SLOW DOWN OR DIE

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THE ECONOMICS OF DEGROWTH

Translated from the French by Claire Benoit

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Custom would have me start this kind of book by observing the extreme gravity of our situation. I could serve up the usual inventory of ecological cataclysms and their social consequences, choose a few shocking statistics, and embellish with an anecdote or two to capture the reader's attention. But why waste time? Everybody knows there is a crisis without precedent in the history of humanity. Each day, the environmental collapse[1] we now face inflicts its crop of disasters, and few by now would dare deny the crushing responsibility of our species.

Welcome to the Anthropocene. Coinciding with the start of the Industrial Revolution, it is the name scientists gave to that period "during which human activity is considered to be the dominant influence on the environment, climate, and ecology of the earth."[i] It is thus humankind as a whole (*anthropos*), the rowdy hominid family, that bears responsibility for the apocalypse: a general sin that gives us each equal cause to blush, and whose expiation can only be collective.

All of humankind, really? In 2021, the richest 10% of households in the world owned 76% of the world's wealth and snatched more than half of all income, that is, 38 times more wealth and 6 times more income than the poorest half of the world's population.[ii] Worse yet: the richest 1% (only 51 million

[i] Per the definition in the *Oxford English Dictionary*.

[ii] According to the "World Inequality Report" (2022, pp. 26-27), the top

people) have captured 38% of all of the wealth generated since 1995, while the poorest half have only gotten 2%. Same thing in a country like France, where the wealthiest decile owns nearly half of the country's wealth and takes a third of all income.[iii]

With the right to riches comes the right to pollute. The richest 10% in the world are responsible for half of all greenhouse gas emissions.[2] Wealth and emissions are almost perfectly symmetrical. This "pollution elite"[3] pollutes four times more than the poorest half of humankind.[iv]

The injustice of this "planetary apartheid"[4] is twofold: the rich pollute and the poor suffer. The Somalian fisherman who sees his fish supply dwindle and the sea level rise has probably never taken a flight; he has contributed neither to the warming he inherits, nor to the overfishing. Nevertheless, he will be among the first to pay the price, and he will pay it in full. It is the most vulnerable populations, starting with those in the poorest countries, who drink polluted water, breathe toxic fumes, live by landfills, endure floods and heatwaves, etc. The notion of the Anthropocene masks profound inequalities: even if we all belong to the same species, we are not equal, neither in our

10% of the global wealth distribution represent 517 million people with an average monthly income of €7,300 and an average net worth of €550,900. They own 76% of the world's wealth and earn 52% of all income. The poorest half of the world's population includes 2.5 billion individuals; they earn on average €230 per month and own on average €2,900 in assets. This poorest half owns only 2% of the world's riches and receives only 8% of global income.

[iii] According to the "Rapport sur les riches en France" (2022, pp. 12-13), the richest 10% of French people—those with a minimum monthly income of €3,765 (4.5 million people) and a minimum net worth of €607,700 (2.9 million people)—own 46% of the nation's wealth and receive 28% of all pretax income.

[iv] According to an Oxfam report ("Confronting carbon inequality," September 21, 2020), half a million people have already used up 56% of the carbon budget that would limit warming to 1.5°C, while the poorest 2.5 million have only used 4%.

responsibility for nor in the dangers we face from the ecological catastrophes of today and tomorrow.

Let's say it plainly: ecological disintegration is not a crisis, it's a beating.[5] Climate change is a "slow violence,"[6] a diffuse violence, a decay that grinds gradually and out of sight, primarily affecting the most impoverished populations today, but that will, little by little, creep up the social ladder. This situation has nothing to do with some supposed human nature; rather, it is the symptom of a specific social structure, narrowly aligned with a certain global political vision. At least, that is the argument I will present over the course of this book: the primary cause of ecological derailment is not humanity but capitalism—the hegemony of economics over all else and the frantic pursuit of growth.

Let's forget, then, the *Anthropocene* and opt for the terms *Capitalocene*, *Econocene*, and *GDPocene*.[7] Let's cut to the chase: the economy has become a weapon of mass destruction. Economist Serge Latouche echoes Hannah Arendt and speaks of a "banality of economic evil":[8] a system that orchestrates the massacre of the living while diluting the culpability of those responsible. Everyone diligently goes about their task, justifying their actions by telling themselves that if they didn't do it, others would.

