

The Nuclearization of the World

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Does the nuclearization of the world offer the State and the Economy all the advantages that we can legitimately expect?

Are its effects on the social life and health of the population as disastrous as its detractors would have us believe?

An answer to these questions.

Introduction to the New Edition

The first edition of this text was published anonymously.¹ In September 1986, when it was republished under my name by Éditions Gérard Lebovici, I merely added, in the same vein of black humor that characterized the first edition, a few lines by way of an introduction.² At that time, barely five months after the catastrophe of Chernobyl, it would have seemed quite unnecessary to insist on the evidence: the seemingly extravagant extrapolations I ventured to make after the relatively minor accident at Three Mile Island were quite obviously surpassed by the next “unprecedented” disaster, with literally *incalculable* consequences, that made its debut in the Ukraine. Now, however, years later, when everything has followed its course—one generation of reactors has been retired, another has taken its place—it would seem that certain clarifications would not be useless.

As for the procedure that I adopted (that of the spurious defense of my target, and satire disguised as apologetics), as exemplified in various pamphlets by Swift, along with the corresponding tone of black humor, there will be those who think that such an approach to the discussion of such a serious issue is inappropriate. For my part, since I think that what we are dealing with here is a most generalized indecency, I think that it is precisely with regard to this issue that someone must have the audacity to exhibit his “shame” and his “anger” *in a book*—like any professor of Technology who was also a philosopher of “enlightened catastrophism”, who had just returned from spending a couple of days in the Ukraine with a “diary of an angry man” under his arm. After all, there is no lack of circumstances that would provide an outlet for his anger, however

¹ The first Spanish edition (1981) was also published anonymously.

² Here is my introduction to the 1986 edition: “I have nothing really useful to add to this pamphlet that I published anonymously in 1980 after that other catastrophe which took place in America, since a plethora of experts with a plethora of means have already been hard at work to complete it: it would be just as irksome for the reader as it would be for the author to reiterate all the themes, from meteorology to botany, concerning which I modestly anticipated their contributions, which were so various, but also so predictable. And I am convinced that those employed in the communications industry will rush to condemn as unacceptable the repulsive opportunism that consists in taking advantage of a disaster like Chernobyl in order to try to shatter the consensus they have constructed with respect to the issue of the nuclear industry. Furthermore, they are now in a big hurry, characterized by an equal degree of suspicion and with hardly any scientific basis, just as they were after Three Mile Island, to construct a framework for understanding the event without any acknowledgement at all of the abundant mutations and cancers that are only now beginning to be discovered by research at the site. Since the two or three catastrophes that the text still lacked in order to attain its full meaning are obviously just as ‘impossible’ as the previous ones, we must fear that its merits will be verified in such an overwhelming manner that afterwards there will be no one left to record them.”

shallow it may be, an outlet not at all like a literary treatment. With this in mind, it seemed to me that if we are, for now, reduced to this mode of expression, then at least, in accordance with a kind of moral hygiene, having been compelled to redirect our anger towards such a meager compensation, we must altogether banish from our text every trace of the *pathos of indignation*, that professional smugness of the traffickers in ethics and the hucksters of metaphysics who try to shock people with their anger and have the shamelessness of parading their “shame”.³

This mode of expression, however, like any other, does have its problems: the satirical rhetoric of false argumentation, with its pompous illogicality and its laughable sophistry, while avoiding, of course, the self-righteous rhetoric of the kind of denunciation that is being peddled by what is now known as the “civil society” movement, is nonetheless not without a certain heaviness, albeit satirical, in its mode of presentation. This heaviness is today aggravated by the fact that some of the allusions, plays on words and ironic turns of phrase with double or triple meanings, are now, twenty-seven years later, hard to understand, and we must also note that some of those at the receiving end of these jibes—especially the French Stalinist party—due to their manifest disappearance, no longer merit so much attention.

In other respects, I do not think that the somewhat paranoid logic of my black humor led me to commit even the least significant satirical excess. The technological management of life amidst the ongoing catastrophe by the State and its experts has in the meantime become even more insolent in its scorn for its human guinea pigs than anyone could have imagined when the first edition of this book was published. Thus, it was not I—and this is just one example out of many—who imagined that we would one day speak of “practical radiological culture” to designate the kind of discipline that must be inculcated in a population that lives “under radiological pressure” in a contaminated zone. If this pamphlet has in any respect suffered from the passage of time, it is not because its claims now appear so excessive, but rather because the excessive has become the norm to such an extent that no one even pays any attention to it anymore. The organization of society as a whole “in conformance with the security imperatives dictated by machines”, presented in the first edition of my book as the fervently desired utopia of nuclearization, whose odious character is recognizable by all, is now defended by the disaster managers as if it were a panacea; they even *demand* that the citizens should be so proficient in “environmental awareness” that they will desire that everything without exception should be subjected to security and control measures. Under such conditions, anyone can present the “return” of nuclear power—which in fact never went away—as indispensable for the protection of the environment, since it does

³ A reference to Jean-Pierre Dupuy, an odious philosopher and technologist, a fisher in academic and para-state waters, subsidized tourist and author of the book, *Retour de Tchernobyl. Journal d'un homme en colère* (*Return from Chernobyl. Diary of an Angry Man*), Seuil, 2006. He is also the author of *For an Enlightened Catastrophism* (Spanish translator's note).

not emit greenhouse gases and would therefore constitute the ideal response to the cataclysmic threat officially designated as “global warming”.⁴

“The technology of nuclear fission smashes not only the atom but also the walls between specialized disciplines”, as Günther Anders said in 1958. In any case, I believe I have demonstrated with *The Nuclearization of the World* that anyone can acquire an adequate understanding of the essence of the subject without possessing the least training in nuclear physics: I would even venture to assert that it is impossible to be more ignorant than I am with regard to this subject. By saying this, however, I am saying that anyone can do what I have done by examining the most easily accessible information, without even having to resort to the Internet. Finally, it is therefore necessary to admit, contrary to what has so often been claimed, even by me, that it is not possible to explain the pervasive submission to the development of the nuclear industry as the result of the veil of secrecy that has been cast over its existence. And such an explanation is even less plausible insofar as apathy has never been as widespread as it is today, when alienation, *From Chernobyl to Chernobyls*—the title for the book was chosen by a media-savvy Nobel Prize winner, a propagandist for an “indispensable” but “safer” nuclear industry—advances *transparently*.⁵ Now that we have reached this point, we will no longer find the black humor in my book black enough, but, after all, in order to cultivate the will to write such a book it was necessary to assume that the population that had consented to all of this would have a capacity for reaction that we can now see, after *provocations* on a scale that dwarfs my efforts, has been reduced to more or less nothing.

