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# THE MARK OF THE SACRED

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Translated by M. B. DeBevoise

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# *Cultural Memory in the Present*

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*Hent de Vries and Mieke Bal, Editors*

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## *Note on the Translation*

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This translation of *La marque du sacré* constitutes a revised edition of the work first published in Paris in 2009. The French text has been altered in several places by the author himself, and other small, but significant changes have been made for the sake of clarity, with his approval. I am grateful to Jean-Pierre Dupuy for his extensive comments on an annotated draft manuscript.

Most of the estimates of the rate of climate change in the French edition have been removed. The temptation to replace them with current estimates has been resisted, since these too will soon be superseded by new research and readers can in any case consult updated reports through a variety of published sources. The present position of the minute hand on the Doomsday Clock has nevertheless been noted to reflect the most recent appraisal of the scale of the dangers facing the world, and webpage addresses given in the notes have been amended as necessary. Minor errors of fact in the original edition have been silently corrected.

Bibliographic information has been considerably expanded as a courtesy to both scholars and general readers, and standard English translations of works in French and German cited wherever possible. With regard to quotations from the Old and New Testaments, I have relied on the Revised Standard Version of 1952 in preference to the New King James Bible and other still newer editions.

## *Foreword to the American Edition*

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This book treats a series of questions that concern all of mankind. To what do we owe our faculty of reason—that power of thought in which we take so much pride, and which philosophers since Aristotle have considered to be uniquely human? Is rationality equally distributed among all peoples? Was it inborn in us from the beginnings of our existence on earth, or did it first blossom only with the invention of two things for which the Western world is pleased to take credit: democracy and modern philosophy? Did it, in either case, subsequently achieve its fullest flowering as a consequence of modern advances in science and technology? If it did, must we say that instrumental rationality—the ability to relate ends to means that is peculiar to *Homo oeconomicus*—represents the unsurpassable culmination of human reason? Or is it merely a degraded and inadequate facsimile?

Whether reason is innate or acquired, we know that it can be lost, individually and collectively. But what does this tell us about the nature of reason? Not only the murderous rages, the genocides and the holocausts, but also the folly that leads humanity to destroy the conditions necessary to its survival—what do these things teach us about the absence of reason? In 1797, Francisco Goya made an etching to which he gave the title *El sueño de la razón produce monstruos*. It shows a man fallen asleep in his chair, his head resting heavily on a table, surrounded by terrifying creatures of the night, owls and bats. A large cat looks on. With this arresting image an artist who had upheld the ideals of the French Revolution in opposition to many of his countrymen expressed his horror at the awful massacres of the Terror. The title is generally translated as “The Sleep of Reason Produces Monsters.” But the Spanish word *sueño*, as it happens, may mean either sleep or dream. In this second sense Goya’s title acquires a much more disturbing meaning. It is not the eclipse of reason that produces monsters; on the contrary, it is the power of reason to dream, to fantasize, to have nightmares—to unleash the demons of the imagination.

To all these questions there is a simple reply, or at least a reply that is simply stated: reason, like all human institutions, has its source in religion. It is the same answer one finds in the French tradition of social science inaugurated by Émile Durkheim and Marcel Mauss. Durkheim, in his great work *The Elementary Forms of Religious Life*, congratulated himself on having established that “the fundamental categories of thought, and therefore of science, have religious origins.” As a result, he concluded, “it can be said that nearly all great social institutions are derived from religion.”<sup>1</sup> Durkheim was right, as I believe he was, the adventures and misadventures of human reason will make no sense to us unless we examine them in the light of his discovery.

Even though the topics I discuss in this book are of universal importance, the conclusions I draw cannot help but arouse sharply differing reactions among my readers, depending in large part on the place of religion in public life that they are accustomed to regard as proper. In the Western world probably no two countries are separated by a greater distance with regard to the place reserved for religion than the United States and France, as Alexis de Tocqueville was perhaps the first to point out when he traveled through America in the 1830s. The gap between them is hardly smaller today than it was in Tocqueville’s time. It may be well, then, to say a few words at the outset in the hope of preventing at least the grossest misunderstandings.

France is proud to describe itself as a secular country. It is telling that the meaning of the phrase *pays laïc* cannot easily be conveyed in English. Secularism in the French sense does not signify the neutrality of the state, as it does in America. The doctrine of the neutrality of the state, due to classic liberalism, assumes that the state is incompetent to decide what constitutes the good life, and

therefore cannot take sides between competing conceptions. In France, by contrast, secularism is understood to be a fundamentally anti-liberal and “perfectionist” concept. On this view, the state has both the authority to say in what the good life consists and the right to command obedience to its will in the public sphere. It is here that the problem of religion makes itself felt most acutely. The republican tradition in France makes conformity to reason the sole qualification for taking part in public life. Condorcet expressed the idea beautifully: “Generous friends of equality, of liberty, unite to demand from your governors an education that will make reason the property of the people.”<sup>2</sup> This is the ideal of the French Revolution—rationality as the highest public virtue.

Now, to the French secular mind, religious faith of every kind seems profoundly irrational. Religion and its visible signs therefore have no legitimate place in the public sphere in France, where education is obligatory and free of charge for all. The thought of a president of the republic taking the oath of office on a Bible is unimaginable. Were the president to conclude his inaugural address with the words “God save France,” there would be rioting in the streets. When the nation’s currency was the French franc, the idea that banknotes might bear the legend “In God We Trust” would have been simply inconceivable. These commonplaces of American political culture are deeply shocking to my fellow *citoyens*, no less shocking than the recent French law prohibiting the display of emblems of religious affiliation in schools, whether the Islamic veil, the Jewish skullcap, or Christian crucifixes greater than a certain size, seems to many of my American friends. For someone like myself, who loves both countries, this mutual incomprehension is disheartening.

Tocqueville was forcibly struck above all by the religious faith of the American people. Having come to America to study democracy, he came afterward to think that the former was the necessary condition of the latter. As he so memorably put it, “I doubt whether any man can endure, at one and the same time, complete religious independence and complete political freedom; and I am led to believe that, if a man is without faith, he must serve another, and, if he is free, he must believe.” Some of the most eminent political philosophers in France today have strongly criticized Tocqueville on this point.<sup>4</sup> The true spirit of democracy, they say, was there to be found in his own country, post-revolutionary France. A democratic society is not one that is in harmony with its basic principles, as American theorists such as John Rawls have maintained. Just the opposite is true: it is one in which these principles are perpetually called into question, a social and political regime marked by conflict and division over the very values on which it is founded; indeed, it is of the essence of democracy that such questioning should be constant and open-ended. In Tocqueville’s time, France was torn between those who favored democracy and those who opposed it. This very tension, it is said, worked to strengthen democracy. French political thought today, or at least its most secular element, therefore concludes it is futile to suppose, as Tocqueville did, that religion can erect a durable barrier against the subversive influences that erode the foundations it has given itself. God and religion will inevitably perish as a result of the growth of democracy.

In America, the growth of religious fundamentalism in recent decades, and the excesses to which it has given rise, have produced by way of reaction an assault against religion in which God has become or become once more, the perfect scapegoat—and all the more perfect as he is believed not to exist. The titles of bestsellers that line the shelves of American bookstores—*The God Delusion*, *God Is Not Great*, *The End of Faith*, *Breaking the Spell*—do not deal in nuance. Together, they amount to a declaration of war against the religious foundations of American democracy.