How many bankers are rushing to invent new toxic financial products and how many engineers are hard at work designing superyachts? How many executives lay off staff because of "the economy"? How many advertisers promote harmful and futile products? How many slaughterhouse workers mechanically brutalize and kill animals? How many lobbyists lie to protect fossil fuel interests? I've got bills to pay, they might say when reproached for destroying the world. If I don't do it, someone else will.

This violence is an emerging phenomenon—a sort of spontaneous disorder that no one directly anticipated, yet is,

absurdly, sustained by our most innocuous social behaviors. One must pay back a loan, pay a bill, satisfy the shareholders, make money; we are hostages of a system that predetermines behaviors we would otherwise consider immoral.

Would we lend our friends money with predatory interest rates? Would we devise ad campaigns to pressure our loved ones to buy products they do not need? Would we decide to lay off a friend because someone on the other side of the planet can work for less? No, obviously not. If the cobalt mine were in my backyard and my children worked in it, I would think twice before upgrading my phone.

But we don't have a choice. The economy imposes itself on us via certain rules we are expected to respect: a price, a work contract, a mortgage, accounting principles. The problem is not the existence of the economy itself (all societies have always organized their productive activities in one way or another), but the rules that we give it and the central objective that drives it: *growth*. Whether it's individual income, company profits, or a country's GDP, it seems that in economics, *more* is always synonymous with *better*.

What is growth? The word is everywhere but never really explained, let alone deconstructed. A magic bullet in election campaigns, an unfailing answer to families' despair, it has so penetrated the imaginary of our contemporaries that no one hesitates to share their opinion on the matter. Yet, few people know not just what growth is and how it is measured, but also its complex links to nature, employment, innovation, poverty and inequality, public debt, social cohesion, and quality of life. Born from an accounting concept in the 1930s (the Gross Domestic Product), growth has become a myth with a thousand connotations. Progress, prosperity, development, protection, innovation, power, happiness—growth is no longer just an indicator, it is a symbolic vessel filled with collective and individual projections.

Green growth, circular growth, inclusive growth, blue growth; fifty shades of growth but always growth. The influence of this growth matrix on our collective imagination is such that rather than consider the consequences of our economic model on the planet, we worry about the impact of global warming on GDP. It's the world turned upside down. We can easily imagine our planet in all sorts of *Black Mirror*-esque dystopias, but to imagine an economy where we produce less than we do today is considered heresy.

Growth had, once upon a time, a clear function: to revive the American economy after the Great Depression, produce the equipment necessary for war, end famine, eradicate poverty, sustain full employment, or rebuild Europe. Measuring it allowed us to evaluate our progress toward these various goals. Over the decades, the indicator became the objective: growth for growth's sake, no more underlying aim. But production for production's sake is an objective without substance. We, living in countries envied by the rest of the world, continue to sacrifice our time and resources to produce and consume more, even though we have nothing more to gain—and so much to lose—by insisting on increasing our GDP. Like a young adult who, having just finished their growth spurt, is determined to keep getting taller, without understanding that, past a certain age, growth is no longer measured in inches.

As I write these words, every added inch is earned with pain. The Earth is overheating, societies are burning out, and GDP is becoming a sort of "countdown to doom."[9] A terrifying countdown because it's exponential: the bigger the economy, the faster it grows. Growth at an annual rate of 2% doubles the size of the economy every thirty-five years. We are on a bus speeding faster and faster toward a cliff, and we celebrate every added mile per hour as progress. It's madness. Maximizing growth is like stepping on the accelerator with the absolute certainty of dying in a social and ecological collapse.

We could use terms like *soft landing*, *downsizing*, *degrowth*, *de-escalation*, *descent*, *harmonization*, *restraint*, or some other analogy. The challenge ahead of us is one of less, lighter, slower, smaller. It is the challenge of restraint, frugality, moderation, and sufficiency. But it is also a matter of soft-landing, not crashing; a diet, not an amputation; a slowdown, not a hard stop. We know we must slow down, and now we have to imagine how to intelligently plan this transition so that it happens democratically, in the interest of social justice and well-being.

To do so, we must free ourselves from the "mystique of growth,"[10] meaning we need to denaturalize economic growth as a phenomenon. We urgently need to lend a critical eye to practices we have normalized[11] as natural and universal. Should every company make a profit? Should we let the markets decide what we produce? Should a government aim to increase its GDP? The argument I will defend here is that growth is not a destiny but a choice.

