This means no telephones, no internet, no lighting, and no elevators. How would this work out in a city of high rises? Most people would be nearly incommunicado in a lightless city. Huge traffic jams would form as people with cars tried to leave – to go where? – as long as gasoline in the tank lasted.

Where does water come from in New York? I don't know, but it doesn't flow spontaneously to the thirtieth floor. It needs to be pumped, which involves electricity, from wherever it comes from to wherever it has to go. No electricity, no pump. No pump, no water. And no flushing of toilets. River water could be drunk, of course. Think of the crowds.

In all likelihood, civil society would collapse by the end of the fourth day. The more virile ethnics would surge from the ghettos with guns and clubs to feed. Police would have disappeared or be either looking after their families or themselves looting. Civilization is a thin veneer. The streets and subways are not safe even without a nuclear war. The majority would be unarmed and unable to defend themselves. People who had never touched a gun would suddenly understand the appeal. If you think this would not happen, give my best to Tinker Belle.

Thus it would not be necessary to bomb a city to destroy it, only to cut it off from transport hubs for a couple of weeks. An attacker would of course destroy many cities in addition to necessary infrastructure. Those who plan nuclear wars may be psychopaths, or just insular geeks fiddling with bloodless abstractions, but they are not fools. They have carefully calculated how to most seriously damage a target country. In no more than a couple of months, perhaps two hundred million people would starve to death. Do you think this fantastic? Tell me why it is fantastic.

Parenthetically, in my days of walking the E-ring in the Pentagon, I read manuals on how to keep soldiers fighting after they had received lethal doses of radiation. They don't die immediately and, depending on dosage, might be administered stimulants to keep them on their feet, or so the manuals said. These manuals also discussed whether these walking dead should be told that they were about to die. The authors used the evocative phrase "terrain alteration" to describe landscapes with all the trees lying on their sides, and we have all heard of "overkill."⁹ After a nuclear war,

⁹ Deployment of a volume of nuclear weapons exceeding what would be sufficient to destroy the enemy.

millions would slowly die of radiation – read up on Nagasaki and Hiroshima – and burned corpses would rot in the streets, too numerous for burial by survivors with other things on their minds.

How would the next season's crops be planted? Answer: they wouldn't be. Where would fertilizer come from? Parts for tractors, trucks, harvesters? Making these requires functioning factories which require electricity, raw materials, and workers. If the attacker chose to hit agricultural lands with radiation-dirty cobalt bombs, these regions would be lethal for years. Nuclear planners think about these things.

Among "defense intellectuals," there is, or was when I covered such things, insane talk of how America could "absorb" a Russian first strike and have enough missiles in reserve to destroy Russia. These people should be locked in sealed boxes and kept in abandoned coal mines.

Note also that Biden, Blinken, and Bolton, bibbety bobbety boo,¹⁰ and their families, live in DC, the priority target. While the rats are aboard the ship, they won't sink it. If they are discovered boarding a Greyhound out of Washington at three a.m., dressed as washerwomen, it will be time to worry.

The Fred Reed article transcribed above lays out the terrible consequences of nuclear war for those countries that have been directly attacked. Beyond that — as if all of that were not already enough — let us consider two possible aggravating factors: the nuclear winter, and the electromagnetic pulse.

The phenomenon of nuclear winter corresponds to the abrupt cooling of the Earth's surface due to the suspension into the upper layers of the atmosphere of millions of tons of soot particles resulting from the smoke of nuclear explosions and the fires they ignite. This layer of soot will [cover the entire globe](#) within a matter of weeks, blocking sunlight from penetrating the atmosphere, leading to falling temperatures and — as a result of reduced evaporation — to a decrease in rainfall (and less rain means less food). Across the entire planet, this will cause mass mortality among fauna and flora.

Scientists are unable to establish a correlation between the number of nuclear explosions¹¹ and the magnitude of the resulting nuclear winter. Speaking in approximate terms: if the total number of detonations falls in the tens, it is impossible to foresee their effects, because it is unknown to what extent the environment would be capable of compensating for them; if it falls in the hundreds, it is

¹⁰ A reference to the [film](#) in which mice are transformed into thoroughbred horses, as well as to the initials of the three politicians' names.

¹¹ Obviously, were it possible to establish such a correlation, it would not be sufficient to know only the number of bombs detonated — it would also be necessary to know the total yield released (or the average yield of the bombs); since this cannot be established, for the purposes of the estimate made here, the order of magnitude of the number of detonations is more than sufficient.

estimated that both sunlight and rainfall could be reduced to roughly half — which would subject the surviving portion of humanity to unimaginable suffering; if it falls in the thousands, the extinction of life on Earth becomes nearly certain.

Beyond signifying less evaporation — and therefore less rainfall and less food — nuclear winter may come to mean many other things as temperatures drop. In a tropical country such as ours, prolonged periods of very cold temperatures could give rise to:

- Loss of pressure inside LPG (cooking gas) canisters, resulting in the gas being unable to flow out, or flowing out in liquid form and damaging pressure regulators;¹²
- Freezing of water in pipes — both in distribution networks and inside residences — leading to their rupture and rendering them useless once temperatures rise again;¹³
- Snowfall with accumulation on rooftops, whose slopes are generally shallow — designed only to drain rainwater; depending on the volume of accumulated snow, the excess weight will tend to cause roof collapses, leaving entire populations homeless in the midst of intense cold;
- Even what agriculture can be practiced with reduced rainfall may be rendered impossible by frosts, snowfall, or even freezing of the soil — leading to the displacement (migration) of populations due to famine.

The odds are grim: the United States and Russia each possess approximately 1,600 nuclear bombs ready for use (with a stockpile three times as large currently kept inactive). As an aggravating factor, the Earth's environmental equilibrium is already considerably weakened, which undermines the planet's capacity to counterbalance the effects of a nuclear winter.

The electromagnetic pulse, or EMP, for its part, results from the detonation of a nuclear bomb. If the bomb is detonated at low altitude, its direct destructive effects overshadow those of the EMP. But if detonated in the high stratosphere or even in space, the electromagnetic pulse has a long reach and will strike the Earth's surface in the shape of a cone. Any electrically conductive material reached by the pulse will conduct it¹⁴ for a fraction of a second, and that electric current will be

¹²In countries with severe winters, propane gas is used in canisters, as it continues to vaporize even at [temperatures](#) close to -40°C (-40°F), whereas in Brazil, for commercial reasons, a mixture of propane and butane is used, butane vaporizing only above approximately +4°C (39°F) (in [forty](#) of Brazil's coldest municipalities, a mixture with more propane and less butane is mandatory).

¹³In countries with severe winters, water distribution networks are buried at [depths](#) where soil temperature remains above 0°C (32°F) even at the height of winter; inside buildings, pipes are typically wrapped in thermal insulation.

¹⁴I do not have a background in nuclear physics to understand the principles behind the generation of electricity from an EMP, but I know that electric currents are conducted from one point to another — that is,

more intense the greater the power of the bomb, the lower the altitude of the explosion, and the shorter the distance (radius) to the center of the base of the cone.¹⁵ An [article](#) by specialist Steven Starr describes in rich detail the devastating effects of a hypothetical EMP attack on the United States.

Conductive materials interconnected across long distances — such as the kilometers-long high-voltage transmission lines — will absorb more of the pulse, and the current overload in them will thus be far more intense, damaging them and shutting down the electricity supply. In electronic equipment, on the other hand, the circulating currents are very low, making them extremely sensitive to any overload. Data centers struck by an EMP will in practice have been destroyed; and today, virtually all of a country's critical infrastructure (those high-voltage transmission lines, as well as railways, ports, refineries, oil and gas pipelines, dam floodgates, metro systems, air traffic control, fiber-optic networks, satellites, etc.) is controlled in an automated fashion by computers — and worse, for economies of scale, this control is often implemented in a nationally centralized rather than distributed fashion.

Domestic electronic devices — such as personal computers, televisions, and cell phones — may also be destroyed, and most likely will be if they are plugged in at the moment of the EMP (though they may be damaged even if they are not¹⁶). The current overload will rise very rapidly (in nanoseconds), and as a result ordinary surge protectors will not protect them (surge protectors based on transient voltage suppression (TVS) diodes will stand a better chance). Small electronic devices such as cell phones, palmtops, thumb drives, or external hard drives could be "shielded" if stored inside tinplate food cans (those made of aluminum do not provide protection).

In automobiles, the electronic fuel injection and ignition modules will be damaged, and the vehicles will stop working. In theory, the body (provided it is made of steel, not aluminum or fiber) could act as shielding — but today it is thin and made of alloys optimized for fuel economy through weight reduction. Old Volkswagen Kombis and Beetles, however, will keep on running, because in those vehicles the mixture of gasoline and air is injected into the cylinders by a component no longer

along some pathway. What I can understand is that a piece of equipment made of electrically conductive materials will receive electric current if it is connected to a power outlet (and all the more so if it is switched on), or will accumulate static electricity if it is not connected to an outlet, in which case currents will circulate internally within it.

¹⁵In fact, the EMP "cone" is distorted by Earth's magnetic field. According to [Wikipedia](#), an EMP striking the Northern Hemisphere will have more intense effects to the south of the center of the base of the cone, while in the Southern Hemisphere the opposite applies; however, according to the referenced [article](#), the reverse would be true. In any case, only if the EMP bomb exploded near the Equator would its effects be symmetrically distributed.

¹⁶See note 14, above.

manufactured today — called a carburetor — and the spark to ignite that mixture is provided by equally obsolete parts: the contact-breaker points and the ignition coil. Similarly, vacuum-tube radios or televisions will be more robust than transistorized ones — which will be in turn more robust than those with microchips — but all of them conduct electricity and will thus all be affected; their continued operation will depend on each one's capacity to withstand the overload. And, of course, all aircraft in flight struck by the EMP will crash.¹⁷

A single EMP bomb exploding over Brazil (at high altitude it can affect several nearby metropolitan areas, such as Rio de Janeiro, São Paulo, and Belo Horizonte) would mean the country has been directly attacked. But why would Brazil (or South America) be attacked in a nuclear war? For example:

- Because Brazil is one of the leaders of BRICS, which promotes the dedollarization of the global economy that will have driven the United States to war;
- Because, knowing their own countries will be destroyed, the United States and other Western members of the nuclear club such as the United Kingdom and France decided to "empty out" South America in order to migrate their survivors here (for this purpose there are also neutron bombs, which kill people without destroying buildings);
- Because the Brazilian military align themselves by default with the United States — a position that, if enacted,¹⁸ will obviously attract a reaction from the other side (these people need to be kept in check; absolute Brazilian neutrality in the conflict is mandatory);
- Because some psychopath decided that, since its corner of the world will be destroyed, the whole world might as well be destroyed along with it.

To a single EMP bomb we might survive — though with enormous additional difficulties. Thermonuclear bombs or neutron bombs, however, are another matter. If we are attacked in that way, or if a severe nuclear winter descends upon us, what can I say? Nikita Khrushchev said that *"The living will envy the dead"*. I will say only that it has been an honor, a privilege, and an immeasurable pleasure to have shared this life with you all up to this point — and that I hope we all fare well on the "other side."

¹⁷On specially shielded aircraft resistant to an EMP — such as the American presidential aircraft Air Force One — none of the critical flight systems are electrical or electronic.