It is tempting to imagine that the secular crusade of the French Left and the anti-religious crusade of the American Left are somehow similar. And yet they have nothing in common. Few books by religion-bashers in England and America are translated into French. The ones that are sell poorly, and their ideas have no resonance whatever in the quarrels over secularism that regularly enliven French



political debate. There are two reasons for this. The first is that scholars and intellectuals in France have a hard time taking seriously what they consider to be the work of mere pamphleteers, whose outstanding characteristics are, on the one hand, a lack of culture, and, on the other, a weakness for arguments that rely on biological theories of evolution and research in the cognitive sciences. But this is nothing new. Attempts to reduce social phenomena and the symbolic dimension of human existence to purely natural causes have never gotten a warm welcome in France.

The second reason has to do with the history and sociology of religion, which, it must be admitted, is not the strong point of the new atheists in England and America. One often has the impression that they take particular delight in making Christianity out to be no less irrational than any other religion, and therefore one more reason for dismissing religion in all its forms. French thinkers from Durkheim onward, by contrast, deepening an insight famously associated with Max Weber, have argued that secularization—what Weber called the disenchantment of the world—was a paradoxical consequence of the spread of Christian faith that, in its turn, prepared the way for the flourishing of economic rationality. Indeed, it is not uncommon today to hear Christianity described as “the religion of the end of religion.” The blindness of the new atheists to the fundamentally distinctive nature of Christianity is taken in France to disqualify them from taking part in the debate about the nature of religion and its future.

I mention all these things here in order to remind my American readers that one can hardly write a book on the religious origins of human reason without taking into account the settled prejudices of one’s audience. Nevertheless, in the pages that follow, I touch only in passing on questions that are primarily of interest to historians and sociologists of religion. I concentrate on a different set of questions, philosophical questions, which are logically prior to the ones that concern historians and sociologists. I begin by considering a notion that lay at the heart of religious anthropology when it was still recognized as a discipline in its own right, namely, the sacred. I do not dispute the vagueness of this concept, nor do I try to give an exhaustive account of what it involves. Instead I characterize its formal properties, and go on to show that human reason preserves the mark of its origins in the sacred, however much it may regret this fact. I then take up in turn several related kinds of rationality in which the mark of the sacred may yet be plainly seen, in science, politics, economics, and strategic thought.

Along the way I develop three lines of argument: first, that the Judeo-Christian tradition cannot be identified with the sacred, since it is responsible for the ongoing desacralization (or disenchantment) of the world that epitomizes modernity; second, that desacralization threatens to leave us defenseless against our own violence by unchaining technology, so that unlimitedness begins little by little to replace limitedness; third, the greatest paradox of all, that in order to preserve the power of self-limitation, without which no human society can sustain itself and survive, we are obliged to rely on our own freedom. It will be clear, I think, from what I have already said about the differences between France and America, that in making these claims I come directly into conflict with both French secularists and American religion-bashers, since they all consider religion to be the height of irrationality, whereas they themselves adamantly believe in Reason, pure and immaculate; with religion-bashers, in particular, since they fail to see what even secularists accept, namely, that Christianity has been the driving force in bringing about the secularization of society; with secularists, in particular, since they fail to see that reason in its various forms continues still today to display the mark of the sacred; and, of course, with religious fundamentalists of all faiths, since they resemble their rationalist adversaries in regarding reason and the sacred as strangers to each other, locked together in a merciless struggle to the death. That’s a lot of people to take on at once.

One last thing. The task of bringing over not only my words, but the intricate structure of my arguments and their subtlest shades of meaning, from the language and culture of France to the

language and culture of America has required a translator of exceptional talent. Once again I am pleased to be able to give my warmest thanks to Malcolm DeBevoise.

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Paris, December 2012

## Notes

1. Émile Durkheim, *Les formes élémentaires de la vie religieuse*, 6th ed. (Paris: Presses universitaires de France, 1979), 598.
2. Marie Jean Antoine Nicolas de Caritat, marquis de Condorcet, *Cinq mémoires sur l' instruction publique* (1791), ed. Charles Coutel and Catherine Kintzler (Paris: Garnier-Flammarion, 1994), 104.
3. Alexis de Tocqueville, *De la démocratie en Amérique*, vol. 2 (1840), 1.5 (Paris: Garnier-Flammarion, 1981), 31.
4. See, e.g., Marcel Gauchet's essay on Tocqueville in Mark Lilla, ed., *New French Thought: Political Philosophy* (Princeton, N.J.: Princeton University Press, 1994), 91–111.

# Prologue

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## THE FORM OF THE SACRED

Man believes either in a God or in an idol.

—Max Scheler, *On the Eternal in Man*

One truth stands out before all others when one considers human history in its full sweep: our societies are machines for manufacturing gods.

Why should this be so? How exactly are gods made? These questions ought to be at the heart of the humanities and the social sciences, and yet they are not. It is as though the fierce determination of secular positivism to free itself from every last relic of religious thought shapes the choice of subjects that these disciplines judge worthy of study. On the positivist view of the world, the religious outlook is outmoded, an aberration. From this it concludes that nothing of value can be expected from a scientific approach to the study of religion. But what if, quite to the contrary, the science of religion and the sciences of humanity are one and the same? What if, in order to understand human beings, it turns out to be absolutely necessary to understand why they invent gods?

In this book I am not concerned with the relationship between reason and faith, an ancient quarrel that is still far from being exhausted. I am interested in a prior (or, as lawyers would say, pre-judicial) question having to do with the nature of reason. I shall argue that what we call reason preserves indelible traces of its origin in religious experience. Following Durkheim, I regard religion as being defined less by beliefs than by actions, less by faith than by ritual. It will become plain that when reason treats religion as something foreign, whether in order to reject it or, on the contrary, to imagine some form of peaceful coexistence with it, reason shows itself to be a kind of faith—*bad* faith.

## From Archimedes to Münchhausen

Human societies have always found ways to act upon themselves through some external agency, long identified with divinity. What we call modern society, or simply modernity, abandoned this conception in favor of a secular perspective in which human beings take the place of gods. In saying that they are able to produce their own exteriority, I mean that human beings can project themselves beyond themselves, as it were, in order to exert a power over themselves. In this sense their abilities have much less in common with the physics of Archimedes than with the imaginary exploits of Baron Münchhausen.

Archimedes thought that he could move the world through his own strength alone, provided that he had a lever and an *external* fulcrum. Baron Münchhausen, for his part, claimed to have *pulled himself out* of a swamp by his own hair (or, according to another version, by his bootstraps).<sup>1</sup> One is given to imagine that he had somehow managed to split himself in two, so that the hand that grabbed hold of one part of his body belonged to an alter ego. A miraculous and impossible feat, of course—and yet a feat that human societies have been able to accomplish the like of it. Indeed, this may well have been the condition of their becoming societies in the first place.