The implications of this thesis are more important than they appear: if growth is not caused by human nature but by certain socially constructed institutions, then it is possible to imagine an economy that can function without necessarily producing and consuming more. This is the aim of this book: to imagine *degrowth* as a transition toward a *post-growth* economy.

Here is the twofold definition that will guide us throughout the book: "degrowth" as a *downscaling of production and consumption to reduce ecological footprints, planned democratically in a way that is equitable while securing well-being*. Degrowth, to what end? Answer: toward "post-growth," a *steady-state economy in harmony with nature where decisions are made collectively and wealth is equitably shared, allowing us to prosper without growth*.

The challenge that awaits us is threefold: understanding why the growth-driven economic model is a dead end (the rejection), outlining the framework of a post-growth economy (the

projection), and conceptualizing degrowth as a transition to get us there (the journey).[12] Throughout the coming chapters, this book advocates a simple yet radical idea: growth has become an existential crisis. From here on out, our survival depends on our ability, or inability, to change our economic model.

1
The Secret Life of GDP
Between Phenomenon and Ideology

Economists sing its praises, politicians worship it: economic growth is our mantra, "the perpetual quest" of our economic policies, as the French Ministry of the Economy's website openly proclaims.[1] The true barometer of our modern societies, Gross Domestic Product (GDP) controls the weather. It's the number to know, the one heads of state repeat over and over again to justify their rank among great nations and that most of the press discusses seven days a week. Everywhere and in concert, whether we're poor, rich, tenants, landlords, workers, or civil servants, we're supposed to tout and pray for that vaunted growth.

But what is growth? An increase in GDP, some would say. But what else? Defining growth as an increase in GDP is like describing heat as an increase in temperature; it's a description without explanation. Like dark matter for physicists, growth has its own secrets that economics textbooks do not reveal. Yet, unveiling them is necessary to understanding its role in the crisis we now face. Because if growth has become the main driver of social and ecological unsustainability, understanding and demystifying it is our only escape.

The Anthropological Economy

To talk about *economic* growth, we have to define—or rather redefine—what the economy is and what it's for. The "sphere

of market exchange" only captures a tiny part of our lives. Imagine the economy instead as an iceberg; what goes on in stores, factories, or government agencies—what we know how to quantify, the economy that the GDP measures—is only the tip of a much larger structure.

Our way of understanding and studying the economy is the result of a series of exclusionary choices. National accounting consists in taking inventory of certain activities; we include so-called "economic" production (primarily market activities) and we exclude everything else (e.g., ecosystem services, mutual aid, volunteer work). But this division is merely a methodological convention. Just because some statisticians decided it's too difficult to integrate pollination and reciprocity into national accounting doesn't mean they have no value. *What counts cannot always be counted, and what is counted does not necessarily count*—a phrase all economists should learn by heart.

To start, let's take the iceberg out of the water and expand our definition of the economy to *the social organization of need satisfaction*. The term actually comes from the Greek *oikonomia*, the management of the household (*oikos*, house, *nemein*, to manage). Hunting, fishing, harvesting, industry, craftsmanship, cryptocurrency, flea markets, public hospitals—every human community forms an economy once it organizes itself collectively with rules and procedures to meet its needs. This is a fundamental starting point: the economy is first and foremost a form of mutual aid; it's about doing together what we could not have accomplished alone.

The economy I would call "anthropological" is not measured in euros, but in kilograms of raw materials used, in joules of energy mobilized, in hours of labor. Before even mentioning money, which is only an intermediary form of value, the economy is about *time*, *effort* (energy), and *matter*. These are the three principal sources of value, the primary

flows without which no economy (no matter its system of organization) could exist.

Now let's divide all economic activity into five big groups: *extraction*, *production*, *allocation*, *consumption*, and *elimination*.[i] By *extraction* I mean the mobilization of a natural resource—I cut down a tree in the forest. *Production* then transforms this resource into a product—I use the wood to build a chair. *Allocation* (from the Latin *allocare*, to place) transfers this good, either by donation (I give the chair to a friend), reciprocity (I lend it to a friend), distribution (I give it to a collective body that then distributes it to someone), or sale (I exchange it for money in a market). *Consumption* is the act of using, which can be individual (the person who winds up with the chair sits on it) or collective (to sit on a public bench)—this is the need satisfaction stage. Once the chair loses its utility, we will consider it waste and get rid of it (*elimination*).