¹⁸General Fernando José Sant'Ana Soares e Silva, Chief of Staff of the Brazilian Army, [declared in a speech](#) at a promotion ceremony for general officers on April 5, 2023: *"(...) in the future, without a shadow of a doubt, our country will be subjected to every kind of pressure from foreign powers, including military pressure, with the aim of coercing the Brazilian people into serving interests other than their own (...) not only must we be ready to enter into combat, we must be ready to win the war."*

Let us suppose, however, that we here in Brazil are not directly attacked. And that we manage to survive the nuclear winter.

The one thing that can be stated with absolute certainty about a post-nuclear war world is that *all* human beings on the face of the Earth will be affected. Many millions will die; many more millions will be seriously injured — but even those not directly reached by the bombs will also suffer greatly.

Everyone will lose much, and that is precisely why this discussion is a taboo. It is one thing to watch a film like [*The Day After*](#) (1983) in an era when mutual deterrence was still a dogma. People could be shocked by the film, but it was still taken as fiction. It is something else entirely to posit that nuclear war is very probably going to happen (as we have just done), and then proceed to discuss its effects and what might be done to try to manage them. Faced with the prospect of loss — which will be real for everyone — most people will refuse even to acknowledge the possibility of nuclear war, let alone contemplate what their lives (or survival) will look like in a post-nuclear world. They will simply [refuse to engage](#) with that prospect, and this is perfectly understandable — there is no judgment to be made here.

But if everything we take into account are these individual stances, then this text should never have been written in the first place — let war come if and when it must, and in that hour let everyone deal with their own fate: every man for himself, as it has always been.

We are, however, parts of a greater whole, whether or not we are conscious of it. We are parts of nature, parts of the planet, and parts of the universe. We are, above all, parts of the human species — and as such, we should recognize that we all bear responsibilities toward it.

Of course there is the risk that humanity will be extinguished — but very possibly, it will continue its journey, even amid unspeakable pain and suffering. There will continue to be human lives in the future, with laughter and tears and everything else that makes us human — if not our own lives, then those of our children and grandchildren, and of their children, and of their children's children. I hope to be wrong, and that a nuclear war never comes to pass. But if it does, it will be our duty to cope with the consequences and press forward.

What would happen to Brazil, then, in a nuclear war? Let us assume that our country has not been bombed. And let us suppose there are no other direct effects — no severe nuclear winter, no electromagnetic pulse. In that context, would we be able to carry on with "normal life"? Not at all.

The economy is divided into primary sectors (agriculture, livestock, mining), secondary sectors (industry), and tertiary sectors (commerce and services), along with the public sector.

Agriculture, livestock, and mining exist in Brazil essentially to serve export markets. The primary markets are China, the United States, and Europe — all devastated (as are others, such as the Middle East for meat, etc.). Companies in this segment are bankrupt the very next day.

Industry is globalized (Brazil is nowhere near a closed economy like North Korea — indeed, since colonial times, the country's economic vocation has been that of exporter of raw materials), and thus, even if part of Brazilian industry is oriented toward the domestic market, it is dependent on global supply chains. Which will no longer exist. Bankruptcy as soon as stocks run out.

Services. The banks — few and large in Brazil, entirely dependent on the internet, and interdependent with financial markets in the United States and Europe — will not survive the disappearance of those markets. Bank failures, general corporate collapse. A large part of the remaining services sector, as well as commerce (which, moreover, resells agricultural and industrial output as well as imports), is also highly dependent on the internet — which will no longer exist (submarine cables will have been cut, satellites shot down, the data centers of major tech companies destroyed by bombs or without electricity to power them).

Will the public sector continue to function? For how much longer, with no tax revenue (collected from whom?), and with whatever money the Central Bank still manages to issue devalued to near nothing?

As Fred Reed said, *"a country is a system of systems of systems, interdependent and interconnected"*. An economy can absorb the sudden disappearance of one or a few sectors, but it cannot survive the sudden disappearance of virtually all of them at once. The country will retain its infrastructure intact — yet even so, it will collapse.

What collapses first? Companies. With companies, jobs. With jobs, wages. With wages, families' purchasing power for basic subsistence. Fear and despair will follow — and soon thereafter, hunger and chaos. Will there still be some food production? Yes. But even assuming people have money (and that that money is worth something), *how* will that food reach consumers — especially in metropolitan regions and in large and medium-sized cities? Will freight trucking companies be operating? Will there be gas stations along the roads still open? Will there be supermarkets in the cities still open? Will there be mass urban transit systems in the cities still operating? *"Everything depends on employees continuing to go to work instead of trying to save their families"* (Reed). Well, there will not be.

In short, even if we are not directly bombed, we will suffer the collapse. And what will collapse, beyond capitalism, is civilization itself.

Between ten and twelve thousand years ago, humanity discovered agriculture, and people ceased to be nomadic hunter-gatherers and settled on the land — which became the primary driver of civilizational advancement (call it progress, development, prosperity, wealth generation, or any other name). From that point on, land was the most important thing of all to human beings (who even killed each other over it).

About six hundred years ago (we are arbitrarily taking as our temporal marker the rise of the Genoese banking houses in the fifteenth century), this primary driver shifted from land (something physical) to capital (something immaterial), and capitalism began. In contemporary times — in which money is no longer backed by gold or by anything else — we understand that the value of money derives entirely from its social credibility (the only difference between a hundred-dollar bill and a one-dollar bill is the value attributed to each of them by everyone, because physically both are ink on paper, and the cost for the mint to produce them is the same). When someone dies, however, the money and wealth they have accumulated do not disappear — they remain to be appropriated by others.

About sixty years ago, a new transition occurred, and the primary driver of societal advancement became knowledge. The critical difference is that knowledge exists only within people.

According to the theory of *autopoiesis*, detailed in the [appendix](#) of this text, records of knowledge such as books or computer databases are not knowledge — they are merely elements of the environment. Living beings (in this case, people seeking knowledge) compensate for perturbations in their environment (in this case, the knowledge records to which they are exposed) through an updating of their internal regularities, and it is *this* updating that corresponds to knowledge — necessarily in an individualized manner. Not the records themselves, such as books or computer databases.

Put another way: records of knowledge such as books or computer databases are only useful insofar as people access them and develop the knowledge they possess (a book that is never read by anyone is useless). When someone dies, the knowledge that person held dies along with them. A plot of land or a coin are independent of people in order to be what they are (land and capital, respectively). A book, by contrast, is not knowledge — knowledge is what happens inside each person who reads it.

But if when a person dies their knowledge dies with them, why then does knowledge not disappear? Because people are constantly circulating it — by acquiring new knowledge (which is precisely what you are doing at this very moment, not only by reading this text, but above all by arriving at your own conclusions about everything you are reading) and by passing it on to others (in countless ways: through conversation, posting a comment, recording a video or audio, writing and publishing, and so on). This immense web is what allows knowledge as a whole to advance, despite the fact that the people who hold it are dying at every moment.

None of this means that any given body of knowledge cannot disappear over time, simply through disuse. When in the year 2000 Brazilians and Portuguese attempted to build a caravel to celebrate the 500th anniversary of the discovery, they realized that the fifteenth-century navigational technologies of the School of Sagres — which had made it possible to conceive vessels capable of crossing the oceans with good resistance to waves and winds even in storms — simply no longer existed. In the same way, the knowledge of architecture and construction of the great medieval

cathedrals has also been lost — some of them, after having been destroyed in wars, were rebuilt using contemporary techniques such as reinforced concrete, subsequently clad in materials to create a "medieval" appearance. There are countless other examples: NASA, after the retirement or death of its engineers and technicians from the 1970s, has been spending years essentially reconceiving from scratch the technologies needed to send people to the Moon; and the PF-4 laboratory at Los Alamos — the only facility in the United States that manufactures the spherical compressible plutonium cores for nuclear warheads — completed in 2024 six years without having been able to produce a single new core, making the targets set by the US Congress to resume warhead production quite unrealistic: twenty cores by 2025, thirty more in 2026, and eighty more in 2027.¹⁹

But the problem we wish to highlight is that the near-total social rupture that will follow a nuclear war will dismantle, almost entirely, the existing web of human interactions — severing the established processes of circulation and renewal of knowledge. Suppose you are a knowledge worker specialized in your field. You know where to seek knowledge, where to research, whom to approach, with whom to converse. And you know how to put your own knowledge into practice and how to share it — whether in your work environment or elsewhere. After a nuclear war, if you manage to settle into the most satisfactory circumstances possible, you will be growing vegetables and greens in order to feed yourself and your family. You still hold your own knowledge — but how to get it to the people who might benefit from it? The web has been broken.

Without educational systems, the level of training each person possesses at "day zero" will remain stagnant — and will deteriorate over time (knowledge must be exercised: think of what happens to mathematical knowledge after years of disuse). As time passes, illiteracy will grow. Children in particular cannot be deprived of education for long periods, as there are "windows" of learning corresponding to each age that cannot be missed without harm to the child's cognitive development. Books, handouts, manuals, catalogs, notebooks, and the like will mold and rot — or worse, serve as kindling for fires. The vast majority of knowledge today is stored digitally, requiring specialized personnel for the maintenance of the corresponding systems, and it is vulnerable to power outages. Everything stored "in the cloud" or anywhere else on the internet will have been irretrievably lost (YouTube videos, for example). The batteries of cell phones, tablets, laptops, and notebooks — even if electricity is restored for recharging — will eventually be exhausted and will not be replaced. Or worse, an electromagnetic pulse bomb can instantly destroy them. As the years pass, people will die and take their knowledge to the grave, without having passed it on. The knowledge held by humanity as a whole will be lost, and a significant civilizational regression will occur. We may revert to the Middle Ages — in which case it will take approximately five centuries to relearn everything and return to where we are today — or, worse, to the Copper Age: and then it will take five millennia.

¹⁹As per this [article](#).

The advent of computers was the factor that triggered the transition from capital to knowledge as the primary engine of the world, some sixty years ago. A computer operates at its electronic — or "machine" — level with only two states (off, or "zero," and on, or "one") for each of its cells, and everything computers do is perform successive sequences of a single numerical operation — addition — on those cells. They do this, however, at a speed so vastly greater than the human mind that any other mathematical operation, however complex, can be decomposed (i.e., programmed) into an infinite number of addition operations — and even so, the calculation will be performed very rapidly.

By freeing scientists and engineers from the task of performing mathematical calculations, the computer led to an extraordinary increase in their productivity. Subsequently, a number of other tasks that had always been performed manually — such as drafting texts and documents and printing them — were also programmed (i.e., converted into infinite sequences of additions, in what was then called machine language), and thus the volume of knowledge records held by humanity began to advance exponentially. It would not be long before access to this entire knowledge base was itself automated, and before people also began, in an automated fashion, to identify other people who might be contacted according to their needs or shared interests. As a result, the production of knowledge exploded.