The figure I introduce here, in a preliminary sort of way, is not one of my own invention. It has long been known to philosophy. Hegel called it “self-exteriorization” (*Entäusserung*), Marx “alienation” (*Entfremdung*), Hayek “self-transcendence.” But it was the French sociologist and anthropologist Louis Dumont who came closest to apprehending it in its pure form. He called it “hierarchy,” which noting that this term was meant in its etymological sense of a sacred order (from the Greek word formed by combining *hierós*, sacred, and *árchein*, to rule).<sup>2</sup>

Dumont considered himself a holist, which is to say that he asserted the logical and ontological

priority of the whole of society to its individual elements. Yet, unlike Durkheim, he did not interpret the transcendence of society in relation to its elements as a simple function of exteriority. He assigned it a form—a hierarchical form. But what is hierarchy? Far from being a succession of levels in which a higher level includes or dominates a lower level, hierarchy, in Dumont's phrase, is an *encompassing of the contrary*. A linguist, for example, if he were speaking strictly, would say that the French language does not contain a masculine gender and a feminine gender, but rather an "unmarked" and "marked" gender. The unmarked gender encompasses the totality of subjects, regardless of their sex. The marked gender, on the other hand, applies only to the female sex. It follows from this that the masculine, which is the form of the unmarked gender, represents at one level the totality, and by virtue of this encompasses the feminine; whereas at another level, that of the proper subset, a mathematician regards the set of odd integers, for example, as a proper subset of the set of integers and its complementary subset (the set of even integers), it is opposed to the feminine. The coincidence of the whole and one of its proper subsets (which, for a mathematician, implies the idea of infinity) is what permits the whole to stand in opposition to the complementary subset. The whole, in other words, encompasses its contrary—the part that does not coincide with the whole.

Hierarchy in this sense, Dumont holds, is inverted within itself. The reversal of sign is associated with a change in level: what is superior at the encompassing level becomes inferior at the encompassed level, and vice versa. Dumont elaborated the logic of this way of looking at the world first with the relationship between religious and political authority in India, and then with the doctrine of Pope Gelasius, enunciated five hundred years after Jesus Christ: "In matters of religion, and hence absolutely, the priest is superior to the king or emperor to whom public order is entrusted. But *ipso facto* the priest will obey the king in matters of public order, that is, in subordinate matters."<sup>3</sup> This hierarchical form—which, following the example of certain logicians, might better perhaps be called "tangled hierarchy"<sup>4</sup>—is summarized by an elegant formula: "Priests are superior for they are inferior only on an inferior level."<sup>5</sup>

Dumont reasons here as an anthropologist of traditional societies, in which a religious principle promotes social cohesiveness. But it is when he ventures onto the terrain of philosophy that a still more arresting image occurs to him, one that perfectly captures what he means by hierarchy. Discussing the metaphysical system of Leibniz, in which he sees a modern version of a premodern conception of the world, he takes up the question of theodicy, or divine justice, and the vexed problem of reconciling the presumptive benevolence and omnipotence of the Creator with the inescapable fact of the existence of evil on earth. Leibniz's solution is well known for having been ridiculed by Voltaire: the world in which we live is the best of all possible worlds. What appears to us as evil seems to be so because we have only a finite, individual view of the world. But if we could have a view of the totality—if we could look at the world from the divine point of view—we would see that what appears to us as evil is a necessary sacrifice for the greater good of the totality. Had evil not been permitted to intervene, our world would not have been the best of all possible worlds. Dumont therefore led to characterize the essence of theodicy by this memorable phrase: "[G]ood must *contain* evil while still being its contrary."<sup>6</sup> Here the verb "contain" has the sense of encompassing, and the relation it describes is hierarchy, which is to say the encompassing of the contrary.

It has always seemed surprising to me that Dumont and his school of anthropology should have seen hierarchy as nothing more than the sign of a stable order, guaranteed by religion. One has only to recognize that the verb "contain" has another meaning—of blocking, inhibiting, repressing—in order to construe hierarchy, understood as the encompassing of the contrary, in an entirely different and much more disturbing sense, namely, as a system that is constantly in danger of being overturned. Just so, the most stable social order is the one that *contains* the threat of its own collapse, in the two senses

of the verb “to contain.”

If one considers hierarchy only in its relation to order, as Dumont does, it is one of the most familiar ideas in the philosophy of history and society. It has been developed in different ways and under various names—ruse of reason, ruse of history, dialectical materialism, the “invisible hand” of the economists. In each case one finds the same idea, which is the foundation of modern rationalism: evil is, at bottom, only a lesser evil, a necessary evil, for it is placed in the service of the good; evil is only apparent, for it is an integral part of the good. But once a hierarchical order enters into crisis and under the pressure of the ensuing panic, totters on the edge of collapse, a quite different picture emerges. Its levels, distinct and well ordered until now, come to be confused with one another in a way that reveals their kinship. Whereas before good was thought to govern evil, its contrary, now evil seems to have governed itself—by distancing itself from itself, by putting itself outside of itself—with the result that the higher level, having been self-externalized, so to speak, takes on the aspect of the good.

This idea can be stated less abstractly if we consider the singular relationship, which I will later have occasion to treat in greater detail, that unites murder and sacrifice in a society where sacrifice constitutes the founding ritual. In that case sacrifice *contains* the outbreak and spread of murder, though it is in one sense just another murder, it promises to put an end to violence. Capital punishment performs the same function in certain criminal justice systems. But when the religious order (“hierarchy”) is overthrown by disorder and violence, when the administration of justice loses its transcendent authority, ritual killing can no longer be distinguished from murder. *Before* the onset of crisis, however, sacrifice was both murder and something other than murder.

The crisis that accompanies the collapse of a hierarchical order bears a name that has come down to us from Greek mythology: panic. The myth itself contemplates only exteriority, for it places the blame for the violent breakdown of hierarchy on an eponymous divinity, Pan—god of shepherds, half-man, half-goat, a gifted musician, a democrat, a famous lover of nymphs—whose sudden appearance behind a grove was said instantly to inspire terror. As an empirical matter we know that panic is internally generated, in the sense that its destructive force is unleashed only to the extent that it was previously *contained* by the order that it brings crashing down. Spectators at a sporting event, for example, who are known to resist panic even in the event of an earthquake, are liable to throw themselves headlong into a murderous stampede if the competitive tensions of the event itself exceed a certain threshold. For those who remain blind to the logic of self-exteriorization that underlies human violence, Pan is a perfect scapegoat—the evil genie who has escaped from his bottle.<sup>7</sup>

Yet like Pan himself, who is at once civilized and a source of terror, panic is not only a force of destruction. The etymology of the word itself suggests a phenomenon whose effects are all encompassing and serve to bring forth a new order, a new totality, a new direction or orientation, even if it is only flight from danger. Here the relation between a disordered set of individual behaviors and an emergent pattern of order is one of self-transcendence; its form is hierarchical, in the sense I have just described, namely, that the emergent order appears to govern individual behaviors from the outside, even though it is itself a consequence of the synergistic coordination of these same individual behaviors. Since these behaviors represent disorder, the emergent order *contains* them, in the two meanings of the word. In this case order does not, as Dumont supposed, contain disorder while at the same time being its contrary. Instead disorder steps outside of itself, as it were, so that it stands in a relation of exteriority to itself, and in this way creates an ordered, self-regulating system.