These five fundamental activities form the perimeter of the anthropological economy. Their purpose revolves around a concrete goal: to satisfy *needs* in the broadest sense of the word, that is, everything a community could possibly want, whether essential or superficial. This is a second important point that we often forget: the economy is a means, not an end. The ultimate purpose of an economy, if indeed there is one, should be to advance our "capabilities for flourishing,"[2] to improve our quality of life, our existence. An economy is supposed to *better* manage finite resources, but this goal of *economic efficiency* (the careful management of limited resources) is only a means to achieve *economic sufficiency* (that is, having enough of everything we need and want).

[i] This terminology can too easily confine us to a specific relationship with nature. *Extraction* implies a form of pillage and *elimination* suggests discarding waste into an environment separate from ourselves. Certain pre-modern communities were animated by a less violent cosmology, one that should make today's Western economists think: what if we thought of "extraction" as a "loan" from mother nature that we must eventually repay?

Our definition takes clearer shape: the economy is thus the *collective organization of contentment*, or at least of its material conditions. An economy that does not satisfy the needs of its participants—or at least of the vast majority of them—is useless (and we will see that this is the case for whole swathes of contemporary capitalism). Because what is the use of collectively organizing to extract, produce, allocate, consume, and eliminate if it does not allow us to live more fully? This is a radical starting point, because in several chapters it will lead us to admit that the pursuit of infinite economic growth is an absurd goal—in Sisyphus's image, life spent pushing the heavy boulder of the GDP.

In his "matrix of fundamental needs," the economist Manfred Max-Neef catalogs nine types of need: subsistence, protection, affection, understanding, participation, idleness, creation, identity, and freedom.[3] According to Max-Neef, we satisfy these needs through four existential strategies: being, having, doing, and interacting. The need for subsistence, for example, requires *being* in good health, *having* decent housing, being able to rest (the *doing*), and being able to fully participate in social life (*interacting*). We work in order to produce what our family or others need or to pay our bills (the need for subsistence), to socialize (the need for participation, for affection), to learn (the need for understanding), to be considered a useful member of the community (the need for identity), to undertake new projects (the need for creation), etc.

According to economist Amartya Sen's "capability approach," poverty is not the lack of money but the incapacity to satisfy a need.[4] Well-being flows from what people are capable of doing with the means at their disposal. Poverty is therefore plural: to find oneself without shelter is to be *subsistence*-poor; without access to work, *participation*-poor; without skills, *creation*-poor; without free time, *idleness*-poor, etc. And the same goes for wealth. We can be *affection*-rich by being close to those

we love, *participation*-rich in a stimulating group environment, *identity*-rich through language, religion, or custom, *protection*-rich thanks to an expansive social safety net, etc.

Our quality of life depends on the consonance between our needs and the means at our disposal. Money, for example, is only one means among many, and it is primarily what it allows us to buy that determines its capacity to satisfy our needs. This is an essential point: what counts, in the end, is not "purchasing power" but "living power."[5]

For a long time, most economists defended the idea that human needs were limitless, thereby justifying the fantasy of perpetual growth. But take a moment to ask yourself: which of your needs are really infinite? Material needs are quickly satisfied. Enough food for a balanced and diversified diet, enough space and comfort for decent housing, enough clothing to dress, enough pavement to walk on, etc. Most immaterial needs follow the same logic of sufficiency: enough friends to feel socially fulfilled, enough freedom to undertake projects, enough free time to do what we feel like doing, sufficient access to education and to culture, etc. We can therefore refine our anthropological definition of the economy by presenting it as the *social organization of need satisfaction*.

The satisfaction of most of our needs takes on a collective dimension, even if we don't realize it. Even the most solitary activities, like reading this book, depend on a host of collective activities. Therefore, and here is the essential point, the satisfaction of our needs can be realized under different social configurations. We can feed ourselves with what we grow in our garden or what we buy at the corner store. We can seek care in a public hospital or in a private clinic. Needs like protection and participation can be satisfied through socio-economic institutions like social security or civic service. Other needs flow from the interaction of several elements: *idleness*, be it made of dreams, games, or parties; the *affection* that

flows from our relationships with humans and non-humans; and *identity*, sometimes tied to our person, to our job, or to the customs of our community.

The economy comes in as a supply system that, through extraction, production, allocation, consumption, and elimination, enables the satisfaction of needs. This cycle takes place on three different time horizons: well-being in the present, that well-being's resilience to shocks, and the sustainability of this supply system in the long run.[6] An economy that satisfies today's needs at the expense of future needs is an economy doomed to collapse (it is *unsustainable*); same thing for an economy that collapses at the slightest crisis (*fragile*), or worse yet an economy that cannot even satisfy the present needs of its participants (*useless*).