⁴ “We have to overcome our fears and accept nuclear energy as the only safe and reliable source of energy that would have the fewest global consequences.... We should no longer split hairs about the statistical risks of cancer, above all because we breathe air that is full of every kind of carcinogen. If we do not concentrate our efforts on the real threat, that is, global warming, we might die sooner, like the 30,000 unfortunate people who died in the heat wave of the summer of 2003 in Europe.” James Lovelock in “La venganza de Gaia”, *Columna*, Barcelona, February 2007 (Spanish translator’s note).

⁵ A reference to Georges Charpak, Nobel Prize winner in Physics in 1992, a long-time Stalinist and former member of the Resistance, wine connoisseur, gourmet and diehard supporter of nuclear power. In the book referred to above, published by Odile Jacob in 2005, he claims that nuclearization will give France a head start when the time comes for “confronting the gradual, but inevitable, depletion of petroleum resources”; and because “all it would take is one serious accident to convince world opinion of the need to *abandon nuclear power*”, in order to prevent this from happening he advocates a worldwide body for the control of nuclear security, and calls for an organization composed of three hundred elite scientists, working under the aegis of the United Nations and endowed with executive powers, which would be responsible for disciplining States that operate their own secret nuclear programs (Spanish translator’s note).

The Nuclearization of the World

The daily barrage of democratic debate, unleashed in a campaign orchestrated from the vantage point of the highest echelons of the State, whose purpose is to resuscitate a reticent public opinion, tends to faithfully reflect the acquiescence of the population, by way of its qualified representatives, to the decisions made concerning nuclear power. Solicitous with respect to not putting any obstacles in the way of the freedom of discussion, and above all so conscientious with regard to not imposing, in an authoritarian manner, any time limits on its expression, the public powers have sought to create a situation where the views of the population are still being expressed long after the authorities implemented their program. Thus, sheltering under our rights as citizens and determined to use them to their fullest, to the degree that we can remember what they are, we have the complete democratic freedom to choose to adopt or approve the position that has been scientifically prepared by the most expert institutions.

The author perceives, as he must and, indeed, more than anyone else, the vast gulf that separates him from the specialists who enjoy the blind confidence of the public. Nonetheless, at a time when many people are expressing their fear that the population has fallen victim to the worst errors due to the veil of secrecy cast over every profound truth regarding the nuclear industry, it has seemed to the author to be useful to demonstrate that it is possible for an ordinary person to form a reasonable opinion on the sole basis of the facts that have appeared right on the surface of the flow of information.¹ Thus, just as a pesticide or, in this case, just as any radioactive substance builds up in a food chain by increasing its concentration in each ascending link of the chain, our argument, based on the most easily-accessible information and proceeding along the logical chain of necessary deductions, will also draw certain conclusions concerning which no one must be indifferent, because it will not be long before no one will be capable of escaping their consequences. And, enriching a metaphor with whose modern provenance the reader will certainly not be unacquainted, I will compare my anonymous function as the condenser of nuclearist ideas with that of that species of algae that possesses the property of being capable of absorbing the radionuclides disseminated in the ocean by the nuclear industry at thousands of times their concentration in the surrounding waters: none of the elegant findings of this work are indebted to the arbitrariness of any personal theory; all of them are the legitimate property of contemporary society.

¹ “Anyone who devotes some time to the study of the topic of energy supply, who is even moderately acquainted with the technologies involved, who has examined the issues related to security, etc., has to be more or less pro-nuclear.” Luis Magaña, Spanish Minister of Energy, in an interview with *Lunes económico* (March 3, 1980) (Spanish translator’s note).

Although modesty forbids me from comparing myself to a mussel, I will admit right from the start that I counted on the urgency of the problems addressed in this veritable *nuclearist manifesto* to compensate, if possible, for the mediocrity of their presentation. This urgency should be admitted even by those thinkers who currently couldn't care less about doing anything about it. For, regardless of the elevated moral tone of their speculations, right now their first priority should be to save the world that makes them possible and profitable, that is, the world that has raised the refinement of social life to such a pitch that now they are simultaneously faced with both the constant need to engage in discussions about things that are alien to real life, as well as the need for the professional specialization that satisfies that need. It is true, of course, that those who pass for the masters of this society, those who announce, without being too worried about it, that "we are heading for an uncontrollable world"²—these masters of the uncontrollable—knowing their place in that world, do not set a good example of awareness of the needs of the moment. And, it would seem, it never occurred to them that, by asking us to continue to place our trust in their non-rule of the world, they might cause the people to imagine that they are indeed capable of controlling it in their own interests should they feel the imperative need to do so. The way I see it, we are on the threshold of precisely such a turn of events.

It has been said that the development of nuclear power, due to the constant vigilance that it requires with regard to the transport and storage of radioactive materials, will create a historically unprecedented obligation to preserve the stability of existing social institutions. This is to misconstrue the problem, however. The perpetuation of the existing social institutions is not a problem of the future but of the present. And it might soon become a problem of the past if we do not address it in time. The increasing difficulties encountered by States in their attempts to manage society's survival, while conveying the impression that those who legitimately possess the means to confront these problems are paralyzed, also inflame the passions of the multitudes of those who, utterly lacking means of any kind in the administrative framework of existing society, precisely for that very reason are not subject to the obligations entailed by their use, which is why they can allow their imaginations free rein. These are the people who, based on the widespread feeling that the life of society must be radically simplified, vehemently call for the abolition of the State, property, labor and even a few other things, and thereby provide a definitive response to all those servants of the State who have ever asked the famous question uttered by Lloyd George ("What would you have done in our place?"). These people, secure in their shamelessness and feeling that they are authorized to loudly insist upon their demand for an absolute freedom, clearly recognize the obvious fact that, with respect to the owners of society, no coherent program is *explicitly* opposed to their illusions.