## Anatomy of a Global Panic

I write these lines in the autumn of 2008, in the midst of a panic that threatens to bring about the

collapse of the world economy. The commentaries that the crisis has inspired illustrate the points that have been making more forcefully than I could ever have imagined being able to do myself, for they demonstrate the inability of political and economic leaders to grasp the logic of self-exteriorization. The present crisis is one of indistinctness, as it might be said, in the sense that it is marked by a loss of the differences between levels that characterize hierarchy. And yet pundits and policymakers alike have hastened to multiply differences, notwithstanding that these reduce ultimately to a single distinction, between the good that must be preserved and the evil that must be eradicated, or in another case controlled, so that evil remains in the service of the good as a necessary evil. In other words, Dumont's rationalist interpretation of hierarchy has not been relinquished. Nevertheless the virtue of a crisis of such unprecedented scope is that it makes clear, at least to those who have the eyes to see, that good and evil are profoundly related; indeed they have become identical with each other as a result of the crisis. If there is a way out, it will be found only by allowing evil once again to transcend itself and take on the appearance of the good.

What is at issue here is the impotence of orthodox economic analysis in the face of a crisis that blurs all the familiar distinctions of neoclassical theory. When an entire economic system reaches the point of behaving like a panic-stricken crowd, there is no alternative but to discard the prevailing doctrine. This was understood by an economist of genius, John Maynard Keynes, on the occasion of a crisis even more terrible than the present one. Not the rationalist Keynes, not the proto-cybernetician encountered in economics textbooks in the chapter on "Keynesian" economics, but the Keynes who perceived that, in times of market panic, mass psychology becomes the ruling force. Economic theory, blinded by its own pride, still fails to see this.

Commentators insist first upon distinguishing between the deliberate regulation imposed by the state and the uncontrolled self-regulation (or deregulation) that characterizes the market. The creative spontaneity of the market is conceded to be a necessary evil, one that must be restrained by the "visible hand" of regulation. At this juncture the apostles of regulation expose themselves to the same ridicule as the philosophy master in the hilarious third scene of act 2 of Molière's *Bourgeois Gentleman*. From the commanding heights of his magisterium, the philosophy master attempts to arbitrate between the competing claims of the music master, the dancing master, and the fencing master, each of whom demands that his art be recognized as the best one of all. But it is not long before he begins to squabble, and then to fight, with them, so that what had been a dispute among three parties swiftly escalates into a battle among four. No sooner has the philosophy master climbed up on his pedestal than he is knocked off it, having been swept up in a mimetic vortex of violence.

The challenge facing policymakers in a time of panic is to find an external fixed point that can be used to bring it under control. This is not always easily done. More than once one has seen unprecedented steps taken to reassure the markets, by injecting astronomical sums of money, producing exactly the opposite effect—the markets having concluded that only panic could explain why it should have been necessary to resort to such extreme measures. They did not believe for a moment in the advertised rationality of state intervention. To speak of reconstructing capitalism through market regulation is therefore a staggering piece of naïveté, for it supposes that the problem of finding an external point of support has *already* been solved.

Jean-Jacques Rousseau understood the paradox that apprentice regulators run up against today long before anyone else. The political problem, Rousseau observed, is to "put law over man,"<sup>8</sup> even though it is men who make the laws, as they themselves well know. Power in a democracy emanates from the people, and yet it is power only insofar as it is external to them. Rousseau shrewdly perceived the vicious circle in which any attempt at founding, or refounding, political institutions finds itself caught up: "[T]he effect would have to become the cause; the social spirit, which should be the result of the institution, would have to preside over the founding of the institution itself; and men would have to be



prior to laws what they ought to become by means of laws.”<sup>9</sup> In order to find a way out from the current economic crisis, then, the way out would already have had to have been found.

It is not enough to proclaim oneself king in order actually to be one. A person who wants to be Napoleon is not therefore Napoleon. And yet, contrary to the logic of the *Social Contract*, Rousseau found the solution to the paradox of self-transcendence in his own personal experience as an outsider. As Michel Serres has pointed out,

When he was writing of the social pact, no contradiction bothered him; everything seemed crystal clear to him. It seemed transparent to go back to a first convention; it seemed evident to him that an act of association would produce a group ego or public persona. Today, those plotting against me, those in league together, form, he says, an indissoluble body whose members can no longer be separated [from one another]. In the political sense, they form a republic. Rousseau sees that what he had foreseen is now constituted, but *he is [looking from] outside*; he sees a dispersed set form a unit, a unanimous gathering of forces and it all seems obscure to him.

The truth is that he is right; the truth is that he made decisive progress in politics. . . . General will is rare and perhaps only theoretical. General hatred is frequent and is part of the practical world. . . . Not only does he see the formation of a social pact *from the outside*, not only does he notice the formation of a general will, but he also observes, through the darkness, that it is formed only through animosity, that it is formed only because he is its victim. . . . Union is produced through expulsion. And he is the one who is expelled.<sup>10</sup>

This victim is therefore an emissary victim, a scapegoat, whose expulsion from the community provides it with the external point of support it needs in order to put an end to crisis.

Indifferent to such considerations, if they are aware of them at all, analysts of the present economic crisis wheel out the usual hierarchical oppositions—the “real” economy versus the “financial” economy, the regulated market versus financial speculation, bullish speculation versus bearish speculation, and so on—as though they were following the model of theodicy described by Dumoulin according to which good must *contain* evil while at the same time being its contrary. It is not a terribly arduous business to dispose of these oppositions, one by one; indeed, a moment’s reflection is enough to make them collapse like a house of cards. Consider, for example, the hierarchical opposition between the real and the financial economy. It proceeds from a feeble premise, namely that money and credit constitute a necessary evil, redeemed only to the extent they serve the greater good of production, trade, and the consumption of wealth. Unless one seriously entertains the historically unsupported possibility of an economy founded entirely on barter, the inanity of this proposition is evident. Money can, of course, be regarded as a necessary evil, but only in the following way. In times of crisis, money is sought for its own sake, since its status as a *general equivalent* (Marx’s phrase) makes it the ultimate refuge from uncertainty. By virtue of this very status, however, the holding of money entails a substantial loss of information for the economic system as a whole—Keynes, coming after Marx, saw very clearly. Mr. Henry Ford may very well pay high salaries to his workers so that they are able to buy his cars; but he does not pay them in vouchers that can be exchanged for Fords, he pays them in currency. Mr. Ford therefore has no guarantee that the purchasing power he distributes will be translated into an increased demand for his cars.

We may therefore accept that, in this sense, money may be an evil, even a necessary evil. And yet if there is evil, it must wholly contaminate the real economy. For it is this same money, the ultimate reserve instrument, that serves it as a unit of account and a means of payment. It is futile to place the real economy on a pedestal and to suppose that it looks down upon money, which is no more than its servant. Similarly, if credit is an evil, then plainly the real economy—once it ceases to be an economy of subsistence, in which production and consumption are simultaneous, and comes to be based instead on savings and investment (and therefore on intertemporal arbitrage)—cannot help but be infected by it as well.