As processing capabilities advanced at a dizzying pace, within just a few years small and compact computers — at relatively modest cost — were acquiring capabilities comparable to those of the then so-called mainframes, which were large and expensive. With the widespread proliferation of these smaller computers came the need for a universal standard for interconnection between computers, replacing the proprietary networks specific to individual manufacturers — a need resolved in the 1990s in favor of a network called the World Wide Web, or the internet: an evolution of ARPANET, which had been created in the 1960s within the US Department of Defense. From that point on, it proved more advantageous for virtually all computing in the world (which we may here call "generic," since it involves mere processing capacity, which has become a commodity) to operate in a distributed fashion over the internet — universalizing access to locally generated or processed data, but in practice making computing hostage to the internet. The other face of this coin consists of the niches of what we may call "specialized" computing, which continued to be performed in a centralized fashion on what are now called supercomputers (for example, in meteorology).

The counterpart — unnoticed until now — to all this vertiginous scientific and technological advancement of humanity in the so-called "knowledge age" has been the vulnerability resulting from the extreme dependence of people and societies on computers and on their single network: the internet. In a post-nuclear war world, this vulnerability will exact an unimaginable price.

Around 1970, the advent of electronic calculators (which are preprogrammed computers for performing mathematical operations) had quietly revolutionized the world: until then, all

professionals who required mathematical calculations performed them by hand — a process both time-consuming and prone to error. Likewise, in schools, students were taught to perform complex calculations manually (with paper, pencil, and eraser), at most with the aid of trigonometric and logarithmic tables. The fact is that the enormous advantage offered by calculators (and, later, spreadsheets) in terms of speed, reliability, and precision came at the price of leading people to abstract away *how* one arrives at the results of calculations. In a post-nuclear war world — one in which there will be virtually no calculators left (pocket models such as those powered by solar energy are practically disposable, with short lifespans; batteries will be exhausted; more durable models such as laptops and notebooks are dependent on electrical power for battery recharging, subject like all others to the risk of an electromagnetic pulse, and in any case will cease to function when their batteries run out) — people will face enormous difficulties performing calculations beyond the most basic.

A comparable regression will occur in the activity of computer programming (with the maintenance of currently existing systems also constituting a programming activity): today's programmers no longer program from the hardware level (in machine language), decomposing everything into successive sequences of additions of "zeros" and "ones"; they now program on top of layers of programming done in the past and already consolidated, which have been incorporated into the hardware — layers upon layers upon layers of prior programming. Just as the calculation layers incorporated into the advanced functions of calculators and spreadsheets are abstracted away by their users, these pre-given layers of programming are abstracted away by programmers (an online game programmer, for example, focuses solely on the aesthetics of elements on the screen, ignoring the thousands of hours of prior programming behind each animation command they trigger). In the same way that today's engineers no longer understand the mathematical principles behind their calculations, today's programmers no longer retain the capacity to program from the hardware level.

Faced with such enormous difficulties and challenges, what will post-nuclear war society look like? I do not know — and no one does. Hollywood screenwriters fantasize about all manner of dystopias, à *la Mad Max* — but in doing so they invariably assume that the dark side of people will prevail.

We know that this dark side exists, and that it can indeed prevail. But let us take license here to engage in a rudimentary reductionism, and divide humanity into three main groups:

A first type of person, faced with a post-nuclear war world, may simply no longer wish to live. Who could judge them? Who could measure the pain of losing, suddenly and without warning, all the references built over an entire lifetime?

A second type of person will want to live — but only because of the survival instinct — and will therefore adopt highly individualistic attitudes (the "Mad Max pattern"). Again: who could judge them for wanting and seeking to survive, when that is basically what their lives have taught them?

There is, however, a third type of person who assigns meaning to the historical journey of humanity — to the "human adventure on Earth." People who carry within themselves a connection to the human species as a whole. Even if in the minority (at least at first), these people may act to seek to reinvent social life — and, to the extent that they prove successful (if they do), may gradually manage to bring over people from the other two groups to this collectivist perspective.

I know that what I am proposing seems unreasonable. We will emerge from the current dystopia (yes, today's world [is already a dystopia](#)) into another dystopia incomparably worse — and from this extreme dystopia, we would then somehow manage to reach some utopia?

Moreover, what do I mean by "reaching a utopia"? Is man not a wolf to man? Is human nature not essentially selfish? Oriented toward competition and predation, driven by insecurity and fear? After all, has it not always been so?

The answers: no.

Nor would it even be a matter of *reaching* that utopia — but rather of *returning* to it... even though there is no longer the slightest memory of what that ancestral utopia might have been.

We thus ask the reader's indulgence for an interlude — a necessary digression.

At what point does the "History" of humanity begin — or, conversely, at what point does the "prehistory" of humankind end? Arbitrarily, this point was established at around 3,000 BC, with the emergence of what were taken to be the first civilizations, in ancient Egypt and Mesopotamia.

Such an arbitrary demarcation, however, could only be made because those civilizations (Egyptian and Sumerian) came to be regarded as the first to make use of writing, considered the distinguishing marker characterizing a civilization. This demarcation was established when Archaeology was constituted as a scientific discipline over the first half of the nineteenth century — two hundred years ago. Subsequently, traces of other, even older civilizations that also made use of writing were discovered, but only faintly, suggesting that these had been civilizations ultimately devastated to the point of erasure.

In a seminal 1987 book, *The Chalice and the Blade*,²⁰ Riane Eisler compiled the various archaeological theories explaining these "erased" civilizations, condensing them for the first time into a general theory — one bearing a disconcerting revelation: patriarchy, with all of its implications (power as a consequence of force; social stratification; the exploitation of nature by man; the exploitation of man by man; the notion of female inferiority relative to males; private property, including the

²⁰EISLER, Riane T. *The Chalice and the Blade: Our history, our future*. San Francisco: Harper & Row, 1987. The account of Eisler's work presented here is enriched and interwoven with insights drawn from the first chapter (titled "Matristic and Patriarchal Conversations") of Maturana, Humberto, Verdén-Zoller, Gerda. *Amar e Brincar: Fundamentos esquecidos do humano*. São Paulo: Palas Athena, 2009.

ownership of women; the concentration of wealth, etc.) would NOT be the sole, and therefore inevitable, mode of human socialization and sociability.

On the contrary, the general theory that Eisler founded regarding these forms of socialization and sociability recognizes two distinct possibilities: patriarchy and partnership society — both of which have already been lived out over the course of human history.

The emergence of the first hominids, approximately 2.5 million years ago, marked the beginning of the Paleolithic era. Human beings lived in bands of roughly twenty to thirty individuals each, and were nomadic hunter-gatherers. There is no archaeological evidence that these bands competed with one another (for food availability, for instance). Nor, within the bands themselves, is there evidence of any domination of women by men (as in the anecdotal stereotype of the caveman who drags by the hair the woman he chooses as his mate).

Quite the contrary. In the process of developing a self-consciousness (an awareness of the self in relation to other human beings, to animals, and to the rest of nature's manifestations), the prehistoric being came to distinguish and reflect upon the two mysterious events that delimit life: its beginning (birth) and its end (death). By identifying these with some supernatural power, he conceived for the first time the notion of the divine. And by associating the emergence of life with the woman's body — and perceiving it, unlike the male body, as governed by the cycles of nature, just as the phases of the Moon or the seasons of the year — he came to understand the supernatural powers that generate and sustain life as having a feminine, rather than a masculine, nature.

Contrary to the prevailing view that the great inventions that advanced humanity were always conceived by men, archaeological evidence indicates that the shift from a four-limbed posture to an upright one — which freed the hands and subsequently enabled the development of manual skills — was first accomplished by women. For hundreds of millennia, Paleolithic bands were exclusively gatherers before also becoming hunters, and the transition to an upright posture came about through the "choice" to begin transporting food as well — so that it could be shared and stored, rather than simply picked up and immediately consumed.

The primary impulse for the development of the human brain arose from the bond between mothers and children, not from the coordination among men required for hunting. The first human-made artifacts were receptacles for carrying food and infants, as well as tools used by mothers to soften the plant-based food necessary for the survival of babies and young children — many millennia before the first hunting spear was sharpened. According to anthropologist Nancy Tanner, *"Offspring with mothers intelligent enough to find, gather, pre-chew and share food with them had a selective advantage (...) Among those surviving children, those most capable of learning and*

developing their mother's techniques, and those who, like their mothers, were willing to share, in turn had children with greater chances of living long enough to reproduce".²¹

Around 10,000 BC, the transition between the Paleolithic and Neolithic periods of what is called prehistory began. This transition corresponded to the discovery of agriculture and animal husbandry, as human beings ceased to be nomadic hunter-gatherers and came to live in a more settled relationship with the land. These two possibilities (agriculture and animal husbandry) were not mutually exclusive, but the primacy of one over the other would determine the nature of the society that would follow.

Two distinct paths then unfolded: one that led to the emergence of patriarchy, and another that gave rise to partnership societies. Let us first examine the latter.

In a natural continuation of the Paleolithic sociability of a feminine character, in those warmer regions with fertile soils and abundant water, the ancient Paleolithic bands gave rise to tribes that prospered through agriculture and gradually merged, until, around 7,000 BC, they gave birth to civilizations founded on partnership between men and women — considered as equals — as well as with nature, regarded as an indivisible whole of which men and women were a part.

These civilizations were peaceful and based on cooperation among their members and on the distribution of the fruits of collective labor among all — resulting in very little or no inequality, even if roles of authority and/or priesthood were defined. In studying these civilizations, Archaeology found no hierarchical differences between the tombs of men and those of women, nor among the tombs of men themselves, nor among those of women. From the clothing depicted in mural paintings, it was determined that men and women dressed in a quite similar fashion.

Property was not private but communal. These societies flourished, reaching remarkable achievements in the fields of ceramics, bone and stone sculpture, trade, navigation, art, writing, and even metallurgy (around 5,500 BC) — the latter considered by Archaeology as the other defining marker of a civilization, alongside the use of writing.

As Eisler tells us: *"(...) we only need look at the shrines of Stonehenge and Avebury to realize that already in the Neolithic (...) the relationship of these enormous stones with the movements of the Sun and Moon, as well as their shape, transport, and placement, required advanced understanding of mathematics, astronomy, and engineering (...) the people of Crete (...) built viaducts and paved roads, designed palaces of complex architectural layout, and had indoor plumbing, a thriving trade, and great knowledge of navigation (...) the material achievements of Crete are astonishing even by modern standards (...) Even more impressive, when compared to our modern world, is the fact that in these prehistoric partnership societies technological advances were basically used to make life*

²¹TANNER, Nancy M. *On Becoming Human*. Boston: Cambridge University Press, 1981, p. 268, *apud* EISLER, Riane T. *O Cálice e a Espada: Nossa história, nosso futuro*. Rio de Janeiro: Imago, 1989, p. 103.

more pleasant, and not to dominate and destroy (...) our early partnership societies, less advanced technologically and socially, were more evolved than the highly technological societies of our present world, where millions of children are condemned to die of hunger every year while billions of dollars are poured into ever more sophisticated forms of extermination".²²

What can be gleaned from the surviving fragments of Neolithic art is that the lives of those peoples centered on cultivating the land and generating both material and spiritual means toward the best possible existence for all — with a notable absence of representations of war, conquest, domination, plunder, spoliation, or exploitation. Women, as equals and partners of men, held prominent roles as clan chiefs and/or priestesses; and in general those peoples did not believe in God — they believed in Goddess, in a natural evolution of Paleolithic beliefs regarding the feminine nature of the divine. Instead of wrathful male deities wielding lightning bolts or weapons or dragging enslaved women in chains, the central religious image was that of a woman giving birth,²³ thereby expressing a worldview in which the mysterious powers governing the universe do not demand obedience from human beings or punish them, but rather give and provide. Those societies revolved around the love of life and the enjoyment of life, not around death and the fear of death.