The reader will find that program right here in this book; as for anything that he may disagree with, he will have to admit that nothing better would serve the purpose

² Giscard d'Estaing, *Paris-Match* (September 14, 1979).

of constructing such a program. Far removed, as a result of his personal background, from any scientific pretensions, the author has expressed, without either graphics or statistical charts, that which requires neither graphics nor statistics to be accepted: the unvarnished truth. Although he has devoted his entire life to other pursuits, and lacks credentials of any kind that would entitle him to speak of nuclear physics, if his ideas nonetheless take on an imperious tone, this is because, out of respect for the public, he wanted to elaborate them as clearly as possible and with as few words as needed. His fault, if he does indeed have one, is not due to his incompetence but to his all-too-rapidly attained understanding of the facts: there is only one science, and that is the science of history; that is, until the advent of a new order, the science of domination in history.

Now, however, is not the time to anticipate an argument whose implacable logic the reader will be able to appreciate in the text that follows; for now we shall only point out that these proposals merely comprise a rough outline that I generously offer to people who are more capable than I, people who will know how to further cultivate them so that they attain the only degree of perfection worthy of their subject: to render them indisputable by adding plutonium to the word, cracks to the radioactive containment vessels and evacuation plans to the reassuring assertions. My work is therefore aimed at those who are today known as “decision-makers”; quite inaccurately in my view, because, even if this term was invented to offer them some consolation, what they are most lacking is precisely the power of decision-making. Instead of pretending to be thinkers, they would do better to leave to their enemies—as they did in the past—the satisfaction of compensating for their failures and their much-lamented impotence by understanding the world better than anyone else: as for our “decision-makers”, they have already changed the world so profoundly that they have transformed it into something that definitively discourages any critique. And thus, however much posterity may elaborate theories that cleverly explain this transformation and condemn it, those theories will lack any importance.

In any event, intellectual originality will not be found to constitute one of the qualities of this work, which some people will surely interpret as an exaggerated way to make a point in an era when such originality is like a debt that we have to pay regularly by the truckload; the public has become so demanding in this respect that it is no longer satisfied unless it is presented with a restructuring of human understanding carried out by way of a vigorous reorganization of its categories every four months. Or even more frequently, in accordance with a rate of turnover that does not exceed by even one iota that of the inventory rotation recommended for managerial methods in a modern bookstore. As for me, since I am utterly lacking that cleverness that allows modern thinkers to produce the newest ideas without ever starting from or returning to reality, I have sought to demonstrate that in this case there can be some merit in taking the easy way of ordinary thought, with the intention of inserting it into reality. The issue of nuclear power is properly and quite concretely the radical simplification of the problem I broached above, because it allows anyone to focus on all of humanity’s

problems with the most well-grounded coherence. If, in order to write genially, it is enough to be genial oneself and then write naturally, here we shall perceive how nuclear power, as we await the other mutations that it has in store for us, can now make anyone genial.

To conclude once and for all with this majestic gallery of oratorical adjurations, I must point out that it is by no means my personal interest that leads me to engage in a task that I consider to be necessary. Indeed, I cannot expect to profit from the development of nuclear energy, insofar as the jobs created in that industry are selectively awarded to individuals who display the genetic profiles that are best-adapted to their new environment. And a diligent study of my hereditary characteristics has revealed to me that my body's powers of resistance to carcinogenic factors have not yet reached the level that will soon be required for living in the immediate vicinity of a nuclear power plant, that is, less than one hundred kilometers from one. I will therefore have to find a job that is not situated in the environs of any nuclear power plant, an undertaking subject to every imaginable difficulty. Which is to say that I only take into consideration the good of my country and service to the *res publica*, insofar as it is precisely nuclear power, as we shall see, that is the *res publica* in its highest degree of materialization.

An Examination of the Anti-Nuclear Position: A Description and Annihilation of Its Theses

In any discussion of the anti-nuclear protest movement, it is only logical that we should begin by proving that it exists, in order to subsequently define it.

That such a movement of rejection, as vast as it is amorphous, now exists in every modern country—or, to put it another way, in every country that is undergoing nuclearization—is something that a naive or misinformed reader might perhaps accept as beyond all doubt. However, the domain of what is directly verifiable by one's own powers—which therefore does not have to be proven by any other means—has been singularly reduced with the progress of modern science. This progress has taken place by way of two complementary paths: first, many things that were once quite simple and not at all novel, have somehow been transformed into things that have a mysterious quality of *strangeness* without our direct powers of perception having taken account of this transition, which is why it is legitimate to suspect the testimony of the senses; secondly, with the dissolution of the material basis of immediate certainties, everything that was directly known has been transformed into the problematic object of diverse sciences, without any progress with regard to the development of multidisciplinary approaches that would allow us to discern the exact dimension of that which, from now on and under the direction of the experts, we must learn to ignore. Science henceforth emerges as the victor, in one respect: there is practically nothing that we can know directly by our own unaided powers.

To be persuaded of the benefits of this prodigious expansion of the field of modern culture, we need only consider how the development of historical research and its favorable impact on collective memory have made possible a return to the exclusive domain of the objective and scientific knowledge of that which had previously been abandoned to the hands of non-experts during a time when it was sufficient to appeal to one's own experience in order to attempt to establish the existence of a historical fact, and even to deduce its meaning. This scandalous state of affairs has been brought to an end. Today it is the exclusive prerogative of qualified specialists, or, more precisely, certified specialists, to argue and debate on events and their meaning, and *a fortiori*

to determine if they have actually taken place, thus making it possible to eliminate all hasty or tendentious interpretations. Not so long ago, in relation to the Gulag—back when it was generally accepted that the alleged revelations made during the thirties were made by individuals who were so lacking in philosophical or scientific objectivity that they actually spent some time there—it was proven that these revelations had been invented a long time ago and put down in writing only recently. The same kind of thing happened with regard to a world war that would seem to have taken place around 1940, from which we are separated by the insurmountable abyss of a generation and a half: from a strictly scientific point of view, it dawns on us that we possess just as little in the way of hard data concerning that war as we do concerning the Punic Wars. We may therefore proceed with a good conscience to engage in research regarding the highly controversial existence of gas chambers, and we have all the time in the world to calculate with the greatest precision just how many people met their deaths in them; for it is altogether unthinkable that we would ever find ourselves in the situation of being passive spectators of massacre on a comparable scale.