The condescension shown toward the financial economy nevertheless feeds mainly on another scarcely less pointless proposition. A financial economy comes into being when the activities of the

market—whose existence, let us assume for the sake of argument, is tolerated in the real sphere—~~is~~ extended to finance. These activities constitute what is called speculation, a term of opprobrium among us. It comes from the Latin *speculum*, meaning “mirror.” Where, then, one might well wonder are the mirrors of financial speculation? Curiously, the answer is to be found in a formula employed by David Hume in the *Treatise of Human Nature*: “The minds of men are mirrors to one another.” Speculation consists in buying a good, not because one wishes to hold on to it indefinitely, but because one counts on being able to sell it to someone who desires it still more. The mirror is the gaze that another person casts on a good that one looks to acquire. In the world of finance, the relevant good is typically an accounting entry: a value, a share, a bond, a security, a currency. Yet the so-called real economy, even if it deals in goods and services having an undoubtedly material existence, exhibits essentially the same logic, for it is driven by what René Girard calls mimetic desire: we desire an object because the desire of another tells us that it is something to be desired.<sup>12</sup>

Long before Girard, a great philosopher (and, as it happens, a friend of Hume) had the same idea. His name was Adam Smith. He is still today considered by economists as the founding father of the discipline, even if, having never read him, they are wholly ignorant of his doctrines. In a key passage of his greatest work, *The Theory of Moral Sentiments*, Smith asks what wealth consists in. It is not what assures our material well-being, since a frugal life would provide for this satisfactorily enough. It is everything that is desired by what Smith calls the spectator, the person who observes us and whose regard we seek to attract.<sup>13</sup> Because both the financial and the real economy rest on a speculative logic, the supposed ethical opposition between them cannot be taken seriously. If one condemns the first—something one is hardly obliged to do!—there is no reason not to condemn the second. Considering the economy as a whole, Smith himself speaks of “the corruption of our moral sentiments.”<sup>14</sup>

Those who regard the world of finance as a necessary evil will object, however, that one form of speculation is acceptable because it is consubstantial with the logic of the market: the premium granted to the person who is the first to discover a crucial piece of information that suggests an incorrect market valuation. Let us suppose that the market undervalues a particular security. The rational speculator will acquire the security in question in the hope of being able to resell it at a high price, when the market will finally have discovered its true value. A sort of immanent justice is at work here, for the speculator will receive his premium only when the information that hitherto was known to him alone becomes accessible to everyone. Accordingly, he has no incentive to keep it for himself. Speculation therefore can be seen to be an essential ingredient of what in theory is responsible for the social utility of markets, which is to say their efficiency in processing information having first collected it and then made it publicly available.

The difficulty is that a parasitical form of speculation inevitably comes to be grafted onto the positive form. If a speculator anticipates that the market is going to persist in its error and settle on a valuation that differs from what he knows to be the true worth of a security, it is on the basis of this mistaken valuation that he must decide to acquire the security. One cannot make money by going against the crowd. This is why the successful speculator is not the person who first correctly analyzes market fundamentals. Speculation instead becomes, in Keynes’s phrase, “the activity of forecasting the psychology of the market.” Accordingly, the successful speculator is the one who “guess[es] better than the crowd how the crowd will behave.”<sup>15</sup> Like a snob, he gives the impression of being ahead of popular opinion only because he slavishly follows it.

In a situation of grave crisis characterized by radical uncertainty, however, it is impossible from within the financial system to determine whether speculation serves to disseminate objective information or whether, though it may point the market in a stable direction, it is wholly untethered



from reality.<sup>16</sup> Between healthy speculation and parasitic speculation, undecidability intervenes. A regulated market, which is to say a market from which “bad” speculation has been banished, if that were actually possible, does not function any differently than a speculative market. The phenomenology is different, of course, but the underlying logic is the same.

This confusion of contraries includes the case of a market that itself collapses in confusion. The study of great financial crises, of the panic they provoke and the crash it invariably portends, shows that they do not come from out of the blue like some tragic and incomprehensible stroke of fate, an inexplicable catastrophe that suddenly brings an unbroken period of euphoric and exhilarating expansion to an end. One is tempted to say instead that such crises are programmed, that they are part of a single unfolding event—just as death is part of the course of life, only the day and the hour of its occurrence are unknown. Speculation—indeed, speculative mania—is usually identified with the ascendant phase, and panic with the phase of collapse,<sup>17</sup> but on further analysis it becomes clear that the panic is already contained in the speculative phase and that the panic phase remains subject to the logic of speculation: the *same* mechanisms that cause the bubble to expand—to use the time-honored metaphor—also cause it to burst. It follows that to tolerate bullish speculation while banishing its bearish counterpart is no more reasonable than welcoming the bearer of good news while turning the bearer of bad news away.

Rationalist analysis of the crisis, in designating categories of necessary evil in order of increasing generality (bearish speculation, the speculative market, the financial economy), offers reassurance by assigning blame. Just so, it is very careful to keep a safe distance from the black hole in which all such distinctions are abolished and, as we shall see, human societies are brought into existence by self-transcendence.

## When Satan Casts Out Satan

Friedrich Hayek, a great philosopher of society (and also, as it happens, a Nobel laureate in economics), is generally reviled by progressive thinkers, who see him only as an apologist for untrammelled economic competition. And yet Hayek was fundamentally correct on one point: the self-regulating character of what he called “spontaneous social orders,” one of the most sophisticated forms of which is the market. Even so, Hayek never quite understood that self-regulation operates by means of self-transcendence.<sup>18</sup> In times of both euphoria and panic, in both the material world and the immaterial sphere, the market is capable of producing its own external vantage point, its own external fulcrum, in the form of forces that seem to impose themselves on individual agents, whereas in fact they are a synergistic effect of the behavior of these same agents. Those who deny the market’s ability to regulate itself are guilty of committing a category mistake: they confuse the market’s capacity for self-exteriorization with the question of whether the consequences of this activity are good for human beings; in other words, they confuse ontology and ethics. They are perfectly free, of course, to disparage markets if they like. I will not dispute the justice of such a view here. My point is simply that, by neglecting the normative dimension of market economies, they fail to grasp an essential property of society.

Where self-transcendence is successfully achieved—by which I mean that it is deployed on a succession of levels sharing a common structure characterized by what Dumont calls the encompassing of the contrary—the level that is taken to be superior to the others and that is supposed to embody the good makes its undifferentiated origin manifest insofar as it preserves a paradoxical similarity with subordinate levels that are supposed to serve it as so many lesser evils. The same relation of difference *and* of identity that obtains between sacrifice and murder can be detected between the “productive” economy, on the one hand, and money and credit, on the other.

It is exactly this relation that rationalist and positivist thinkers have prohibited themselves from imagining. I have taken the example of economic crisis, because the world as we know it might one day fall apart without our understanding the least thing about the reasons for its collapse—but it is more than that, one among a number of examples that I shall take up in the pages that follow. In all these cases, imagining the future of humanity requires a deliberate willingness to violate the rules and regulations of the Cartesian method, to renounce its ideal of knowledge founded on “clear and distinct ideas.” Imagining the future now means trying to come as near as possible to that black hole in which *there are no longer any differences*, in order to perceive the primordial chaos in which everything has its origin.

And what if this were also the condition of approaching God? By “God,” I mean what all the divinities that human beings have made for themselves throughout history have in common—a exteriority that they have managed to project outside the sphere of human existence.