The economy so defined is universal in the sense that it contains the diversity of all systems that have ever existed. The chair can be made of wood, plastic, or iron; built at home, by a for-profit private company, a cooperative, or a public enterprise; it can be gifted, lent, exchanged, or distributed (the four modes of allocation: donation, reciprocity, exchange, and distribution); it can be consumed individually, collectively, in every way and for every possible and imaginable reason; then repaired, recycled, discarded, or destroyed.

The different forms of capitalism, from the liberal market model to the social-democratic model by way of Asian capitalism, the different forms of communism, from Soviet bureaucracy to Cuban decentralization, as well as feudal and tribal economies, and the hunter-gatherers that came before them: all of these communities have extracted, produced, allocated, consumed, and discarded in one way or another to try to meet their needs.

The History of GDP

This anthropological economy is not the economy we hear about in the news. How did the quasi-totality of the economic iceberg find itself plunged underwater? About a century ago, the national accounting revolution gave birth to what has now become the matrix of economic life: GDP.

Its invention goes back to the Great Depression of the 1930s in the United States.[7] With entire industries in agony, a flood of bankruptcies, a stock market collapse, and an employment rate in freefall, the economy was in cardiac arrest. The American government was desperately trying to stimulate activity, without really being able to evaluate the effectiveness of its interventions. In 1932, Simon Kuznets, a Russian-American economist who had arrived from the Soviet Union in the early 1920s, was tasked with developing a national accounting system—a sort of inventory of economic activities. Kuznets had a brilliant idea: aggregate all production in an economy into a single number, the Gross National Product (GNP), ancestor of the Gross Domestic Product. In other words, Kuznets invented a kind of blood pressure monitor to take the pulse of the whole economy. Useful, since it allowed for evaluating the effectiveness of public interventions. If it went up, that was good—you had succeeded at resuscitating the economy. If it didn't move, no impact—you needed to continue the resuscitation and try something else. If it kept plummeting, that was worse.

Once the 1929 crisis had ended, the government continued to use this measuring instrument, which would prove essential to organizing a spectacular surge in arms production during World War II. In 1953, the United Nations published the first international accounting norms, following Kuznets's methodology, thus making GNP a global indicator—with the exception of the Soviet Union, which preferred to use "Net

Material Product" and "Gross Social Product"[ii] before accepting the United Nations framework in 1988. In the 1990s, Gross National Product (GNP) became Gross *Domestic* Product (GDP), no longer measuring economic activities on the basis of their nationality (all French units of production, even those located abroad, contribute to the French GNP) but based on their location (only those situated in France, whether French or not, contribute to the French GDP).

These statistical conventions have essentially stayed the same to this day, despite five revisions in 1960, 1964, 1968, 1993, and 2008. The official document that explains how to calculate GDP defines it as the "sum of the gross value added of all resident institutional units engaged in production."[8] Value added is defined as "the value created by production," or more precisely "the contribution of labor and capital to the production process." GDP growth is therefore the increase from one period to another of the sum of value added produced by an economy.

It's impossible to estimate this value added without defining the scope of "economic production." And it is in the choice to include or exclude certain activities within the measurement framework that today's vision of the economy takes shape. Here is the definition the national accounting system gives for activities admitted into the economy's perimeter: "an activity, carried out under the responsibility, control and management of an institutional unit, that uses inputs of labor, capital, and goods and services to produce outputs of goods and services." This includes marketable and monetizable activities, along with certain non-market activities whose monetary value is easy to gauge.

[ii] Developed in the 1920s, the "Gross Social Product" measured the total value of the production of physical goods (public services and activities were not included), and allowed one to calculate, by subtracting intermediate consumption, the "Net Material Product."

GDP is thus the solution to one gigantic addition equation, as if an enormous calculator summed up all the value added by production considered economic. This addition can be done in three different ways.[9] We could sum all *value added* (sale price minus intermediate consumption, meaning the purchases necessary to the production of the good or service); or sum all *expenditure* (the purchase price of a product intended for consumption); or sum all *income* (remuneration of employees and operating surplus). As these three aggregates are, by convention, accounting equivalents (the consumption and spending of some are necessarily the production and revenue of others), the different methods of calculation lead to the same figure: GDP.