Despite all the reasons we have for congratulating ourselves on our need for knowledge that is the result of years of the perfecting of our wisdom, one may nevertheless detect a hint of excessive effort on the part of those who engage in the demonstration of the existence of a fact like anti-nuclear protest, a fact that is all the more inaccessible to objective knowledge to the extent that it still floats in the uncertainty of the present and insofar as it is necessary to uproot it from subjective interpretations and the distortions of biased observers. As information bequeathed to us from the recent past, it now depends entirely on the responsible authorities. For example, we are indebted to the tireless zeal of our leaders for the fact that certain disturbances which took place in 1968 have not been forgotten: “It must be recalled that this consumer society came to a standstill in May 1968, that is, it was rejected. May 1968 was an important phenomenon, etc.”¹ The quite understandable scruples of the responsible authorities, however, obviously become more decisive in proportion to the temporal proximity of the phenomena in question; they are loathe to shed light upon authorized historical truths for a public inclined to indulge in extrapolations. This is why we still do not know what happened in Portugal in 1974–1975, or at least we do not possess a decent official version of those events; if the revision of the successive co-existing versions of the facts that are circulated takes time, in the end we will be stuck in 1984.

These extensive precautions observed when dealing with the facts call for means that only national governments, their universities and their research centers possess; for who is in a better position to respond to the methodological demands of modern science than those who create it and make their money from it?² Therefore, it is only fair that

¹ Giscard d’Estaing, *ibid.*

² “I am an economist and a sociologist, not a nuclear scientist. That is why I am very well aware of the grave social cost, the psychological pollution, created by certain articles in the minds of the Spanish people, towards whom those of us who have advanced training have a sacred duty to be honest and to say what we think is true if we have studied the issue”. For example: “The yet-to-be-discovered deposits

the responsibility to control pollution and to precisely measure the harm it has inflicted should be in the hands of those who caused it, just as the resolution of the problem of the decommissioning of nuclear power plants is the task of those who built them. With respect to my current purpose, which is to establish the existence of an anti-nuclear protest movement, one fact comes to my aid, and that is the fact that an event, before it has sojourned for a longer or shorter time in the limbo of historical indetermination, can have fleeting access to a notorious existence in the form of actuality—an actuality constituted by all those things that the responsible purveyors of information presently deem worthy of receiving the official stamp of approval that is so easily enjoyed by the past due to the fact that it is impossible to change it. As for the phenomenon of anti-nuclear protest, I have enough evidence of its existence to satisfy even the most rigorous standards of proof, insofar as it is the very same kind of evidence that also serves to establish *urbi et orbi* the existence of any historical reality: it is broadcast on television, and it is in the newspapers.

It is true that today, “in a world without memory, where images chase each other, like reflections on the water”,³ where we never step twice into the same river of information, there is nothing safe that is not also implicitly subject to the threat of being dealt a resounding refutation tomorrow. And that is why, when, from the summit of political power, which is where the population’s feelings can best be gauged, we are assured that the French populace “is at the present time mostly in favor of nuclear energy”,⁴ we logically experience the greatest incredulity towards the manifestations of hostility that are regularly provoked by the construction of new reactors. For we cannot seriously set on one side of the scale the weight of public opinion, composed of the opinions of all those whose opinions are important because they let others express them, thus providing an illustration of the meaning of “the common sense and intelligence of the French people”,⁵ and on the other side of the scale the conduct of those who seek to directly express, in total disregard of whatever their representatives may say, an opposition which we are fully justified in describing as of no account, since it has been necessary not to take it into account in order to make any decisions at all with regard to this issue. All of these observations lead us to conclude that anti-nuclear protest, sporadically manifested between the two definitive revelations of the true state of mind of the French people, is nothing but the activity of those who, because they are opposed to the majority opinion and therefore represent no one but themselves, have thereby deprived themselves of the right to have their opinions taken into account.

of uranium are even more dangerous than all the non-nuclear wastes currently in storage”. Gallego Gredilla, director of the Spanish Atomic Forum, in an interview with the Cáceres-Badajoz *Hoja del Lunes*, reprinted by *The Ecologist*, No. 3 (January 1980) [Spanish Translator’s note].

³ Giscard d’Estaing, speech on the occasion of the competition for the title of France’s best worker, *Le Monde* (October 27, 1979).

⁴ Giscard d’Estaing, responding to a question from Charles Villeneuve on the topic, “France and nuclear option”, *Europa 1* (January 18, 1980).

⁵ Giscard d’Estaing, *ibid.*

Now that we have established the existence of an anti-nuclear movement, we need to say just what it is. Anyone who was to deliberately seek to increase the anxiety of the leaders of society could not have found a better point of application for the dissatisfaction, as generalized as it is powerless, that is undermining our contemporaries, and many have concluded that it is a concerted plan, hatched in some headquarters of subversion. I do not agree. I will refrain from even discussing the ludicrous hypothesis that posits the action of agitators financed by foreign powers: the notion that the nations of the East Bloc would try to bring about the downfall of the West by this means is, from every point of view, just like the idea of someone ordering someone else to saw off the branch upon which he is sitting. The idea of premeditated action on the part of revolutionaries who would be capable of calculating the use of their forces to create the most favorable climate for their plots no longer merits examination. Revolutionaries possessing this kind of seriousness, that is, this kind of strategic perspective, do not exist. We may confirm the correctness of this assertion with the same equanimity with which we have previously confirmed other truths, by resorting to the same demonstrative proof: you do not see them on television.

There is, of course, a hypothesis that for many people seems to enjoy a privileged status with regard to standards of evidence, which imputes the responsibility for anti-nuclear protest to the various pressure groups commonly included under the rubric of environmentalists.⁶ This hypothesis is undoubtedly the least admissible of all, and it really takes some effort to think that it would even be necessary to refute such an accusation that bears such a close resemblance to calumny. The truly bucolic delicacy with which these people present their respectful petitions to the public authorities prevents anyone from thinking that they might be capable of rejecting anything at all. Environmentalism is not a conspiracy, it is a “misery” (*Tradescantia*),⁷ a plant, as everyone knows, whose genetically determined coloration allows biologists to establish a very precise scale of the mutations caused by ionizing radiation. In much the same way, environmentalists courteously provide the political powers with indices relating to the maximum dose of transformation of the natural environment that will be tolerated by the population, that is, the threshold beyond which such transformation becomes perceptible, and on that basis notify the authorities of the risks engendered by the proliferation of discontent. Finally, to accuse them of being at the root of the hostile reactions to nuclear power is just as malicious as was the accusation leveled in other times, before a more reasonable assessment was made, that attributed the responsibility for working class unrest in the factories to the trade unions.