Natural phenomena such as the phases of the moon or the metamorphosis of insects were, for those men and women, a continual source of remembrance and evocation — a reminder that all aspects of their own lives shared the presence of Goddess, and were filled with sacredness. Goddess occurred to them not as authority or power, but as an evocation of the harmony of all existence, in the legitimacy of the totality that dwells within Her. When examining the ceremonial figures of Goddess in Her various forms, one can see Her as a presence, an embodiment, a reminder and an evocation of the dynamic harmony of the continual transformation of nature through death and birth.

In that world, nothing existed in and of itself — everything was what it was through its connections with everything else. The self, the community, nature, and the world were one; all existences were interconnected, all came from Goddess and were Her because they were one with Her and with all other beings.

Within partnership societies, it is presumed that men and women lived their original natural sexuality — a dimension of experience from which humanity would become estranged, never to fully recover. Those peoples knew no shame or obscenity with regard to the body and to sex. The sexuality of each person was a pathway to pleasure, sensuality, and tenderness; people engaged with their own desire and the desire of others in a free (in the sense of unconditioned) way, and sex was experienced not as oriented toward procreation, but as an aesthetic of living. According to

²²See EISLER, Riane T. *O Cálice e a Espada: Nossa história, nosso futuro*. Rio de Janeiro: Imago, 1989, pp. 110-1.

²³By contrast, the central religious image over the past two millennia has been that of a man dying on a cross.

Eisler, *"In Minoan Crete, every aspect of the relationship between the sexes — not only the definitions and values of sex roles but also attitudes toward sensuality and sex — was naturally very different from ours. For example, the bare-breasted style of dress for women and the scanty clothing that emphasized male genitalia showed frank appreciation of sexual differences and the pleasure possible from these differences"*.²⁴

If hierarchy existed — even if the positions at its apex were generally occupied by women — then power also existed. Yes, there was power, but not the mode of power that exacts obedience through coercion (the use of force) or intimidation (fear of force) — that is, power as domination. Rather, it was power as responsibility: the responsibility of care derived from the condition of being a mother. The exercise of power in those societies corresponded to the authority to call each person to their responsibility toward the whole, the collectivity.

Those men and women embodied and lived their responsibilities in the awareness of belonging to the totality of the world. Responsibility flows from a person's recognition of themselves as an intrinsic part of the world in which they live — and therefore responsible for preserving the harmony of that world — conscious of the consequences of their own actions and living in acceptance of those consequences.

Those societies are not called matriarchal, in opposition to the patriarchal societies of the past five thousand years, because a matriarchy would imply a domination of men by women, and in that sense would merely be the equivalent of patriarchy, simply inverted. Just as the very existence of those modes of society is still not accepted today by entrenched academic thought, no established terminology for them has yet been agreed upon (Eisler proposed calling them "gylanic," and Maturana, "matristic"). Let us continue, therefore, to refer to them here as "partnership societies."

Even the language used here — in referring to "modes" of power (power as domination, masculine, or power as responsibility, feminine) — may seem strange. But this is only because the sole reference we have (over the past five thousand years) is that of power as domination through force or the fear of force. Our mental frameworks simply hold no room for an idea of power that is otherwise.

Meanwhile, in the transition from the Paleolithic to the Neolithic, in those more arid and colder regions, settling on the land through agriculture was not an option. In those areas, human groups occupied themselves with following the annual migrations of wild animal herds. They were not yet herders, therefore — they were hunters of those herds they accompanied, just as other predators were, such as wolves.

The transition to herding came about when groups began to confine the animals on which they fed — which changed from wild herds to domestic flocks — with those groups shifting from bands to

²⁴See EISLER, Riane T. *O Cálice e a Espada: Nossa história, nosso futuro*. Rio de Janeiro: Imago, 1989, p. 70.

tribes and settling on the land, at least until the pastures were exhausted and the tribe was compelled to move on.

The motivation for that confinement of the herds was twofold: to make the animals more readily available to the tribe, and to restrict wolves' access to them.

Unconsciously, the establishment of a boundary (the fence) — by denying wolves access to their natural food — for the first time introduced the notion of appropriation and, with it, private property. The wolves would eventually die — either from the deprivation of their food or from direct action by tribe members protecting the flock — and so, also for the first time, death shifted from being a sacred event proper to the natural harmonious order of the world (in which a life is taken so that another may feed from it and thus continue living) to being an act in which a life is taken with the aim of preserving a property — suppressing a threat to the artificial order materialized in that property. All appropriation requires the defense of what has been appropriated.

Also arising for the first time was insecurity — brought about by the continuous vigilance required to protect the flock from wolves, in place of the trust that had existed in the harmonious order of the world and in the sense of belonging to the totality that encompassed everything. Since the lives of those herders could only be sustained through the care of the appropriated animals and the defense against wolves, trust in the coherence and natural balance of existence was lost. The attitude toward life shifted from confidence in the spontaneous fertility of a sacred world to an anxious quest for security. Distrust in any harmony intrinsic to existence would lead to the desire for domination and control.

Security regarding the availability of the means of life was turned into a preoccupation — to be assuaged both by the exclusion of wolves through the act of killing them and by the growth of the flock under the herder's care. The procreation of the animals, once an event entrusted to the natural coherence of the world, was turned into a need to be met.

Appropriation and the valorization of procreation led to a permanent drive for growth — a growth that no longer knew any limit: a constant desire for more, an unending accumulation of everything that might provide security. From the fear of losing that security came the fear of death as a source of pain and total loss.

In counterpart to the act of hunting — in which the animal hunted for food was a friend — there arose also, in the act of killing driven by insecurity, the notion of the enemy: the animal to be simply killed. Enmity corresponds to the recurrent desire to negate a particular other (the wolf as the first among enemies²⁵), and it was thus that the instruments of hunting began to be converted into

²⁵It is neither accidental nor coincidental that in patriarchal myths the worst enemy of man is precisely the wolf — even though in the wild, wolves do not attack human beings. Paradoxically, it was the less aggressive

weapons. Technological development came to be oriented toward combat — for example, through the invention of arrows with sharpened stone tips and the use of horses as mounts in confrontations.

Those Neolithic patriarchal tribes were compelled to move on whenever pastures ran out, at which point they came into contact with one another and competed for territories. The constant necessity of confronting rival tribes led to a primacy of physical strength — and within the tribes, men came to impose themselves over women, given the smaller size and lesser physical strength of the latter. From that point, the notion of male superiority over women was established, and with it, the culture of domination. For Eisler: *"The two basic human types are masculine and feminine. The way the relationship between men and women is structured thus represents the basic model for human relations. Consequently, the dominator-dominated relationship with other human beings is internalized from birth by every child raised in a traditional, patriarchal family"*.²⁶

The domination of women by men, and the valorization of procreation, were followed by a binding of women's sexuality to procreation — and consequently by the control and ownership of women's sexuality, in their capacity as procreators, by the herder/patriarch. His appropriation of the woman's sexual life went hand in hand with the appropriation of her children. Children and women lost their ancestral freedom and became property. And the women of pastoral families — through the association of their sexuality with procreation — became, alongside the females of the flock, the source of the patriarch's wealth.

Appropriation and property, insecurity and the quest for security, enmity, the valorization of procreation, and the ideal of unlimited growth — once established and consolidated — were extended to other domains of existence, coming to bear upon nature, the land, other tribes, ideas, and beliefs. This gave rise to an entire mode of coexistence that valorizes competition, struggle, war, hierarchy, authority, power, obedience, the appropriation of resources, and the rational justification of the control and domination of others through the appropriation of truth. In a word: patriarchy.

It is therefore no accident that even today, when we wish to correct what we call social injustices, we speak of *fighting* poverty and abuse; when we want to protect the environment, we speak of *combating* pollution; faced with a natural phenomenon that constitutes a disaster for us, we speak of *confronting* the *aggression* of nature. We live, in short, as if all our acts required the use of force.

The valorization of the procreation of the females of the flock and of the women of the tribe resulted in demographic explosion — both animal and human. Uncontrolled population growth, the

wolves, which approached human bands in search of food scraps, that were eventually domesticated at the end of the Paleolithic, giving rise to the countless breeds of the domestic dog, considered man's best friend.

²⁶See EISLER, Riane T. *O Cálice e a Espada: Nossa história, nosso futuro*. Rio de Janeiro: Imago, 1989, p. 214.

exhaustion of pastures, and the resulting forced migrations brought different communities into contact.

War, piracy, political domination, and slavery followed — along with the development of a warrior spirit, oriented toward plundering the flocks of defeated tribes, enslaving their women, and looting their possessions (weapons, tools, etc.), as well as conquering their territories. Migrations became massive, in search of new resources to be appropriated, in a movement of conquest, piracy, and domination. After all, if appropriation and enmity are legitimate, if authority, domination, and control are characteristics of how a human community lives, then piracy is possible — or even natural.

In those regions favorable to agriculture, partnership societies flourished until, around 5,000 BC, the herding tribes — originating from the more arid regions and oriented toward territorial conquest and the plundering of their occupants — developed the capacity to travel long distances, and eventually reached the fertile valleys in which partnership societies, pacific by nature, had taken root.²⁷

In the eyes of the pastoral, patriarchal warriors, life in the partnership societies was, in every respect, the complete negation of their own lives: in beliefs, in values, in way of life, in their God. Their certainties could not admit such stark contrast — and so, rather than assimilating, they set about devastating, burning, demolishing, destroying, until nothing remained.

In the clashes that followed, over the period between approximately 5,000 and 3,500 BC — between, on one side, quite rudimentary tribes and, on the other, civilizations far more advanced in every respect except the art of war — partnership societies were not merely decimated; their civilizational records were devastated almost entirely, making the task of reconstruction in the present day exceedingly difficult. Unlike Egypt, Mesopotamia, and the civilizations that followed — such as Greece and Rome — those societies were erased almost completely.

This is one of the two great reasons why we have heard virtually nothing of those societies — in which men and women lived in harmony, and in which living well, for all, was the general norm, rather than the competitive and rampant individualism we know all too well today.

But the other great reason — and the principal one — is cultural. We have been immersed for five thousand years in a patriarchal culture, with no point of reference for the existence of societies that

²⁷The work of Lithuanian archaeologist Marija Gimbutas identifies and describes three "waves" of invasions by pastoral peoples, originating from the Asian steppes, over the territories occupied by partnership societies — established in places such as the shores of the Caspian Sea, the Caucasus, Mesopotamia, Anatolia, across the entire Balkan peninsula extending to what is today southern Poland and western Ukraine, and in Crete and Cyprus. The first wave occurred from 4,300 to 4,200 BC, the second from 3,400 to 3,200 BC, and the third from 3,000 to 2,800 BC (dates established by dendrochronology).

were not patriarchal.²⁸ We have thus come to take patriarchy as the inescapable destiny of human socialization. Even within Anthropology as a scientific discipline, scholars have enormous difficulty escaping this mental conditioning. If even the recovered fragments of ancient Egypt, Babylon, Greece, or Rome already require some degree of interpretation in order to be rendered plausibly intelligible, the interpretations that would be necessary for partnership societies would go, moreover, in a direction opposite to the mentality consolidated over the past five thousand years — which is, after all, the only period we know even minimally well.