We talk about *Gross* Domestic Product and not *Net* Domestic Product (NDP), because the former does not take into account the "depreciation of capital," in other words, the loss in value of certain production factors like the deterioration of roads, the electrical grid, or buildings. If we include only machinery and infrastructure in *capital*, the difference between GDP and NDP is negligible. However, if we broaden the concept of capital to include nature (*the depreciation of natural capital*) and even the health and well-being of workers (*the depreciation of labor*), GDP growth may be offset by the degradation of ecosystems and individuals it has caused—we'll come back to this.

Kuznets's idea may very well be brilliant, but it would be wrong to think that GDP's strength stems from its conceptual simplicity or ease of calculation. Most economists don't know how this figure is calculated, a task mastered only by a handful of specialized statisticians. Its construction relies on so many hypotheses that interpreting it proves no less perilous. To rejoice at an increase in GDP without understanding how it is calculated is like rejoicing at the sight of a stocked fridge without knowing what's inside.

The Boundaries of GDP

Seeing governments' reckless infatuation with using Gross National Product in public policies, Simon Kuznets, its creator, sounded the alarm. As early as 1934, he declared to the U.S. Congress that "the welfare of a nation can scarcely be inferred from a measure of national income," and would go on to say: "Distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and the long term. Goals for more growth should specify more growth of what and for what."

The indicator indeed has several limitations.[iii] GDP is but a selective and approximate estimation of production, and only assuming a certain conception of value. It measures not the anthropological economy, but a simplified and quantifiable representation of it. Of course, national accounting statisticians had no choice at the time; to be able to measure the economy, they had to shrink its perimeter according to the data available. Let's put ourselves in their place: it's hard to add up physical quantities measured in baskets of leeks, tons of hand sanitizer, and hours of massage therapy. To estimate production as a whole, GDP adds up these goods and services based on the monetary value they hold in the market.

This method is imperfect. First of all, outputs with no monetary equivalent are not accounted for, or only partially so. GDP measures *exchange value* but not *use value*. Kuznets's decision to assess products by their price forces us to exclude everything that does not have one. If I publish an open access book on the

[iii] This critique of indicators is not new. In France, it was developed in the late 1990s through the work of Dominique Méda, Jean Gadrey, Florence Jany-Catrice, Isabelle Cassiers, Patrick Viveret, among a dozen other thinkers gathered around FAIR, the Forum pour d'Autres Indicateurs de Richesse (the Forum for Other Indicators of Wealth). See: D. Méda, "Promouvoir de nouveaux indicateurs de richesse: histoire d'une cause inaboutie," Fondation Maison des sciences de l'homme, 2020.

web and a record number of people read it, because no one was paid to write it, it will not be accounted for in GDP. But if that book is commercialized and sees record sales, the book will be an asset in the eyes of national accounting. In both cases, the book and its readership are identical. But in the eyes of GDP, what does not give rise to a monetary transaction has no value. Caring for your children, cooking for your loved ones, organizing a community board meeting for your neighborhood—all of these activities, though they create value for society, are not counted in GDP.

All volunteerism, without which our society would be paralyzed, is excluded from GDP. Imagine what our society would look like without the 20 million volunteers that animate community life in France.[10] The world of sports would disappear overnight without all those who run amateur sports clubs. The Salvation Army, the Red Cross, WWF, Restos du Coeur, Secours Populaire, Action Against Hunger, Little Brothers of the Poor, Agir pour l'Environnement: organizations that could not be more economic (as they serve to satisfy needs) but whose activity is underestimated, ignored even, because a large portion of those who work for them do so as volunteers. Targeted marketing of useless products brings in GDP points, while taking care of a sick child or taking in an abandoned animal scores none.

The value of production in the public sector, though measured since the 1970s, is severely underestimated. Health, education, and public transportation are accounted for in GDP, but only up to certain quantifiable costs (mainly wages), and without taking into account their real value added, which is difficult to estimate without there being a sales price in the market. By contrast, we can easily calculate the value added of market activities by subtracting the cost of intermediate consumption from sales revenue, which includes the company's profits. Public sector value added is measured only in wages, while

private sector value added is measured in wages and profits. Because of this bias, the same service contributes more to GDP if it is produced by a private company than if it is produced by a public entity, not only because private wages are often higher, but also because the private sector must remunerate for an additional factor of production, via shareholder profits.