⁶ In American English usage, the word “ecologists” is usually used to refer to either biologists or militant environmentalists (as in “deep ecology”); “environmentalists” is more broad and can be applied to members of otherwise conformist political groups, ordinary well-intentioned individuals, celebrities or adventurers lacking any scientific credentials. Depending on the context, this word will be translated as either “ecologists” or “environmentalists” (American translator’s note).

⁷ In English, however, *Tradescantia* is not known, as in France, by the name of “misery”, but by the name of “spiderwort” (American translator’s note).

It must therefore be assumed that, despite all appearances, a vast number of people who understand nothing about nuclear physics have become, on their own initiative, interested in its applications. Indeed, you will agree that this is something that is hard to admit: it is almost unbelievable that people who are paternalistically supplied on a daily basis with the topics of interest and entertainments that are most suited to their capacities, suddenly become agitated about the importance of something that is so far removed from the sphere of their concerns, not to speak of their intellectual capabilities. It is true, of course, that the French State, preoccupied with instilling a civic spirit in the indolent masses, has done everything possible to stimulate the curiosity of the public with respect to this issue: thanks to the pall of secrecy that has been carefully cast over all nuclear affairs, all those who are presumptuous enough to believe that someone was trying to hide something from them—as if there was some reason why they should be afraid of nuclear power—have had their curiosity piqued with regard to the nuclear question. This strategy, however, whose only result was to increase the pleasure people experienced while reading such dry texts as the ORSEC-RAD plan,⁸ just as children read with particular delight the books that their parents have forbidden them, has not been as successful as was expected: the people do not seem to have understood just how immensely important it is for them to know that in case of evacuation they will need “a toiletry kit, a change of clothing and an extra pair of shoes”.⁹

Now I will attempt to lay bare the emotional forces set in motion among the population by the so-called nuclear question (in fact, nuclear power does not pose any questions at all, it only offers solutions). Indeed, irrational emotional forces are needed to impel so many people to embrace the eccentric idea of wanting to have a say about things they do not understand in the least, on the pretext that, because the material consequences of nuclear power threaten to affect their lives in the most direct and profound way—a way that we conventionally refer to as “political”—they must therefore have their say in the matter, just as they express their views about questions of less immediate interest, concerning which they deliberate and then express their opinions at the ballot box, in accordance with the tried and true rules of representative democracy.

⁸ A French evacuation plan to be implemented in case of nuclear catastrophe. Here are its simplest recommendations: “There is an emergency plan, the municipal medical centers have been supplied with potassium iodide”, but “in case of an accident one should stay home and not drink milk”. (Federico del Pozo, the director of Nuclenor, in a statement to a group of people living in the vicinity of the Santa María de Garoña nuclear plant (March 3, 1980), quoted by *The Ecologist*, No. 6 (May 1980). Nuclenor is the oldest Spanish nuclear power corporation; it built the Garoña power plant on the banks of the Ebro.) (Spanish translator’s note)

⁹ A special evacuation plan relating to the Fessenheim nuclear power plant, *Le Matin* (May 9, 1979). The Spanish Plan for Civil Protection recommends that everyone relocate three kilometers away from the power plant in case of an accident: “Unlike any other industry, if a horror-movie type scenario were to unfold at a nuclear facility, there would be plenty of time, maybe even days, to evacuate the population beyond the recommended three kilometer radius”. Letter from Federico del Pozo to *Diario de Burgos*, August 31, 1988. (Spanish translator’s note)

This popular prejudice will have to be rectified by the means that we shall elaborate below, since the truth is its diametrical opposite: the issue is too hot, or, more precisely, too radioactive, for the broad masses of the population to judge it calmly and objectively. The masses, already critical, might turn supercritical as a result of a partial meltdown of their customary faith in the authorities, and in such a case, as we saw at Three Mile Island, we would run the risk of an emotional overreaction, which might be conducive to and even encourage outbreaks of unrest and blind violence. It is therefore necessary for discontent to be circumvallated in a veritable “domain of dissent”, which would even serve to generate a sector of industrial production rechristened, depending on the circumstances, under the name of “parallel” or “green” industries. But we still have a long way to go before we reach that point.¹⁰

Let us therefore consider the emotional forces underpinning the popular panic over nuclear power. First of all, of course, as has been pointed out on numerous occasions, we have to deal with the unjust association—the fruit of the ignorance of the uneducated—of the peaceful use of the atom and its military use. It has reached the point where it is more or less as if one were to want to derive the consequences of the everyday use of a candelabra by examining its exceptional use as a club to break open the head of a bothersome interlocutor; and then, on the basis of the proven fact that on a certain occasion a hot-tempered host treated one of his guests in this manner, to want to pass a law universally prohibiting the use of candles for illumination. (It is worth the trouble to note that the reader will see how much more enlightening this comparison is than the one made by a certain President who drew the contrast between a match and a phosphorus bomb,¹¹ which presupposes a certain amount of intellectual competence on the part of a public for whom the word “supergenerator”¹² is considered to be “a little too complicated”.) This is just as ridiculous, in my view, as comparing an atomic

¹⁰ “Nuclear energy ... is also unpopular with regard to its peaceful applications, and this is not only unfair, but might have suicidal consequences for the country. We technicians have proven this beyond a shadow of a doubt, so that among well-informed people it is not even controversial. It is very clear that the risks posed by a nuclear power plant are even less significant than those posed by any other conventional industry and that, by taking the pertinent measures, there is no danger of contamination. *But the masses do not want to understand this....* When there are no secondary interests at work, such as tourism, for example, the motivating force of this movement is nothing but *ignorance and the kind of conservatism that consists in systematically turning one’s back on progress*”. Miguel Massiera, of the Spanish Association of Science Journalists, in *La Vanguardia*, Barcelona (November 22, 1977) (Spanish translator’s note).