According to Eisler: *"Prehistory is like a vast jigsaw puzzle with more than half its pieces destroyed or lost. It is impossible to reconstruct it completely. But the greatest obstacle to an accurate reconstruction of prehistory is not the absence of so many pieces; it is the fact that the prevailing paradigm makes it so difficult to interpret the pieces we do have and to project the true pattern into which they fit (...) in general, when there was evidence of an earlier period in which man and woman lived as equals, that period was simply ignored"*.²⁹ Furthermore: *"(...) the prevailing paradigm has blinded scholars to such a degree that in prehistoric figures of the (pregnant) Mother Goddess, they could only see fat Venuses — obese sexual objects for men"*.³⁰

This entire long digression has as its purpose to show that human beings are capable of living in partnership and of constituting healthy societies oriented toward the good life for all — rather than the barbarism in which we have been wandering like zombies for so long, and increasingly so. They are indeed capable of it, because they have done it before, even if in a long-lost past. Since they have done it before, that past is inscribed in humanity's collective unconscious, awaiting to be recovered when the right conditions and stimuli arise.

In the words of Eisler: *"Like time travelers, we have undertaken a journey, through archaeological discoveries, to a different reality. On the other side we find not the brutal stereotypes of an eternally corrupt 'human nature,' but surprising glimpses of a better life. (...) The ancient love of life and nature and the ancient ways of sharing rather than taking, of protection rather than oppression, and the vision of power as responsibility rather than domination have never died. But, like women and the qualities associated with femininity, they were relegated to a secondary plane. Nor has the human longing for beauty, truth, justice, and peace disappeared"*.³¹

²⁸The exception being tribal societies, either extinct or isolated.

²⁹See EISLER, Riane T. *O Cálice e a Espada: Nossa história, nosso futuro*. Rio de Janeiro: Imago, 1989, p. 59.

³⁰See EISLER, Riane T. *O Cálice e a Espada: Nossa história, nosso futuro*. Rio de Janeiro: Imago, 1989, p. 221.

³¹See EISLER, Riane T. *O Cálice e a Espada: Nossa história, nosso futuro*. Rio de Janeiro: Imago, 1989, pp. 144-5.

End of the interlude; end of the digression. Riane, thank you. In order to resume the thread of our reflections on a post-nuclear war world in Brazil, we need only address one remaining question: that of conflict within societies.

One of the obstacles to envisioning our lives in a partnership society is the belief that in such a society there could be no conflicts. Nothing could be further from the truth.

In our societies, we do not accept disagreements as legitimate situations — as starting points for action agreed upon through a shared purpose. On the contrary, we believe we must convince and correct one another, tolerating difference only in the confidence that we will eventually bring the other around to the right path — which, of course, is our own. And we call a harmonious relationship "peaceful" — meaning, for us, an absence of war, as if war were the inescapable human activity.

In acting this way, we in effect refuse to acknowledge the obvious truth that people are different from one another — that they think differently, feel differently, interpret the same things differently. Conflicts, therefore, are inevitable. It is simply impossible for any human grouping to exist without conflict.

In our ailing world, conflict has been made synonymous with dispute and violence. This, however, is a mistake. Conflict can and must come to be perceived as diversity — different ideas, different visions and beliefs, different interests and needs, different postures and attitudes, different desires, and so on — diversity that is natural and inherent to our human condition. These multiple manifestations of diversity are parts within a whole: fragments of a comprehensive totality with a shared purpose and a shared meaning, which is society as a whole. Diversity can and must be legitimized, so that it may then come to be perceived as potential richness, as a resource. A society that makes the best possible use of the diversity it contains — or: in which the collectivity draws maximum benefit from the individualities within it — prospers more, and more quickly.

In short, diversity means conflict. And conflict is necessary and good. But can diversity (and conflict) give rise to animosities? Always. A partnership society, however, will need to be grounded on a common foundation — on values shared by all. Those values must uphold a precedence of collective interest over individual interest. It will be this common foundation of shared values that mitigates the risk of conflicts sliding into animosities, while at the same time fostering the constructive potential of conflicts (collective learning through the harnessing of diversity).

It is a mistake to assume that a precedence of the collective over individualities inevitably leads to a "dilution" of those individualities within the collective. Societies of "single thought" (best illustrated by George Orwell's *1984*) are rigid, tending toward regression rather than progress. In recent history, collectivist proposals that sought to amalgamate individualities under the pretext of the "common good" either failed or reinvented themselves so as not to fail as well.

A true partnership society will need to value both the collective and the individual — not least because each develops only in relation to the other. The richness of diversity stemming from individualities is what will drive the collective to progress, to the benefit of all. And it will be the collective (society) that provides the means for each person to live their existence as fully as possible, in the expression of their singular individuality.

In other words, a precedence of collective interest over individual interests does not imply a devaluing of individualities — quite the contrary.

Individualities — that is the key. Individuality must and needs to be valued. Individualism, however, does not.

In today's societies, what is most valorized is individualism — which can be defined as a precedence of each individuality not only over the collective, but also over all other individualities (those of others). A free-for-all, every man for himself. This expansion of individualism has exacerbated the ancestral destructive aspects of the domination society (patriarchy) — which has always established and maintained dominator-dominated relationships through violence in all its forms, not only physical violence. Violence that does not resolve the natural and inevitable conflicts — it suppresses them, thereby also squandering any possibility of constructive and creative resolution.

Because we have grown accustomed to this forced suppression of conflicts, we have come to associate conflict with destructiveness. And it is precisely for this reason that we fear conflict and dismiss it, rather than accepting it and valuing it for its constructive potential.

In our societies, to what extent do people tend to openly and freely express what they think? To what extent do they tend, upon hearing the ideas of others, to feel at ease commenting, criticizing, suggesting modifications? In other words: to what extent is conflict welcome — or even accepted? To what extent are people willing to value the company of those who think differently from them?

It is out of fear of conflict that many people avoid expressing their opinions fully; they weigh their words, reading the context in which they find themselves, venturing their opinions cautiously, pulling back if necessary. They know that others also avoid exposing their ideas if those ideas might be challenged — fearing that doing so will damage their image in the eyes of others.

Who loses in this state of affairs? Everyone. The collective. Welcome, then, diversity. Welcome, conflict. May we all learn to live with diversity, to deal with conflict in healthy ways, and to mitigate the animosities that may arise and cause conflicts to derail — wasting their creative potential.

This text would never have been written if one did not believe it possible to build — even after a nuclear war — some better society from the rubble of this rotting one. In any event, as Keynes said, *"The expected never happens; it is the unexpected always"*. Or, as [Morrissey](#) sang (perhaps prophetically), *"because if it's not love then it's the bomb that will bring us together"*.

In short, the future is always open — always at the mercy of the unforeseeable and the imponderable, especially when it comes to the actions of human beings. Despite the entire flood of adversity, two factors are in our favor: most likely, we will emerge from nuclear war with our infrastructure intact; and for now, we still have some *time* before the war — during which we can try to undertake some preliminary preparation, even if insufficient.

I have already written in this text that it is *not* certain that there will be a nuclear war (the future is always open...), even though I consider it quite probable. From the bottom of my heart, I hope to be wrong. I am driven by utopias — but no utopia is worth the price in pain and suffering that a nuclear war will exact. If it must be so, however, let us then bid farewell to this unhappy world.

In a post-nuclear war world, capitalism will collapse (and, let us be honest, it is long overdue). At that point, the great problem will reside in the self-preservation of identity, according to Maturana and Varela's theory of *autopoiesis*³². Both individuals and societies have been operating under capitalism for so long (for centuries) that their "regularities in internal correlations" in this regard are by now far too consolidated — and thus the process of "updating" them will be both painful and slow. The greater the inertia of change, the more precious time will be lost in the futile effort to salvage a bankrupt and unrecoverable system, instead of doing what truly matters.

And what truly matters will be to care for what will remain when capitalism has collapsed: people.

In the first instance, people will need to have their survival assured — water, food, shelter, and energy (energy for pumping and heating water, cooking and preserving food, and nighttime lighting). And this will have to be pursued in the midst of chaos.

Life in cities serves a capitalist requirement of economies of scale — bringing workers closer to the means of production. After a nuclear war, cities will be the worst place to be — not only because of the collapse in the supply of water, food, and energy, but because they will pack thousands or even millions of people into a small space, virtually all of them unraveling in the face of chaos.

"Time is what cities would not have" (Fred Reed). No restoration — capitalist or otherwise — will be possible in time to aid people stranded in cities. What will be needed, as soon as possible, is to evacuate those cities and disperse their populations across the least densely populated areas possible.

Consider this: there is, as yet, no post-capitalist world. What exists is only a process of transition — disordered and chaotic — toward "something" whose nature is unknown, something not even intentionally being constructed. If it comes to be built, it will happen in practice, haltingly and by trial and error.

³²See [Appendix](#).

In terms of access to water and food, then, people will need to — as soon as possible — move to where there is cultivable land, organize themselves into rural communities, dedicate themselves to communal subsistence agriculture (which will be more productive than strictly family-based farming), reach understandings about access to and use of available water sources, and learn to live in community (for example, with the community caring for children and the elderly, or with meals shared communally — to economize on firewood and minimize food waste).

What would become of the land question — Brazil's eternal open wound? It would simply cease to be one, and in that sense it would be resolved. A large landowner cannot maintain their status as such without employees, foremen, or the equivalent. These people will stop showing up for work — because each of them will be busy looking after their own family's survival, as will everyone else. Say this landowner is a cattle rancher. To whom will he sell his cattle? And even if the cattle are not raised on feed (which he would no longer be able to buy) but rather on open pasture, who is going to round them up at the end of the day? In short, there will no longer be any point in large landowners clinging to their lands (of course, respect for the homes in which they reside with their families is to be expected — the premise being that there is enough land for everyone). Finally, there will no longer be real estate registry offices — except as suppliers of old paper for starting fires.

A parenthetical note: a "reactionary" is someone who reacts against social change. For those reflexively reactionary, allow me to be more explicit: I am not the one proposing an end to private property; what will inexorably put an end to private property will be the civilizational collapse — an immeasurable catastrophe of which I too will be a victim. All I am proposing is that we try to deal with the civilizational collapse in a minimally orderly fashion, in the interest of everyone (including reactionaries) — and to those who intend to safeguard private property: good luck. End of parenthetical note.

With access to water and food addressed, however precariously, the question of shelter can initially be mitigated by converting farm outbuildings (sheds, warehouses, etc.) into collective lodgings — until the community manages to provide better accommodations for all.

Another parenthetical note: we will not be starting from scratch. The accumulated experience of organizations already dedicated to providing land for planting to those who have none (the MST, Brazil's Landless Workers' Movement) or housing to those who have none (the MTST, the Homeless Workers' Movement) will prove enormously valuable. End of parenthetical note.

Everything discussed so far will be the "less difficult" part of the problem. The more difficult part will be maintaining essential services — especially with regard to energy supply. And let it be clear that by "essential services," I do not mean services essential to the continuity of the economy (which will no longer exist), but only those services essential to people's survival: electricity, cooking gas, water and basic sanitation, road freight transport, gas stations along the roads (even if only for diesel: *"the elimination of transportation might cause more death than the bombs"* — Reed), and a

minimum of communications to relay guidance to people and also to ensure that communities do not remain isolated and can perceive themselves as parts of a larger social whole.