Another criticism: this addition approach draws no distinction between the desirable and the detrimental. The GDP calculator has only one button and it's a "+." The production of a vaccine, of a smart fridge, of a speculative financial product, of antidepressants, or of hours of cleaning after an oil spill contribute to GDP in the same way: these outputs are added in according to their market value. A lavishly paid trader who speculates on food commodities "produces" more in the eyes of GDP than a childcare worker making minimum wage. The volunteer work of activists fighting to protect a forest has no quantifiable value, while the paid work of those who will raze it constitutes value creation in the national accounting sense. A private and more costly education system like the one in the United States will represent a greater contribution to GDP than a public system that is comparatively cheaper but better performing, like the one in Finland.

GDP is a quantitative indicator that informs us about the volume of cash flows. But since it tells us nothing about the positive or negative nature of the goods and services produced, its growth isn't necessarily good news. The statisticians who constructed GDP were actually the first to emphasize that it would never be an indicator of well-being. "GDP is often taken as a measure of welfare, but the SNA [System of National Accounts] makes no claim that this is so and indeed there are several conventions in the SNA that argue against the welfare interpretation of the accounts."[11]

Even for specific sectors or products, market values are bad at reflecting changes in quality. If the real price (meaning

adjusted for inflation) of a computer turns out to be the same in the 1990s as in the 2010s, it will be counted exactly the same way in GDP, even if the more recent model is considerably better performing than the old one. What may seem like a subtlety proves problematic when applied to the measurement of entire sectors whose performance is fundamentally qualitative, like health or education.

Finally, the most damaging defect: GDP ignores nature. Its calculation protocol says so in black and white: "a purely natural process without any human involvement or direction is not production in an economic sense."[12] While bees spend hours tirelessly pollinating our agricultural outputs (an example of ecosystem production), they are excluded from the value added by agriculture recorded in GDP. A tree only has value when cut down and sold, but its own production by the biosphere and the services it renders throughout its life (producing oxygen, capturing carbon, cooling the air, stabilizing soil, protecting biodiversity, etc.) don't count. Or, according to an example in the United Nations' national accounting handbook, "the unmanaged growth of fish stocks in international waters is not production, whereas the activity of fish farming is production."

And if nature doesn't count, its destruction leaves no trace in the national accounting books. Forest fires will ultimately boost GDP through the spending generated to put them out. Even if ecological capital is thereby impoverished, the value added will have been recorded via the firefighters' wages and the gasoline sold to fuel their trucks. The latest ICPP report, when defining GDP, states that it is determined "without deducting for the depletion and degradation of natural resources."[13] By this logic, and to ecologists' great horror, exterminating the last members of an endangered species in order to sell them and eat them in a restaurant would increase the "value added" to the economy.

Economist Éloi Laurent aptly sums up the situation: "growth faithfully accounts for an increasingly insignificant

part of human activity: goods and services but not their allocation; market transactions but not social ties; monetary value but not natural quantities"; GDP is "blind to economic well-being, blind to human well-being, deaf to social suffering, and mute on the state of the planet."[14] Conferences are regularly organized and reports regularly written to move beyond this indicator, but thus far without any notable effect: GDP continues to reign over the political governance of nations.

Growth: A Question of Size and Speed

We often compare the economy to a cake to be shared, and growth to a way of making it bigger so that we can each get a bigger piece. But GDP's notion of "product" does not mean accumulated wealth. GDP does not measure a *stock* of wealth (the total balance in a bank account or the number of fish in a lake) but a *flow* of wealth production over a given period (the money and fish added each year).

Since we cannot differentiate between monetary flows that enrich and those that impoverish (one of GDP's limitations), celebrating or decrying GDP movements is fallacious. Two people can bake the same cake in two different ways, one being a less experienced baker who will surely spend more time fixing their mistakes along the way and cleaning up the kitchen afterward. But the cake (wealth) will be the same, despite the two different baking styles (GDP).

What we call, perhaps too readily, "growth" is more like an intensification of *economic agitation* than an increase in total wealth. Picture a snow globe whose every snowflake is a monetary transaction. What GDP measures is the agitation of the flakes in the snow globe, a sort of measure of the monetary economy's effervescence. Accordingly, we can increase GDP in two different ways: by adding snowflakes to the globe, or

by shaking the globe more vigorously. This yields two types of growth: one based on the *expansion* of the market economy's perimeter (the addition of snowflakes) and the other based on the *intensification* of the types of transactions that already exist.