¹¹ A reference to a pseudo-dialogue between Giscard and a journalist in January 1980, totally devoted to pro-nuclear propaganda, during the course of which the president said that the difference between a nuclear power plant and an atomic bomb was the same as the difference between a match and a phosphorus bomb. (Spanish translator’s note)

¹² “Fast neutron reactor which uses enriched uranium 235 or plutonium 239 to transform by neutron capture non-fissile uranium 238 and thorium 232 into fissile isotopes, uranium 233 and plutonium 239. This reactor produces more fissile matter than it consumes.” Tapan Bose and Pierre Malbrunot, *Hydrogen: Facing the Energy Challenges of the 21st Century*, John Libbey Eurotext, Montrouge, 2007, p. 90 (American translator’s note).

bomb with a nuclear power plant: the proof lies in the fact that in the latter case one does not speak of an explosion but of a *nuclear excursion*.¹³ You will never read any other expression in an official report, and it required a stressful situation, like the one experienced by high-level American officials and staff on the occasion of the Three Mile Island incident, for Roger Mattson, director of the Nuclear Regulatory Commission's Division of Systems Safety, to allow himself to be so completely seduced by the simplicity of onomatopoetic expedients that he responded to a question from Senator Kennedy about the worst-case scenario by saying, "It's not going to go boom";¹⁴ which still ominously evokes something along the order of an explosion, whereas all we are dealing with, when you get right down to it, is an excursion.¹⁵ Only an imbecile or moral defective could conclude that what we have here are two different names for the same thing, one of which is merely more clearly expressed and articulated than the other, to judge by how often we see the same word used to describe radically different realities, or the same word being applied to realities that have been totally transformed.

This delusional conflation of two things as different as nuclear power and nuclear war can undoubtedly be explained by the fact that the memory of Hiroshima is still very much alive in the minds of the population. In connection with this particular aspect of the question, I would be remiss if I did not quote Pierre Tanguy, the director of the Institute for Nuclear Safety and Security, a division of the French government's electric power monopoly, EDF: "The conditions under which humanity became aware of the power of nuclear energy (the Hiroshima bomb), have given rise to a degree of mistrust of nuclear energy that was never directed against other sources of energy."

¹³ Thanks to the rigorous logic of the International Atomic Energy Agency in its scientific evaluation of nuclear accidents and Chernobyl, today we speak of a "level 7 accident according to the INES scale" (Spanish translator's note).

¹⁴ Quoted by Michel Bosquet, *Le Nouvel Observateur* (May 21, 1979), No. 8, *Science et Avenir*, a special edition in the series on "The Nuclear Threat" (Author's note). [In the Spanish translation of the original text, which quoted Bosquet's article, the nuclear official is named as "Hendrie", who was actually the Chairman of the NRC, and he is quoted as having said, "Boom-boom": "... Hendrie, the director of the National Nuclear Reactor Security Service [Nuclear Regulatory Commission's Division of Systems Safety], allowed himself to be so completely seduced by the simplicity of onomatopoetic expedients that he responded to a question from Senator Kennedy about the worst-case scenario by saying, 'Boom-boom!'" I have changed the name of the official and rest of the quotation to conform with the record as set forth in *The Report of the President's Commission on the Accident at Three Mile Island*, ed. John G. Kemeny, Washington, 1979, p. 133, available online (as of November 2015) at: www.threemileisland.org (American translator's supplementary note).]

¹⁵ In October 1989 a fire broke out at the Vandellós I nuclear power plant, a facility that had been in operation for fifteen years, forcing the authorities to shut it down. In December of the same year, a pipe broke in the cooling system of the Santa Maria de Garoña nuclear power plant, and 250,000 liters of contaminated water were dumped into the Ebro. The third most significant "excursion" of its kind, out of the 27 that have taken place in Spain, occurred on January 31, 1992, when a containment breach at the Trillo nuclear power plant, the most modern nuclear installation in Spain, led to a major release of radioactivity and exposed the plant's personnel to excessive amounts of radiation (Spanish translator's note).

Of course, not to speak of that fraction of humanity that had the best vantage point from which to obtain a really first-hand appreciation of the power in question, almost everyone else has seen images of that first application of nuclear energy, many of whom have experienced a certain kind of anxiety, occasionally even to the point of going into shock or becoming suspicious, and even sometimes succumbing to petty doubts.... As if wars were ever pleasant! If we do not mistrust coal, that is undoubtedly due to the fact that no one, who knows why, has become aware of its power, under conditions equivalent to those that prevailed at Hiroshima.

Meanwhile, with an immense effort of imagination we can perceive the state of blind ignorance concerning nuclear energy that was typical of the public of the 1940s, and we can understand that what took place at Hiroshima was at that time something very shocking for the credulity of the people, who are just as prone to resign themselves to what they are used to, as they are, so it would seem, to unreflectively denounce what is new to them, or appears to be new. The question they inevitably posed revolved around the question of for whom, and for what purpose, these vast sacrifices had been made. And it was understandable, if not excusable, that the more pusillanimous souls ended up doubting the claims of historical rationality and instead took a melancholy pleasure in contemplating the empty and sterile sublimities that inspired them to embrace a kneejerk negative assessment of that rationality; or else they cloistered themselves in the egoism of someone who, from the peaceful shore, safely enjoys the distant spectacle of a jumbled mass of ruins. Today, however, now that we are all very familiar with the results of the nuclear project, everyone is in a position to serenely judge those devastations and to pluck the rose of reason from the cross of the past, perceiving such destruction as the first manifestation, still rude and primitive, of a power that has since been considerably refined and has become much more sophisticated.

Moreover, is it not true that, 'twas ever thus? And is it not the case that whenever there has been some progress in human history, whether of a technical or social nature, was it not precisely war that caused it to burst forth, by acting as a kind of testing ground? Thus, for example, we find the first fully developed instance of wage labor in the army. And the same can be said of the first large-scale application of machinery. And the army was also the first place where the division of labor was introduced within a particular branch of production. The entire history of the successive forms of social organization has been increasingly more faithfully anticipated by the army, in the most striking way. You need only consider the contributions made by the war of 1914–1918 with regard to the considerable development of techniques of disseminating information, unabashedly referred to as “brainwashing”,¹⁶ or the sophisticated development of food products in the somewhat imperfect form of ersatz foods; or, furthermore, the constructive participation of the trade unions in the national economy in the name of “the war effort”. All of which were steps forward for civilization, whose impact we

¹⁶ *Bourrage de crâne*, stupefaction with information by way of intensive bombardment with news (Spanish translator’s note).

have yet to fully appreciate. More recently, we saw the defoliant known as “Agent Orange” provide a demonstration in Vietnam, as can be testified to by both the native population as well as the American soldiers—those authentic modern workers—of the effects of the dioxin that the inhabitants of Seveso would later be able to savor. And insofar as the industry of human butchery has always been the *in vivo* laboratory of the development of the forces of production, it would be truly unjust to cast particular blame on nuclear energy for being the offspring of modern warfare, just because it made its debut in the horror of Hiroshima.