The arguments that I present in this book grow out of my struggle for more than thirty years now to come to grips with the thought of René Girard. I shall say nothing about it for the moment, except that in reviving a long tradition of religious anthropology interrupted by the Second World War and the decades of structuralism and deconstructionist post-structuralism that followed, Girard renewed inquiry into the origins of culture. Like Durkheim, Mauss, Freud, Frazer, Hocart, and many other social theorists before him, he considers that culture arose in conjunction with the notion of the sacred. Girard’s hypothesis (as he calls it) asserts that the sacred was produced by a mechanism of self-externalization, so that violence, in projecting itself beyond the domain of human control by means of ritual practices and systems of rules, prohibitions, and obligations, became self-limiting. On this view, the sacred is identified with a “good” form of institutionalized violence that holds in check “bad” anarchic violence.<sup>19</sup> The desacralization of the world that modernity brought about is built upon a kind of knowledge, or suspicion perhaps, that gradually insinuated itself in human thinking—the suspicion that good and bad violence are not opposites, but actually one and the same; that, at bottom, there is no difference between them. How, then, did this suspicion make its way into our minds? Girard’s reply, which I shall consider in due course, poses in its turn a prior question that I am not quite sure how to answer: how can there be knowledge of self-transcendence without transcendence?

Be that as it may, it cannot be denied that this suspicion, this knowledge, is now ours. We know that Satan casts out Satan, as the Bible says (Mark 3: 23–26); we know that evil is capable of self-transcendence, and, by virtue of just this, capable of containing itself within limits—and so, too, of averting total destruction. The most striking illustration, which I shall discuss at length in the last chapter, is to be found in the history of the decades since the beginning of the Cold War. Throughout this period it has been as though the bomb protected us from the bomb—an astonishing paradox that some of the most brilliant minds have sought to explain, with only partial success. The very existence of nuclear weapons, it would appear, has prevented the world from disappearing in a nuclear holocaust. That evil should have contained evil is therefore a possibility, but plainly it is not a necessity, as the nuclear case shows with unimprovable clarity. The question is no longer: why has an atomic war not taken place since 1945? Now the question has become: when will it take place in the future?

If this much is admitted, it follows that the powerlessness of contemporary rationalism in its many forms to apprehend the nature of self-transcendence is identical with the denial that lies at its very heart: the refusal to accept that the ways of thinking it authorizes are rooted in our experience of the sacred.

I have cast this book in the form of a metaphysical and theological detective story, after the example of two masterpieces of the genre, to whose authors, it goes without saying, I do not dare compare myself: “The Approach to al-Mu’tasim,” by Jorge Luis Borges,<sup>20</sup> and “The Sign of the Broken Sword,” by G. K. Chesterton.<sup>21</sup> The objects of my investigation are indications, traces, signs. Taken together, they are the mark of the sacred that appears in texts, analyses, and arguments pretending to be founded on human reason alone, on scientific rationality and nothing else.

This mark of the sacred assumes any number of guises, which are so many deformations of the pure figure of self-transcendence as I have just tried to describe it. These deformations are due to error, of course, but not to just any error: it is because the various forms of rationalism I examine deny having any relationship at all to the sacred that they cannot help but reflect it; only they do so in a distorted fashion that is often illogical and self-contradictory. It may be wondered how the sacred reveals itself when it structures a text in which it nowhere figures as a thematic element. The question already arises in connection with religious texts proper, such as myths. A mythic hero is expelled from a city, for example, for having destroyed the foundations of the political order. But the account of his expulsion transforms this event into the foundation of the very same political order. This paradoxical loop—how is it possible to have destroyed a social order that one creates by being expelled from it?—is the very signature of myth. Rousseau’s political philosophy is based on precisely this same strange loop, as we have already seen, since the social contract, in order to be entered into, must already have been entered into.

Or again: in many mythic accounts, fate implacably unwinds until the moment of final catastrophe is reached, but in order for it to be fulfilled an accident must occur. The accident is not the same as fate; indeed, in a sense, it is its opposite. But it is the indispensable instrument of fate—a *supplement* of fate, in the sense that Derrida gives this term. The effectiveness of nuclear deterrence, for example, is a consequence of rational reliance on a paradoxical account of this type.

And yet another example, if one is really needed: is it better that one innocent man should die than that an entire people and nation will not perish? The high priest Caiaphas’s decision to turn Jesus over to Pilate, or rather the revulsion at this decision that caused Christianity to branch off from Judaism, forms the core of the most influential moral and political doctrine of the twentieth century, the theory of justice developed by Rawls, which claims to depend on the resources of rationality alone.

In what follows I shall demonstrate the irreducibility of the paradoxical logic of the sacred by considering five very different spheres of contemporary rationality: transhumanism, which expresses mankind’s urge to go beyond itself by means of science and technology; evolutionism, which uses Darwin’s theory to account for the persistence and the insistence of religion; electoralism, or the introduction of numerical calculation into the rituals of politics; economism, which is to say the claim that economics is a normative science capable of resolving, among other things, the question of social justice; and catastrophism, whose morbid outlook informs the doctrine of nuclear deterrence—at once the most rational and the most insane idea that humanity has ever conceived.

One figure in particular has captured my imagination: the unfolding of self-transcendence in time. Baron Münchhausen’s feat finds its counterpart in this, when a community of people is pulled forward by an image of the future that it has projected in front of itself, an image that, once overtaken by events, becomes a part of reality. Humanity has sometimes managed to achieve this same feat, not only in its moments of greatest glory, but in the most tragic moments of its history as well. The present work was written in the shadow cast by the catastrophic future that seems today to be our destiny. This apocalyptic perspective makes it at once possible, urgent, and necessary that we grasp the most fundamental of human truths, namely, that it is the sacred that has made us who and what we are. Otherwise we shall be incapable of recognizing the desecration of the world brought about by modernity for what it is: an unprecedented train of events that threatens to strip us of all protection.

against our own violence, and so to lead us directly to the final catastrophe. But this same train of events, if only we can fathom its true character in the time that is left to us, may also point the way to a radically different world than the one we know today, in which religion will have taken the place of the sacred.

I have also conceived the present work as a sort of logbook, in which I record the stages of my own intellectual development, the path by which I have come to think as I do today. This is why I have wished to begin with an account of my earliest influences, not omitting certain quite personal details. For the same reason I have chosen to end the book with an [epilogue](#) that takes the form of a confession, a baring of the soul. The figure of self-transcendence—or, as I should now say, bootstrapping—is illustrated not only by the computer; it is embodied in another marvel of engineering, the suspension bridge. Spanning the entrance to a bay, the roadway rises gracefully over the water, supported by cables suspended from high towers. The vertical thrust of the towers derives from their own weight: gravity has been converted into upward momentum. The most beautiful of the world's suspension bridges, the Golden Gate, watches over San Francisco Bay. It was there, in the immediate vicinity of the bridge, that two persons attached themselves to an image they had projected outside of themselves, an image that shattered and fell in pieces around them the moment they tried to make it a reality. Theirs was an impossible love, a tragedy of failed self-transcendence, swallowed up by the black hole of nothingness. The story of this love is told in Alfred Hitchcock's absolute masterpiece, *Vertigo*. Hitchcock's film is for me what Sophocles' tragedy *Oedipus Rex* was for Hölderlin and Girard: the womb from which I am issued. I pay tribute to it in conclusion.<sup>22</sup>