Let's start with *expansive growth*. By the economy's perimeter, I mean the monetary economy's proportion compared to everything else (meaning, the line between the emerged part and the submerged part of the iceberg). Every time we transform something that was outside of the monetary sphere into a product that can be sold, the economy's perimeter expands.

A fish, which existed before being fished, will only add to GDP once commercialized. If you catch the fish yourself in order to feed yourself, that act of production will remain outside of the quantifiable economy. However, if you decide to sell the fish at a market, GDP will grow—or rather, swell—for there will be one more sale to record in the national accounts. Nothing has really changed—the fish is caught and eaten—but its commodification (the fact that it becomes a commodity sold in a market) inflates GDP.

Another example: the creation of Airbnb expanded the size of the monetary economy by transforming a service that until then had not been a commodity. An economy where all apartments are rented via CouchSurfing (a platform that connects hosts with people looking for free, short-term accommodation) would have a smaller GDP than an economy where they are all rented via Airbnb, all else being equal, while producing an at least equivalent use value.

Same thing in an economy where we take a taxi instead of getting dropped off by a friend, or where we use a paid dating app instead of chatting with someone directly. Once something gives rise to a new monetary transaction, it adds snowflakes to the globe. "Production" does not always mean "manufacturing." Here, the apartment is the same whether it's on CouchSurfing

or Airbnb. It is not the resources that change but the social protocol that organizes them.

The second type of growth (shaking the snow globe more vigorously) is more intuitive: it's the existing economy running faster. If instead of changing phones every ten years, planned obsolescence practices force me to change phones every two years, the volume of value added/revenue/final expenses (the three ways of measuring GDP) increases. In this case, it's production that accelerates—we will have to manufacture five times more phones and mobilize all the resources required to do so.

This conceptual divide between *expansion* and *intensification* works in the other direction, too. The sphere of the market economy can *contract* if goods and services previously commodified are now produced outside of GDP's domain. When paid encyclopedias like Encarta gave way to Wikipedia, assuming the rest of the economy did not compensate for the dip, GDP decreased (even if the proliferation of knowledge, and so wealth in the larger sense, clearly increased). People continue to read and write encyclopedia articles, but this all happens in a sphere with fewer monetary transactions and barriers to access.

Just as an increase in GDP does not always represent the emergence of additional output (it could already have existed in the non-market sphere), a decrease in GDP does not necessarily mean that activities have disappeared—we could say they've merely exited the perimeter of the quantifiable economy.

The sphere of the market economy can also *slow down*. A pandemic hits and mask sales rise, pushing their contribution to GDP upward. Once the health crisis ends, the volume of masks declines, and so does their contribution to GDP. If I decide to stop eating meat or to stop flying, and these transactions are not offset by others, GDP drops. The same is true if I buy a train ticket for €100 to go hiking in the Auvergne volcanoes instead of paying €1,000 for a flight to visit Réunion Island. If we massively reduce working hours, or if we prohibit certain

activities like advertising for the most polluting products, we will probably observe an *economic slowdown* due to the reduced agitation of these sectors.

Why attempt to deconstruct growth into multiple phenomena? It's a necessary exercise for demystifying a modern belief, according to which GDP growth is always progress and degrowth is necessarily undesirable, a belief that therefore suggests that we should always strive to "stimulate" the economy, and never to contract it or slow it down. When we are dealing with complex institutional changes, GDP as a compass obscures more than it enlightens. Nationalizing a healthcare system and capping housing and energy prices will reduce GDP, which isn't necessarily a bad thing, as long as indicators for health, well-being, and sustainability improve.

The growth and degrowth of GDP doesn't tell us much about the true performance of the economy. We can celebrate certain kinds of agitation when they serve to satisfy needs (producing masks during the pandemic, producing works of art, writing a book on climate change, etc.). We can denounce others that would be useless (certain forms of advertising, SUVs, gadgets) or even counterproductive to our well-being (the design of planned obsolescence, junk food). The same goes for lulls. Certain slowdowns in production feel like an amputation, leading to exclusion, unemployment, austerity, and poverty. Others are more like a diet: a situation where a community manages to satisfy its needs with less economic effort. This economic rhythm of more and less is not an inevitability but the result of social choices.

The Ingredients of Economic Activity

All activity, whether or not it is considered economic in the GDP sense, requires resources. Economists use "factors of production" to describe everything we use to produce, like