Above all, however, even aside from the recognition of harsh necessity, and beyond the reach, of course, of popular sentimentality, is it not true that today everyone knows that it is only thanks to such technological progress, which is so superciliously denounced by all the sirens calling for a return to the caves, that we never experience a shudder of stupefying horror when faced with similar vistas of destruction? Just consider: how many devastated landscapes have we seen since Hiroshima! And the most patently obvious results of industrial production never cease to make us ever more intimately familiar with this new environment, a uniform landscape of ruins whose baroque splendor awaits its Piranesi. (“*Col sporcar si trova....*”, which I shall freely translate as: Pollution is the mother of invention....)¹⁷ We may therefore now rest assured that the younger generations—whose perception has been properly educated, even if only by way of the daily contemplation of our cities and rural districts, or, more accurately, of their general osmotic convergence in a single suburban proliferation—are not susceptible to the threat of an all-too-violent and therefore dangerous shock when they confront the spectacle of any catastrophe at all.

Finally—and this is where all the bad faith of those who use the first baby steps of nuclear technology (which are at times hardly endearing, as also happens in the case of newborn babes, who are so prone to howl dreadfully) to draft their indictment becomes evident—do we not possess, thanks to the subsequent improvements in this technology, certain weapons known as “neutron bombs”, whose meticulous discrimination in their protection of the environment goes so far as to leave it unscathed, a moving solicitude that I would venture to qualify as ecological in the best sense of the word? Thus, a war, in the unlikely event that one should break out before the nuclearization of the world has rendered wars impossible, and absolutely useless, as we shall see below, would not present, even if it were to take place, any of the understandably shocking, and even repugnant, aspects displayed by the wars of the past. The military phenomenon is therefore nothing but an opening salvo heralding progress that will ultimately benefit civilian life: for the most obvious advantage of nuclear energy over other the forms of energy that preceded it is the fact that it is, even when it profoundly modifies the nature of things, eminently respectful towards their outward appearance: nothing is more discreet than radiation.

¹⁷ A rough translation: “By fooling around, one makes discoveries” (American translator’s note).

With regard to this feature of radiation, however, the influence of irrational factors is so preponderant that an advantage as indisputable as the invisibility mentioned above has been turned against nuclear technology. We thus behold the paradoxical situation wherein people who hardly cared at all about modifications in their environment whose harmful nature is patently obvious, suddenly become alarmed about the alleged noxiousness, which is absolutely immeasurable, of a phenomenon that is beyond the reach of their sense organs. And it is therefore altogether justifiable for a Dutourd or a Pauwels¹⁸ to seek to remedy this situation by refreshing our memories with accounts of the horrors of the industrial revolution. It must be pointed out, however, and not without regret, that, among those who profess the most adamant support for nuclear power, we note the expression of deplorable concessions, verging on demagoguery, to the captious arguments of their opponents: by invoking the situation of the working classes during the pre-nuclear era of capitalism (mine disasters, etc.) and telling people that, just as they had accepted that situation and had become accustomed to it, they will also be able to accept nuclearization and become accustomed to it, too, they effectively draw a parallel that is entirely unfair to nuclear energy.¹⁹ We must put an end to this kind of self-defeating defensive tactic that foolishly allows itself to be stigmatized with an aura of culpability and whose purpose seems to be limited to claiming that the effects of nuclearization will be no more horrible than so many other realities to which people have become so habituated that they do not even notice them anymore; for the considerable advantage of the effects of nuclearization over those past realities consists in their not being visible from the very start. Nuclearization must be defended *offensively*, by mercilessly destroying the sophistry and contradictory half-truths that stand in its way.

Let us examine the question of radioactivity, for example. We know that the idea of a maximum allowable exposure, which has been challenged for so many years, has been definitively refuted by recent findings, according to which not only are all exposures to ionizing radiation harmful—insofar as it is impossible to determine the threshold under which their effects would be null, as has been demonstrated by an authority as respectable as the Committee on Biological Effects of Ionizing Radiation,²⁰ a component of the U.S. National Academy of Sciences—but even the linear extrapolation of their effects until they reach the minimum level at which they cause harm underestimates their effects under circumstances of repeated exposures, which are more serious than those of a single exposure of equal magnitude. Not to speak of the various phenomena related to the biological concentration of radionuclides throughout the food chain, or the multitude of surprises that the marvels of synergistic effects hold in store

¹⁸ Well-known reactionary journalists, whose specialty is praising the virtues of nuclear power (Spanish translator's note).

¹⁹ One contemporary example of this kind of defense of nuclear power is that of Alfredo Pastor, former Minister of the Economy, and a member of the PSOE: "Nuclear energy is a necessary evil. I support compensating for the energy shortage with nuclear power." *El País*, February 25, 2007.

²⁰ *La Recherche*, No. 102 (July-August 1979).

for us, i.e., the interaction between radiation and pollution from hydrocarbons and other industrial chemicals. We have obtained a first glimpse of these surprises (on the occasion of a conference where eminent scientists assessed the current state of the interesting discoveries made possible by the Amoco-Cadiz oil spill) with the news that hydrocarbons possess, among other qualities, the feature of absorbing and concentrating certain radioactive products like cesium 144 which are disseminated in sea water.²¹ The “follow up”²² that is currently underway with respect to this phenomenon in the Gulf of Mexico will surely allow us to further enrich our knowledge of this kind of elective affinity.

However, in a situation like this, where with each passing day new horizons open up for scientific research, what are the directors of the French nuclear program doing? They give us the impression that they are modestly carrying on, sparingly, with their main, properly scientific occupation, in order to devote themselves to research, which is more like literature, concerning the efficacy and combinatory analysis of various rhetorical devices and feats of oratory. How is it possible that they do not see that these trivial stunts are more likely to discredit them in the vulgarly prosaic judgment of a population that hardly interests itself at all with the alchemy or, rather, with the genetic engineering of the word, and that will soon reject any and all official explanations lock, stock and barrel?