The workers needed to minimally maintain these services are not necessarily the same employees of the companies that provided those services before the war — they are whoever is able to do the job, including retirees, former employees, people who had migrated to other fields, or even laypeople who can be trained for some basic functions. The crucial point will be: who takes care of the families of these people, so that they can volunteer to keep these essential services running for everyone's survival? Ideally (though improbably), this task should be supported by whatever remains of the State; failing that, by the communities themselves — which will need to take in and care for these families so that those who will provide essential services can feel secure enough to do so.

Under the premise of intact infrastructure — that is, the physical means still being in place — what will be missing is the social organization to put them into operation and place them at everyone's service. Everything postulated here would be, at least in theory, achievable. But it will be improbable. Because the most difficult thing of all will not reside in the world outside people — it will reside inside them: overcoming the inertia of change. Coming to terms with the fact that the world has *not* ended (what ended was *that* world of before) — and that, if we are still alive, it falls to us to live our lives in this new open world, to be built by all, together.

As for capitalism: could it one day be restored? In the short term, obviously not. In the long term, it would in principle be possible — but in the long term, societies will certainly have realized that they can live better (far better) without capitalism than with it.

And as for the question of knowledge, and the magnitude of the regression from its loss: since civilization as we know it will have collapsed, all hope lies in the possibility — which is by no means guaranteed — that some new civilization might come to succeed it. The stock of knowledge held (and passed on to future generations) by this new civilization will be all the greater the greater our capacity to preserve and restore to use the largest possible portions of current knowledge — with the understanding that losses (and thus civilizational regression) will inevitably occur.

There is no chance of anything of the sort occurring in the Northern Hemisphere. Perhaps parts of Russia and China will be spared — if those countries' missile defense systems manage to shoot down the overwhelming majority of American missiles. Perhaps India and Pakistan — if they do not seize the opportunity to destroy each other. The best hope for the planet will be the survival of South America and Africa. If — if — they manage to some degree to survive the civilizational collapse, then with luck it may over time become possible to salvage some remnants of knowledge from what remains in Europe, the United States, China, or Japan.

It is imperative to safeguard as large a volume as possible of knowledge records immediately. But it will be equally important to constitute a new web for the circulation and renewal of knowledge —

which is what keeps knowledge alive. For records of knowledge that have been saved are of no use if they are not accessed by people capable of understanding them. In this regard, it may be as or more fruitful to attend to foundational knowledge (people's capacity to absorb knowledge — in a word: education) as to applied knowledge (the practical application of knowledge). As already noted, children cannot go without schooling, at the risk of impairing their cognitive capacities. If it proves impossible to keep constituted schools in operation (let us remember that teachers will also be focused on looking after their own families' survival), the community must take on that responsibility. To that end, the lesson plans and class plans already in existence for each subject in each school year will be indispensable documents. Every person holding knowledge that can serve to educate children, young people, and even adults must be enlisted. In a barter economy, such knowledge should be highly valued.

For the new society being built to recover minimum civilizational standards, it will be necessary for professionals such as engineers to once again be able to perform complex calculations — as they do routinely today through the calculators and spreadsheets that will no longer exist. An old tool, now forgotten yet still available for purchase, widely used until the 1970s as a kind of "pre-electronic calculator," is the [slide rule](#). This tool will need to be rehabilitated (as will trigonometric, logarithmic, root, and other tables, for those who cannot obtain a slide rule). Furthermore, these engineers will need to begin understanding the mathematical principles behind their calculations, just as programmers will need to retrace the path back and reacquire the capacity to program in machine languages.

Regarding whatever remains of computers and the internet, priority should be given to restoring the power supply to existing specialized supercomputers (and may God spare them from an electromagnetic pulse), while efforts should be made to "island" geographic areas in which it may be possible to establish successors to the current internet — operating as fragments of it — which may gradually be interconnected to form larger networks. (Russia already has an entire [alternative](#) infrastructure of its own, separate from the internet, a demonstration of how important it is for countries to prepare for a post-nuclear war scenario.)

What enables knowledge not only to be preserved but to evolve — what makes knowledge something living in itself — is the immense (worldwide) web of human interrelationships and interdependencies through which knowledge circulates and renews itself. With a nuclear war, the current web will be broken and lost forever. All we will be able to do is begin weaving a new one. If we prove genuinely good at it, it will still take decades — and with luck, perhaps our grandchildren's grandchildren will once again be able to enjoy our current standard of living. In short: it will not be for our own sake that we do this. It will be for future generations. It will be for the human species.

But either that happens, or humanity will lose knowledge as the primary factor of production — its civilizational engine. If the factor of production reverts to being land, we will have regressed by

millennia — and it will take millennia to return. If it reverts to capital, it will take centuries. For it to take "only" decades, we will need to be capable of weaving a new web for knowledge.

The value that human beings attribute to land and to capital is by no means absolute or immutable. What do land and capital have in common that they do not share with knowledge? The answer: both land and capital are *outside* people, whereas knowledge is *inside* them. According to the theory of *autopoiesis*,³³ everything that is outside people does not constitute them — it is not part of their identity; it is merely their external environment, internally referenced by each person as a way of flowing (living) within that environment ("coupling" with it). We saw³⁴ that over time this constitutes a shared culture that stabilizes, with tradition taking on enormous weight (inertia) — assuming the form of a collective identity. Yet we also saw that such internal references may come to be redefined in response to the need to update identities — and that is precisely what will happen after a nuclear war. It may take some time, but people will eventually feel the internal pain of realizing that it was their dysfunctional identities that led them to the war and to all the external pain it caused. Humanity as a whole may then renounce tradition and embrace a new collective identity.

Once all people are simultaneously experiencing the hardships of survival, they may identify with one another in an unprecedented way — on a planetary scale. It may then become possible to arrive, also in an unprecedented way, at a collective consciousness of humanity. Only then may it become possible for land to be made communal, and for money to be stripped of its allure as a passport to accumulation, ostentation, consumption, and the pursuit of pleasure — and returned to its original condition as a medium of exchange.

There will be no middle ground: either we will be capable of making the evolutionary leap of constituting a collective consciousness of humanity as a whole, or we will squander — and dishonor — the entire evolutionary trajectory of humanity up to this point. We will dishonor every drop of blood shed and every cry of pain endured so that we might emerge from the caves and arrive at where we are today.

So far, we have discussed what might constitute broad guidelines for a social reconstruction effort in a post-nuclear war world. Drawing from them, a prior planning exercise — while we still have time for it — could encompass (among many other things):

- Psychological support for people as they navigate their individual transitions to the new reality;
- Practical guidance for them to begin operating in that new reality;

³³See [Appendix](#).

³⁴See [Appendix](#).

- Preliminary actions to mitigate the main infrastructure bottlenecks;
- Preliminary actions to preserve critical knowledge records; etc.

But all of this springs only from my own mind. A consistent, structured, and methodological planning exercise would arrive instead at a far more robust result — validating some of the points I have raised, discarding others, and adding still others, but above all *detailing* all of them.

Among the various planning techniques available, I consider scenario planning to be well-suited to this challenge. In a simplified form, that is what I have done here — indeed, the description I provided of a Brazil in the post-nuclear war world is the scenario I believe is most likely to materialize, not a prediction of what will actually happen, for what will actually happen is something neither I nor anyone else knows (as already stated here, the future is always open).

In a scenario planning exercise, various possible future scenarios are envisioned and detailed (for example: with or without electromagnetic pulse; with a mild or an intense nuclear winter; etc.). One of these scenarios is selected as the most plausible (the reference scenario), and the actions to be adopted for it are detailed in depth (without precluding the outlining of actions for the other possible scenarios as well).

For such prior planning, it will be important to bring together a critical mass of minds — because this will be a work of deliberation that should not be undertaken by one or a few people. Since one will be dealing with something absolutely unprecedented, the difference between a brilliant idea and a foolish one may lie in the smallest detail; every idea must therefore be submitted to the scrutiny of a group. The requirements for joining this group would be: systems thinking, creativity, thinking "outside the box," and teamwork — that is, nothing requiring any specific academic or formal background. Another requirement will be to be imbued with the purpose of transcending capitalism in order to build a society oriented toward the full flourishing of human life (to be detailed further ahead). It also helps for the person to have wisdom, to know human nature, and to be interested in understanding Brazil. Naturally, it will be important that methodologies for the collective construction of consensus be employed (please: do not convene these people around a table for that outdated and unproductive practice known as the "meeting"). The methodology I see as most appropriate is that of David Bohm's Dialogue Groups (which, by methodological requirement, must have a group size of around forty people) — but there are others, such as Harrison Owen's Open Space Technology or David Cooperrider's Appreciative Inquiry.

Could the Brazilian State take charge of this prior planning? In principle, of course it could — at bottom, this would be an exercise in civil defense, which is already a reality in several other countries: in Russia, from October 4 to 7, 2016, the government halted the country for four consecutive days, during which forty million people were trained to make their way to their respective nuclear shelters and to understand how to remain there for an extended period; the Scandinavian countries have for decades produced and distributed booklets and other materials

with guidance on how to act in the event of a nuclear war directly or indirectly affecting the country; in Switzerland, since the end of the nineteenth century the army has been abolished,³⁵ and practically every residence has both a shelter and weapons enabling the population to resist a potential invasion (and, of course, everyone receives training).

I do not believe, however, that the Brazilian State would be predisposed to undertake such a task. Once again, *autopoiesis*:³⁶ What has been the historical vocation (that is, the identity) of the Brazilian State since colonial times? To serve the powerful by exploiting ordinary people (a vocation enthusiastically resumed in the recent period from 2016 to 2022). And what is the vocation of the current government? To conciliate with capitalism — never to confront it. Would the Brazilian State spend resources on a hypothetical situation that no one wants to see happen? Would the Brazilian State plan for a future in which it itself will most likely cease to exist? Would the Brazilian State guide people to act against the interests it serves — such as, for example, occupying land? Very unlikely.

But were such selflessness possible, the State could conceive actions beyond the capacity of anyone else. For example, it could implement a universal income for all people (see this [article](#) by Yanis Varoufakis on the subject³⁷), thereby establishing the rudiments of a barter economy.

Naturally, the effort of conceiving a new world does not end with the mere survival of people. At least three distinct and successive phases can be envisioned: first, survival (water, food, shelter, energy — taking months to complete); second, subsistence (health, clothing, more effective care for children and the elderly, social norms accepted by all, arbitration bodies for conflict resolution — taking years to complete); and third, the flourishing of life (in Marxist parlance, "emancipation" — taking decades).

Once the subsistence of all is assured, there is no reason why societies should not organize themselves so that people can use their free time to live as fully as possible — that is, to: realize their potentials; express their innate gifts; contemplate nature; appreciate or create art; practice sports or take part in collective games; play; listen to music, or play an instrument; sing; dance; read, write, hear, or recite poetry; spend time with other people; make love in a detoxified³⁸ way, without

³⁵Abolished as an institution in itself; in practice, it was expanded to encompass the entire population (mobilized only in the event of war).