## Notes

1. Rudolf Erich Raspe published *The Surprising Adventures of Baron Münchhausen* in London in 1785. The tales were translated back into German, and added to in a definitive edition that appeared in Göttingen the following year. Since then, owing to some perplexing detours through quantum mechanics and the emigration of German scientists to the United States before World War II, the related notion of “bootstrapping” has become a familiar part of the English language. Thus, for example, to use a common expression borrowed from computer science, one “boots up” a computer by starting its operating system: a simple program activates another, more complex program.
2. See Louis Dumont, *Homo Hierarchicus: The Caste System and Its Implications*, rev. ed., trans. Mark Sainsbury et al. (Chicago: University of Chicago Press, 1980), 65–66.
3. Louis Dumont, *Essays on Individualism: Modern Ideology in Anthropological Perspective* (Chicago: University of Chicago Press, 1986), 252–53.
4. See, e.g., Douglas Hofstadter, *Gödel, Escher, Bach: An Eternal Golden Braid* (New York: Basic Books, 1979).
5. Dumont, *Essays on Individualism*, 46.
6. *Ibid.*, 251. The emphasis is mine.
7. See Jean-Pierre Dupuy, *La panique*, revised and augmented ed. (Paris: Les Empêcheurs de Penser en Rond/Seuil, 2003), 15–20.
8. Jean-Jacques Rousseau, *Considerations on the Government of Poland and on Its Planned Reformation* (1772), ¶1; in Roger D. Masters and Christopher Kelly, eds., *The Collected Writings of Rousseau*, 13 vols. (Hanover, N.H.: University Press of New England, 1990–2010), 11: 170. See my reservations regarding this edition in chapter 5, n. 15, below.
9. Jean-Jacques Rousseau, *The Social Contract*, 2.7, in *The Collected Writings of Rousseau*, 4: 156.
10. Michel Serres, *Parasite*, trans. Lawrence R. Schehr (Baltimore: Johns Hopkins University Press, 1982), 118–19. The italics are mine. [Schehr's translation slightly modified.—Trans.]
11. David Hume, *A Treatise of Human Nature* (1739–40), ed. David Fate Norton and Mary J. Norton, 2.2.5 (Oxford: Oxford University Press, 2000), 236.
12. See René Girard, *Deceit, Desire, and the Novel: Self and Other in Literary Structure* (1961), trans. Yvonne Freccero (Baltimore: Johns Hopkins University Press, 1966).
13. “The man within the breast” (our conscience) and “the man without” (the spectator) are famously distinguished in Adam Smith's *The Theory of Moral Sentiments* (1759), 3.2.32, ed. Knud Haakonssen (Cambridge: Cambridge University Press, 2002), 152.
14. *Ibid.*, 1.3.3.1, 72. This corruption, Smith says, has to do with the “disposition to admire, and almost to worship, the rich and the powerful, and to despise, or, at least, to neglect persons of poor and mean condition.”
15. John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (London: Macmillan, 1936), 12.6, 157–58.
16. See André Orléan, “L'auto-référence dans la théorie keynésienne de la speculation,” *Cahiers d'économie politique* 14–15 (1988): 229–42.

17. See Charles P. Kindleberger, *Manias, Panics, and Crashes: A History of Financial Crises*, 4th ed. (New York: Wiley, 2000), 15–16, 105–6.

18. See my critique in *Le sacrifice et l'envie: Le libéralisme aux prises avec la justice sociale* (Paris: Calmann-Lévy, 1992), 241–91.

19. See René Girard, *Violence and the Sacred* (1972), trans. Patrick Gregory (Baltimore: Johns Hopkins University Press, 1977).

20. Jorge Luis Borges, “The Approach to al-Mu’tasim” (1936), in *Collected Fictions*, trans. Andrew Hurley (New York: Penguin, 1998), 82–87.

21. G. K. Chesterton, “The Sign of the Broken Sword,” in *The Innocence of Father Brown* (London: Cassell, 1911), 259–84.

22. I owe the idea for this book to my editor and friend Benoît Chantre. It is true that my philosophical writings over the past fifteen years—touching on the philosophy of science and technology as well as moral and political philosophy, on social theory as well as literary theory, on metaphysics as well as epistemology—are apt to give the impression of having little to do with one another. Benoît discovered the Ariadne’s thread that links them together. He made a selection from them and encouraged me to recast the various essays so as to bring out their common interest and purpose. I cannot adequately express my gratitude to him for his assistance.



# Imagining the End

A PERSONAL JOURNEY

## Staring at Catastrophe

It is my profound belief that humanity is on a suicidal course, headed straight for catastrophe. I speak of catastrophe in the singular, not to designate a single event, but a whole system of disruption, discontinuities, and basic structural changes that are the consequence of exceeding critical thresholds. Feeding on one another and growing in strength, the calamities we are witnessing today herald an age of unprecedented violence. My heart sinks when I think of the future that awaits my children and the children of my own children. Anyone who hopes that the present century will escape the horrors of the previous one will already have forgotten the inconceivable brutality of that gruesome September day in 2001. There is a widespread expectation that science and technology will come to our rescue, as they have always done in the past. When I was a child, we were taught in school that the misfortunes of humanity were all due to the fact that scientific progress had not been accompanied by a comparable advance in moral wisdom. Science is pure and noble, but human beings are still weighed down by evil and sin. The naiveté of this lesson beggars belief.

I owe to Ivan Illich, that great critic of industrial society and one of my mentors, the insight that humanity has always had to be on its guard against three types of threat, and not simply the two that immediately come to mind: the brute force of nature and the brutality of human beings—the earthquakes that reduce glorious cities to rubble and the barbarism that massacres, mutilates, and rapes their inhabitants in time of war. By learning more about nature, human beings have partially succeeded in taming it; by better understanding the mechanisms of hatred and vengeance, they have come to see that it is possible to live in peace with their enemies, and in this way to build lasting civilizations.

But there is a third front on which it is much more difficult to fight, for here the enemy is *ourselves*. We do not recognize this enemy, though it has our own features. Sometimes we suppose it to be the agent of a malign and treacherous Nature, sometimes of a malevolent and vengeful Nemesis. Yet the evil that besieges us from this direction is a consequence of our own faculty of action, which is to set our ability to irreversibly set in motion processes that are liable to turn against us, with lethal effect. As a great admirer of the work of Hannah Arendt, Illich was well aware that this faculty operates first of all upon human beings. Words and deeds, separately or in combination, create stories for which no single person can claim authorship, and that sometimes end in tragedy. It is from the primordial experience of action acquiring autonomy in relation to the intentions of actors that not only the idea of the sacred, but also religion, tragic drama, and politics—so many real and symbolic systems that serve to set limits to the capacity to act—were born. The wholly novel character of modern societies founded on science and technology derives from the fact that they are capable of unleashing irreversible processes *in and on nature itself*.