³⁶See [Appendix](#).

³⁷Varoufakis's proposal relies heavily on information technology (IT) which, as we have seen, will be compromised if not rendered entirely inoperable following a nuclear war. Even so, the State possesses means beyond anyone else's reach to conceive and implement a universal basic income.

³⁸Since time immemorial, the most distorted dimension of human life is, by far, sexuality. Human beings are so deeply and so long estranged from their original natural sexuality (a concept introduced on page 28) that it remains more plausible to define it by what it is not (its unnatural manifestations) than by what it actually

objectifying the other or oneself; pursue a path of spirituality; pray; fall in love; undergo therapy; develop self-knowledge; and, in a manner not necessarily related to any of the above, allow oneself to love and allow oneself to be loved.

Or to engage in activities oriented toward the common good — such as reforestation (healing) the planet, or, most important of them all: nurturing the physical, mental, psychological, spiritual, and social development of children, enabling them to come to enjoy their adult lives in fullness.

People who have already reached adulthood immersed in patriarchal culture will be capable of rationally understanding how a partnership society functions, but will not be capable of living in such a society in a completely natural and spontaneous way — since their psyches are already deeply conditioned in the contrary direction.

I draw here on a metaphor: the Exodus of the Jewish people toward the Promised Land. Once the crossing of the Red Sea had been accomplished, the distance remaining was relatively short — yet the Jews wandered in the desert for forty years. Why? To allow enough time for all those who had lived as slaves in Egypt to finally die, so that only a new generation, born free, would arrive in Canaan.

Across the millennia of patriarchal societies, people have lived what amount to two entirely distinct lives: childhood is seen by adults as an unreal world, or even as a paradise, in which trust is unconditional, time is infinite, and there is no worry. The child who has the opportunity to grow up in a psychically healthy environment develops immersed in mutual acceptance and sharing, in

is or should be. The advent of patriarchal forms of society led to an (unnatural) control of human sexuality, subordinating it to imperatives both patrimonial and of power. Throughout history, the means by which such control has been exercised are innumerable, with the repression of sexual desire under Christianity constituting just one more example. Under capitalism (which is to say, still today), sexual moral standards have been inculcated in the masses aimed at the domestication of libidinal desires, so as to suppress — together with sexual drives — the libertarian impulses toward social transformation, replacing them with a conditioning to aspire to "succeed" (to prosper) within the rules of the capitalist game (see in this regard ALTHUSSER, Louis P. "Ideology and Ideological State Apparatuses". *In: Lenin and Philosophy and Other Essays*. New York: Monthly Review Press, 1971, and MARCUSE, Herbert. *Eros and Civilization: A Philosophical Inquiry into Freud*. Boston: Beacon Press, 1955). In contemporary times, a multiplicity of factors compromising sexuality intersect in a highly complex way: beyond those more obvious ones intrinsic to patriarchy, such as gender violence, machismo, misogyny, homo- and transphobia, the redpill culture, etc., there are those less obvious factors, such as the psychic and even neurophysiological sequelae of continued exposure to pornography, or the induction of impulsive consumption through the manipulation of unconscious sexuality by the advertising industry (see in this regard KEY, Wilson Bryan. *The Age of Manipulation: The con in confidence, the sin in sincere*. New York: Henry Holt, 1989). This digression on the intoxication of human sexuality barely scratches the surface of the subject; for a fuller discussion, see for example the thought of [Clara Serra](#) or of [Franco "Bifo" Berardi](#).

cooperation, participation, self-respect, and dignity — in a social coexistence that arises and constitutes itself in living with respect for oneself and for others.

What follows is a transition in which the child is gradually conditioned to cope with life in the adult world — centered on competition and appropriation, in which relationships are ones of authority and subordination, and in which one seeks to exercise control over others' behavior. Precisely at the stage (adolescence) in which sexuality emerges, boys and girls are conditioned to mutually deny each other's sensuality — by suppressing the spontaneous sensuality and tenderness of everyday coexistence.

However thoroughly we may have been conditioned "in conformity" through this passage, it is necessarily a psychic violence — an extreme contradiction to be overcome through self-control and self-mastery. As a result, those most successfully conditioned will be the "winners" in the struggle for (of course) wealth and power; those who are "losers" will have to accept and live with the degradation of their self-esteem; and all — winners and losers alike — will be left to pay the price of inner misery, becoming neurotic or, as one says, "normotic."

Margaret Mead predicted that in the world of the future, children will be few and, precisely for that reason, highly valued. Overcoming this ancestral dichotomy between a natural childhood lived in partnership and an artificial adult life under patriarchy will thus be the greatest of all the challenges that will face us... for the next forty years.

Would the full flourishing of life to which we refer ultimately be communism? Yes and no. Yes, in that there would no longer be capitalist accumulation, nor the inequality it generates, nor the exploitation of man by man. But no, in that communism as a theoretical construct has nothing to do with what we envision here (to begin with, Marx anticipated communism as the consequence of the "advancement of the productive forces," whereas here we are conjecturing about a brutal regression of those forces). By a remarkable [synchronicity](#), a [video](#) was recently released about the thought of the Italian philosopher Franco "Bifo" Berardi, which clarifies this paradox to perfection. See: *"Bifo uses the word communism as a provisional conceptual tool; he does not refer to communism as an ideological configuration, a systematic project of transformation, or any political program. None of that. For Bifo, communism today means eradicating the superstition of accumulation and of wage labor. It means egalitarianism and the emancipation of social time. Techno-automatism demands less and less labor, yet generates a wave of fear, misery, and violence. This paradox is based precisely on the superstition of the wage. We have grown accustomed to thinking that our survival is only possible if we exchange labor for money — as if wage labor were a law of nature. It is not. To say 'communism' is to use the word to refer to a meme that needs to be created, designed, and set to work in the post-apocalyptic scenario. (...) what truly changes the rules of the game are unforeseeable events. Thought is discarded as ballast in the age of communication and speed. It seems ineffectual. Ornamental. (...) But it is the unforeseeable that is worrying. So let us not stop thinking, because the unforeseeable may soon demand thought — and that is our work."*

Thinking in times of apocalyptic trauma. Capitalism is not a given of nature. It seems natural due to our inability to imagine something beyond it. It seems we cannot imagine how beautiful life can be. Greed, conformity, cynicism, and ignorance are frustrating and diminishing our capacity to experience imagination. That is why Bifo Berardi suggests that we prepare our minds for the second coming (of communism)".

Is what I call prior planning — because we still have time to make use of the existing web of circulation and renewal of knowledge, and on the premise that in this part of the world we will emerge from the catastrophe with at least our physical infrastructure intact — *if* it comes to be done, enough? Obviously not. Given the magnitude of the civilizational collapse and the chaos that will result from it, all of this effort may in practice make no difference whatsoever. Or it may, on the other hand, prove to be the "little push" that makes all the difference. We simply cannot know. But given what is at stake, it is crucial that something be done — even if it ultimately proves futile should the war never come (and futile it will not be in any case, since some other form of collapse may occur, given that the world has already become chronically unstable). I borrow the words of Margaret Mead: *"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has"*. Two things fall to us: to fight the good fight (to do wholeheartedly everything within our power), and to have faith — while there's life, there's hope.

I have mentioned the advantages (and the improbability) of the Brazilian State taking on this undertaking — but nothing prevents one or more private entities from volunteering to do so. I personally place myself at the disposal of anyone interested and can be reached at: rjbnaveira@gmail.com.

I have devoted this text to reflecting on and proposing possibilities for *collective* action in the face of a post-nuclear war world. But I would not want to conclude it without addressing possibilities for individual action, on the part of each person. I am not referring here to practical provisions; for those, one can search online for "survivalism" — there is an entire world of information out there (with its own jargon; for example, those who stockpile food for long periods are called "preppers"). Furthermore, survivalism is generally focused on the survival of individuals, whereas I hope to have made it clear that any survival in a post-nuclear world will have to be — even more than community survival — a survival of society as a whole, in whatever new form it may take. One and all — or none at all.

To those who have had the endurance to reach the end of this text, I wish to say that I am truly sorry for the discomfort caused by addressing a topic as anguishing as this one. And I condense my final guidance into a single word — reconnect. Reconnect with nature, with others, and with yourself:

- Reconnect with nature: in this case, it means reconnecting with Mother Earth literally — with the soil, which is the ultimate provider of our subsistence. If a nuclear war comes, the worst place to be is packed together with thousands or millions of other people, all of them

unraveling at the same time. Begin now to sketch some route or plan of "escape" toward somewhere in the interior of the country — preferably an area with low population density;

- Reconnect with your people: the hardships of a critical life situation can be better faced if you have strong emotional bonds with those most precious to you. If for whatever reason life has led you to drift apart from people you hold dear, seek them out and open up to them with integrity and honesty — and try to get back in step with one another. The less alone you are, the better: reconcile, because now is the time (also because, if you or they end up departing from this life, you will not carry the weight of having drifted apart from them while alive);
- Reconnect with others, bearing in mind: one and all, or none at all. No one will be able to survive alone (and there would be no meaning in it). The prevailing culture of distrusting strangers until proven otherwise will need to be transcended. Predispose yourself to opening up more to people in general — to trusting them, to giving without receiving, and to asking when you need help. Recognize that you and they are parts of a greater whole, rather than separate individuals;
- Reconnect with yourself: for each person, the meaning of their life derives from what they do with the life they have — which obscures the fact that the ultimate meaning of everyone's life is simply to be alive. If a nuclear war comes, things we are accustomed to — accumulating, displaying wealth, consuming, and seeking pleasure — will become unattainable. Be open to the fact that you, by virtue of continuing to be alive, will be in a position to find new meanings and significance for your life — for what you will begin to do with the life you will continue to have. Eventually, such new meanings may be far more collectivist than individualist (with the collective oriented toward the well-being of each of its individuals) — why not? Of course, something of this kind will still need to be built. So — could the meaning of each person's life become how to contribute to the construction of this new world, oriented toward the common good? Being open to that possibility will be the first and most important step.

Peace in the world (and the avoidance of nuclear war) is certainly not within your reach — but your peace with nature, with others, and with yourself is.

APPENDIX

The Theory of *Autopoiesis* by Maturana and Varela

Nearly fifty years ago, Chilean biologists Humberto Maturana and Francisco Varela proposed a refounding of Biology as a science, rejecting the then-prevailing Darwinist explanation of the phenomenon of life in terms of physical chemistry (molecular interactions), and redefining life no longer as a universal phenomenon (something identical in all living beings) but as a singular one, particularized to each individual (each living being). Each living being would be endowed with an autonomous sense of self-preservation — a kind of identity of its own. Immersed in its environment and in the variations and changes of that environment, the living being permanently readjusts its internal correlations (its regularities), even arriving at physiological alterations, always in such a way as to preserve this individualized pattern of organization — this identity of its own. Maturana and Varela named their theory *autopoiesis* (the perpetual self-production of the self).

In short, the conservation of identity (internal to the living being) is the ultimate vital process — not adaptation to (external) changes. The result of any "adaptation" to external changes will be determined not by those changes, but by the internal dynamics of identity conservation — even though to an external observer the living being may appear to have "adapted to its environment," when in fact it has updated itself internally in order to remain congruent with that environment (in the terminology of Maturana and Varela, to remain "coupled" to its environment). Or: any conservation of adaptation to the environment is subordinated to the conservation of identity — one may thus say that the living being "changes so as not to change" (it updates itself, appearing to adapt, in order to conserve what it already is).