Fifty years ago, with extraordinary prescience, Arendt analyzed this transformation of action in her major work, *The Human Condition*.<sup>1</sup> The droughts, hurricanes, and tsunamis we are now witnessing—and indeed the weather itself (which has always served as a metonym for nature)—are increasingly the products of our behavior. We will not have *made* them, in the sense of fabrication, for this activity (called *poiesis* by the Greeks), unlike action (*praxis*), has not only a beginning but also an end, in both senses of the word: goal and terminus. Instead they will be the unanticipated results of a sequence

events that we have initiated, often without knowing it or intending it.

One of the chief threats weighing upon the future of mankind, it is commonly said, is the energy crisis. The crisis is real: our civilization is founded on the proliferation of mechanical devices designed to satisfy our many needs, and soon there will not be enough fuel to keep them going. But in fact there is no energy shortage; indeed, the very phrase ought to be banned—as energetically impossible! It is quite true, of course, that fossil fuels (oil, gas, coal) are nearing exhaustion, and that they will have disappeared well before the end of the century if emerging powers such as China, India, and Brazil persist in blithely following the same path of development we have chosen. It is also true that alternative energies are not yet at hand. Dark clouds can already be seen gathering on the horizon: portents of a merciless war between the great commercial nations, which can be counted on to fight one another with desperate ferocity for possession of the last barrel of oil and the last ton of coal. Increasing pressure on prices, amplified by a major financial crisis, may well degenerate into a widespread panic. Libertarian and other conservative economists, placing their faith in the efficiency of market mechanisms they trust to make whatever substitutions are necessary, discount the prospect of catastrophe: new reserves, as though by a miracle, will rapidly grow in number, for it will now be profitable to mine deposits that are not easily accessible, both on land and beneath the sea; energies that used not to be economical to produce, such as solar energy and biofuels, will suddenly become economical, and so on.

But this faith merely conceals the extreme gravity of the threat posed by climate change. Allow me to cite a figure that every citizen of the world, every person in a position to decide policy, even at a very modest level, ought to know and reflect upon. The technical advisors to the Intergovernmental Panel on Climate Change (IPCC) cannot say precisely what the average rise in global temperature will be between now and the end of the century. They do know, however, that half of this uncertainty results from an unknown, namely, which policies for reducing greenhouse-gas emissions will be adopted in the coming years and decades. This situation presents an interesting case of circular causation from the philosopher's point of view, since the policies that are adopted will themselves depend upon the way in which the seriousness of the threat is analyzed—and this analysis depends in part on the uncertainty that hampers forecasts of the extent of global warming.<sup>2</sup>

The same experts fear that climate change will have dreadful consequences. I do not wish to dwell on this point, for anyone who wishes to inform himself—and it would be either criminal or insane not to do so—is able to choose from among a large number of excellent studies. I should like simply to emphasize the following aspect of the matter: if the trends so far observed continue, the climate system will enter into a chaotic state that will cause a set of key variables to reach critical values (popularly known as tipping points). Exceeding these thresholds will trigger in turn a series of irreversible and catastrophic events, amplifying a self-reinforcing dynamic that may be likened to a plunge into the abyss. The deep circulation of the Atlantic may be altered, for example, bringing about a secular cooling trend in Europe that would have dramatic implications for agricultural production; or the permafrost that covers much of the Arctic regions may melt, releasing gigantic quantities of methane, one of the most dangerous greenhouse gases; or the Arctic ice cap may shrink further, causing sea levels to rise throughout the Northern Hemisphere. We do not know exactly where these thresholds lie. When they are discovered, it will be because they have already been exceeded, at which point it will be too late.

I now come to the figure that I promised to reveal a moment ago: *one-third*. If we wish to avoid the irreparable disaster that an increase of three degrees Celsius (fractionally more than five degrees Fahrenheit) in the average global temperature by the end of the century would represent, humanity must force itself not to extract from the earth more than one-third of its presently known carbon deposits, in the form of oil, gas, and coal.<sup>3</sup> *It is not scarcity that should concern us, then, but a*

*overabundance of fossil resources*: we have three times too much. If more than a third of this supply used up, the spontaneous dynamics of the market will produce an uncontrollable stampede in which the weakest will be trampled in a mad rush by governments and corporations and individuals to claim the last remaining resources for themselves.

Popular opinion has begun to show signs of a growing awareness of the mounting peril, but there is little sense of urgency. Official reports such as the Stern Review, issued by the British government, and films such as Al Gore's *An Inconvenient Truth* have shaken public complacency, the first by showing that it would be much less expensive to fight climate change than to let the world economy collapse under the effects of environmental degradation, the second by playing on emotions and fear. This joint appeal to the heart and the wallet notwithstanding, one often hears it said, by the highest government officials, that *two* dangers threaten the survival of the human race: the growing scarcity of fossil resources *and* a warming climate. The use of the conjunction here reveals a logical error: if the climate is becoming warmer, then resources are not scarce; they are overabundant. There is no better illustration why the various elements of what at the outset I called *the catastrophe* must not be considered in isolation from one another. In doing this, one risks concluding the opposite of the truth.

It is a remarkable fact that many—though by no means all—scientists are far more clear-sighted regarding these matters than the general public. It is remarkable because they courageously confront the truth that is ever so inconvenient for them: the civilization they have helped to create, based on the unrestrained development of science and technology, is in danger of dying. In January 2007, the theoretical physicist Stephen Hawking, renowned for his work in cosmology, and Martin Rees, Astronomer Royal of Great Britain, advanced the minute hand of the Doomsday Clock by two minutes. Three years later, it was pushed back by one minute. In January 2012, it was moved forward again by a minute, so that we are now only five minutes from midnight—the moment when humanity will have annihilated itself. The Doomsday Clock was established in 1947 by a group of physicists who were shocked, somewhat belatedly, by the dropping of atomic bombs on Hiroshima and Nagasaki. The clock was to be administered by the governing board of the *Bulletin of the Atomic Scientists*, a journal devoted to warning the public of the dangers posed by this new and incomparably powerful weapon of mass destruction. In the first year of its existence, at the beginning of the nuclear age, the hand of the clock was set at seven minutes before midnight. Since then it has been moved forward and pushed back twenty times. In 1953, when the United States and the Soviet Union tested thermonuclear devices within nine months of each other, the needle came closest to midnight, separated from it by only two minutes. In 1991, with the collapse of the Soviet Union and the end of the Cold War, it was pushed back to seventeen minutes, the earliest setting since the clock's inception; then advanced to seven minutes, in 2002, following the terrorist attacks of the previous year in New York and Washington.

We stand today five minutes from midnight, which is to say two minutes closer than in 1947. Three arguments are put forward to justify this sinister prognostication. First, there is the fact that humanity has entered into a second nuclear age, in which the dangers of continuing proliferation are now aggravated by terrorism. Additionally, the taboo against using the bomb that prevailed after Hiroshima and Nagasaki has begun to lose its force—a result of the passage of time and creeping forgetfulness. Finally, and for the first time in the history of the Doomsday Clock, a reason has been advanced that has nothing to do with the nuclear threat. It has to do instead with the risks associated with climate change.

Some of the greatest scientists of the age therefore recognize that humanity can do away with itself in one of two ways: either through internal violence—civil war on a global scale—or through the destruction of the natural environment necessary to its survival. These two methods are evidently not independent of each other. The first tragic manifestations of a warming climate will not be a rise



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