Living beings, in the course of this "natural drift" (coupling) in congruence with the variations of their environments, end up establishing internal correlations (that is, creating regularities) as modes of referencing external patterns of variation. This is equivalent to saying that each living being specifies (creates) *its own* external world, *its own* reality, which is thus in no way universal or absolute for all of them. Researchers have established that even bacteria are capable of establishing internal correlations as a means of referencing external variations, such as cold-hot or alkaline-acid; when subjected to ambiguous circumstances (conflicting stimuli), each bacterium is capable of "deciding" in an individualized fashion.³⁹

The conservation of identity (*autopoiesis*) and the conservation of adaptation are mutually dependent, but do not determine each other: the latter is a consequence of the former, which

³⁹See ADLER, Julius, TSO, Wung-Wai. "'Decision'-making in Bacteria: Chemotatic Response of *Escherichia coli* to Conflicting Stimuli". *Science*, vol. 184, pp. 1292-1294, 1974.

precedes it; conversely, if the conservation of adaptation ceases, the living being's interactions with its environment become disintegrating interactions, such that *autopoiesis* also tends to cease and the organism to die. Or: since the conservation of identity occurs through the production and renewal of internal regularities, the counterpart of the conservation of identity is an inertia of those regularities which, in the face of abrupt changes in the environment, tends to constitute an obstacle to the conservation of adaptation. The following are some examples:

- In the 1940s, experiments were conducted with salamanders in which part of the musculature of one eye of a larva was severed and the eye was then inverted (rotated 180 degrees). After development to the adult stage, insects were successively placed in the same position relative to the salamander: when its inverted eye was covered, the animal projected its tongue and captured the target with perfect precision; when its normal eye was covered, the animal projected its tongue into empty space — in exactly the opposite direction from the insect.⁴⁰ The internal correlations between the cells of the retina and the nerves controlling the motor muscles of the tongue remained unchanged, regardless of the external "reality" seen;
- This experiment with salamanders had, in an analogous fashion, already been conducted with human beings: at the end of the nineteenth century, George Stratton adapted to himself a pair of glasses with lenses that caused him to see the world upside down. After approximately one week of severe disorientation, his vision once again generated images in their habitual positions; a few days later he removed the glasses, whereupon for several hours everything was once again seen upside down, until finally his nervous system recovered its original correlations.⁴¹ In short: following an abrupt external change, the process of reconfiguring internal correlations to recover congruence with the environment requires time;
- In a television experiment, Alain Bombard presented two glass tanks: one containing polluted water in which an octopus swam freely, and another containing clean seawater; upon transferring the octopus from the polluted water to the clean water, it convulsed, collapsed, and died.⁴² That animal had spent its entire lifetime adjusting its internal correlations so as to maintain congruence with the polluted water in which it had been born, and had virtually no time to update those correlations when confronted with the sudden change to clean water;

⁴⁰See SPERRY, Roger W. "Restoration of Vision after Crossing of Optic Nerves and after Contralateral Transplantation of Eye". *Journal of Neurophysiology*, vol. 8, pp. 15-28, 1945.

⁴¹See STRATTON, George M. "Some Preliminary Experiments on Vision without Inversion of the Retinal Image". *Psychological Review*, vol. 3, pp. 611-617, 1896; "Upright Vision and the Retinal Image". *Psychological Review*, vol. 4, pp. 182-187, 1897; and "Vision without Inversion of the Retinal Image". *Psychological Review*, vol. 4, pp. 341-360, 463-481, 1897.

⁴²Extracted from page 25 of GUATTARI, Felix. *As Três Ecologias*. Campinas: Papirus, 1990.

- An analogous episode had also occurred, inadvertently, with human beings: from December 1944 onward, as the end of the Second World War approached, the Nazis began the mass transfer of the remaining prisoners from their concentration camps to the Bergen-Belsen camp in northern Germany, overcrowding it severely. When it was liberated by British troops in April 1945, there were approximately 60,000 prisoners there. The soldiers, moved by compassion at the skeletal condition of the survivors, gave them their high-calorie rations — and approximately 14,000 [subsequently died](#). Having been subjected to extreme starvation, their organisms had, in order to survive, redefined the level of electrolytes in the blood to a minimum, and the abrupt production of digestive enzymes led to hypophosphatemia (a drop in phosphates), which caused cardiorespiratory failure.

Far beyond bacteria, salamanders, or octopuses, the human being — being not only social but civilizational — constitutes a special case among living beings. The theory of *autopoiesis* thus explains the transition from prehistoric man (animal) to historical man (still animal, but also civilizational) by considering language as a biological phenomenon. What distinguishes human beings from other animals such as dolphins (which maintain among themselves a primarily auditory language) and chimpanzees or gorillas (capable of learning from humans the rudiments of gestural languages, such as those used by the deaf-mutes) would not be their cognitive learning capacities, but rather their superior vocalization capacities — which led to the emergence of language, and only then to the advancement in learning.

Many animals are capable of communication (ants, for example), but language is a particular case of communication, which emerges when the communications themselves can be turned into elements of the environment — that is, when they become referenceable through specific internal (in this case, neuronal) correlations. Once they become elements of the external environment, they also begin to operate as perturbations (variations in the environment) for individuals — perturbations whose compensation draws upon the coordination of the conduct of individuals in reciprocal coupling. Put differently, communications come to constitute descriptions of the environment, descriptions with which one can interact: two or more people engaged in the task of digging a hole distinguish in language, by common consensus, elements of their world such as "stone," "land," or "shovel," and by interacting with those distinctions, coordinate their conduct. But from the moment one of them begins to call the hole a "cistern," "silo," "grave," or "trash pit," a new consensus about that shared world emerges.

It was by having developed this capacity to interact recursively with its own internal neuronal states (the capacity for abstraction) that the human being began to expand its cognitive domain (learning) indefinitely; and, possessing language, there are absolutely no limits to what it may come to describe.

The characterization of *autopoiesis* requires that there be physical (cellular, molecular) production of the components of organisms by those organisms themselves — which, by scientific rigor, would

not apply to societies. Given this restriction, Maturana and Varela preferred to designate as "autonomous" (rather than autopoietic) those situations in which: two or more living beings become coupled, mutually specifying "environment" for one another; such coupling facilitates their individual autopoieses; the interactions between them become recurrent, and the conduct of each ends up becoming a function of the conduct of the others; finally, this reciprocal coupling ends up becoming stable — at which point there arises what is called an autonomous unit: an insect colony, a pack of animals, an ecosystem, a human society.

The one who makes the leap from Biology to Sociology and shows that human social systems are also self-producing is Niklas Luhmann. Already in the 1960s, Luhmann was devoting himself to understanding legal-judicial systems, and perceived them as self-referential. The identity of these systems derives from a principle of impartial application of the laws, independently of whether or not those laws are in consonance with the circumstances of the moment. Since the legislative bodies responsible for updating the laws do not possess the agility sufficient to keep pace with the changes that unfold across all dimensions of societies, throughout the world legal-judicial systems are becoming increasingly outdated, by subordinating the compensation of any perturbation arising from the environment (society) to the conservation of their historically consolidated identities.

With the advent of the theory of *autopoiesis*, Luhmann was finally able to obtain the foundations he had lacked for the completion of his theory of society, according to which both social systems and psychic systems (persons) are formed by processes of production of meaning (*Sinn*) which, continuously and recursively, produce those systems (whereby Luhmann converts the very notion of system from spatial to temporal — from a constitution by physical components to a constitution by events). What distinguishes psychic systems from social systems is the nature of the meaning-producing processes (in psychic systems, states of consciousness; in social systems, interactions). Both operate in a closed (autonomous) manner in the conservation of their identities, and they constitute distinct domains, mutually dependent on each other for their own generation and conservation, yet not determinant of each other — which implies that there is no direct causality between the actions of persons and the constitution of social systems. Each social system possesses a "life" unto itself.

Thus, just as living beings (autopoietic systems) are, so too are social systems self-maintaining, or "self-conserving." Any contingencies in the external environment occur only in the capacity of perturbations, and any internal changes made to compensate for those perturbations will necessarily be subordinated to the conservation of identity. The social system creates *its own* reality ("its own world") by perpetually establishing and readjusting internal correlations as modes of referencing external patterns of variation: for millennia, for example, navigators ventured into the seas terrified by the prospect of falling off the edge of the world — a world that was, for everyone, flat; for millennia too, the men who saw the Sun rise on one side of the sky and set on the other believed the Sun to revolve around the Earth — it was only after inventing a telescope and confirming Copernicus's thesis that the Earth revolves around the Sun that Galileo came to suffer

dramatically the inertia of tradition, and the risks of proposing a reality (a world) diametrically opposite to that held by everyone else. It behooves us to ask: which among our contemporary "realities" will not, in the future, be equally reduced to the status of mere superstitions?

This process by which we human beings subordinate our understanding of the world to the conservation of our historical identities is far too subtle to be perceived by us, and thus goes unnoticed. In the groups I facilitate, I customarily propose an exercise: I ask participants to form pairs with people they know little or not at all, and assign them the task of getting to know the other person by asking questions and writing down both the questions and the answers on a sheet of paper. When the task is complete, I tell them: *"Now forget the answers you wrote down — what matters here are the questions each of you asked. Now ask yourself: why did you ask THOSE questions? What does each of them have to do with YOUR own life?"*. In the discussion that follows, an apparently neutral question such as (for example) *"where do you live?"* — when the thread is pulled — may lead (for example) to the realization that the person chose to live near their workplace to reduce commuting time, even though they would prefer to live somewhere else that is far away. That (the advantages and disadvantages of where one lives) is an open and important question in their life. By asking *"where do you live?"* of a stranger, they are — more unconsciously than consciously — seeking to answer their own life question.

Another example: there circulates in addiction treatment circles an anecdote about an Alcoholics Anonymous meeting in the United States, in which the facilitator reportedly proposed to the assembled group an exercise in direct contact with objective reality. He took two glass containers and filled one with water and the other with alcohol; he took a tiny worm and let it drop into the container with water: the worm sank, and a few seconds later began to move, reached the surface, and wriggled to the edge. The facilitator retrieved the worm and this time let it drop into the container with alcohol: it sank again, but remained motionless; moments later it began to disintegrate. After some time, nothing remained of the worm but a cloudy region in the midst of the clear liquid. The facilitator then asked: *"Did everyone see that?"* Yes, they had all seen it. *"And what conclusion can we draw?"* A hand was raised: *"I understand that if we drink alcohol, we won't have worms."* That alcoholic had updated his internal correlations (arrived at an understanding of what he had witnessed) in a manner referenced upon who he was — an alcoholic.

To an external observer, the behavior of this person may appear "irrational" (someone who sees a living being die when immersed in alcohol failing to grasp that alcohol would be harmful to life) — but this is because any judgment by an observer is made from the vantage point of the observer's own identity. The understanding that arises from the identity of the alcoholic, on the other hand, is in no way irrational — it is the understanding proper to that person, within his rationality as an alcoholic.

The digression is now complete. I invite you to return to our [point of departure](#): the probable nuclear war.