Obviously, there can be no question of reducing the maximum allowable exposure set by the authorities for the general population, because if such a policy were to be adopted it would shut down practically the entire nuclear industry; and this is unacceptable. The authorities are therefore willing to accept the risks entailed by the status quo, relying on the fact that the effects of persistent exposure to low doses of radiation only become perceptible after many years. And they naturally count on this period of latency to give them enough time to find a solution, that is, to do everything possible to ensure that the population does not notice the reality of radiation until it reaches such high levels, at which time scientists will be able to shed light on the question of genetic mutations, the latest generation of prosthetics, etc.

This is certainly an excellent goal. The purpose of all information that lays claim to being authentic is none other than that of acclimatizing the public to a fait accompli, sparing it the trouble of having to reflect on how it came about, not to mention the bother of doing something about it. And we know just how necessary such information is with respect to matters radioactive, as so many commentators have pointed out in the wake of the pseudo-incident of Three Mile Island (we shall examine this information management project in the second part of our essay). It seems to me, however, that no matter how indulgent they are towards the intellectual torpor of our contemporaries, they have to accept the possibility of an undesired outcome, and the prospect that

²¹ *Libération* (November 30, 1979).

²² *Le suivi*: a neologism of scientific jargon that perfectly summarizes the current phase of the scientific thought of the commodity as *post festum* thought, reduced to the attempt to control the catastrophic consequences of the autonomous economy (Spanish translator’s note).

our contemporaries, without further reflection, will begin to believe nothing that they are told. They already exhibit the deplorable tendency of attributing all their personal misfortunes to “pollution”, which is the new version of the “Fate” of antiquity: all that is needed, for example, is for a deformed baby to be born in the vicinity of a certain factory in Seveso, and they instantly see a cause-effect relation, without pausing for even a second to consider all those perfectly natural and normal conditions that might be implicated, such as their asbestos-laden houses, their mercury-laden fish, or their potash-laden wine.

The reader will pardon me for pointing out that the principal lesson learned from Three Mile Island by the French Minister of Industry was the fact that those responsible “must make sure that they preserve their capital of credibility and their status as experts”.²³ And in order to stem the tendency of the credibility of the official experts to fall, it is certainly necessary to continue to do what we have done in the past, dissimulating everything that can be dissimulated and silencing everything that cannot speak for itself, and carefully timing revelations so that they have the right effects, because specialists do not have to convince the ignorant of the rationality of everything they do, and the way they do it; it is already a major accomplishment for them to convince themselves, for which purpose they need all their faith in progress, since they do not know, for example, how to decommission the nuclear power plants that they have built. But it would be equally advisable that when they are obliged to speak, even if this should require authorized spokespersons to bridle their talent, they should not innocently utter contradictory statements, which, if the public by some chance were to take the time to reflect upon them for half a second, might be perceived as insults. Intelligent people know, of course, that such claims are not made to be believed—there is no need for them to be believed—but only to occupy, in their uninterrupted succession, the audiovisual space of those whose diligent participation in public affairs consists precisely in their being, under every circumstance, attentive spectators, and the latter must not be frustrated in fulfilling this, their only responsibility. In my opinion, however, this does not imply that one can say just anything at all regardless of how illogical it may be, which would on the other hand be possible to do without any hesitation in a completely nuclearized society. (The reader will surely have appreciated the way that, anticipating the libertarian aspect of nuclearization, I have genially sprinkled my arguments with a handful of picturesque inconsistencies, without bothering to demonstrate that these inconsistencies were only apparent, which I could have done quite easily; I have learned from our most modern thinkers, whom we have never praised enough for the discovery that all logical thought bears the seed of totalitarianism, just as every categorical judgment displays a police activity: this is why I have gone out of my way to call attention to what must be understood as my adherence to the cause of freedom, rather than as a flaw in my reasoning.) At this time the possibility still exists, although it is a very remote possibility, that someone might recall, or even that

²³ Excerpt from a report quoted by *Le Monde* (June 14, 1979).

he might have the means to recall, that, for instance, when it was discovered that the “bubble chamber” of the European Organization for Nuclear Research sprang a leak in October 1978, it was claimed that the incident must by no means be interpreted as an indication that a similar malfunction could occur in France’s nuclear containment vessels, which are manufactured by the same company.²⁴ If someone were to be malicious enough to recall those peremptory assurances now that those impossible fractures have materialized not only in the containment vessels but, which is worse, in the flow of information, it is easy to perceive the use that might be made of such knowledge by the enemies of nuclear power for the purpose of discrediting all scientific predictions.

Similarly, it is childish to try to sweep this nastiness under the rug by talking about natural radioactivity, as if our contributions to the latter were dissolved in it just as imperceptibly as the oil from *Ixtoc I* in the Gulf of Mexico, where—as we have been duly informed—two hundred thousand tons of petroleum are released into the sea each year from completely natural seeps;²⁵ this reduces the contribution of *Ixtoc I* to its true proportions, which, although not precisely quantifiable, may nonetheless be called vast. And I leave it to those who are more knowledgeable than I am to make sure to present this information from its most favorable vantage point by calculating, based on a “ballpark” estimate of the amount of fuel thus removed from circulation, the number of human deaths that have been prevented, at the cost of harassing a few shrimp.²⁶

With regard to radiation, however, as far as the public powers are concerned, instead of opening up a big can of worms with a lot of talk about millirems, it would undoubtedly be better to emphasize the mithradatic character of a gradual and steady increase of rates of environmental radiation exposure; a habituation that is not natural but social, as was the case with hot chocolate, which, when it was first introduced in Europe, had the effect of a powerful stimulant, whereas today even little children prefer more potent substances. For the last word in scientific thought on this question was not spoken by a scientist but by a statesman; one of those statesmen who possesses the trait of knowing that one must not unthinkingly promise something today that one will have to repudiate tomorrow, and who simply says: “This is the way it is.” I am referring to Raymond Barre and his memorable declaration: “The public has to get used to radioactivity.”²⁷ And as another Prime Minister, this one a Swede, once said, after having pointed out that the renunciation of nuclear power would call into question the

²⁴ *Le Monde* (December 9, 1978).

²⁵ Yvonne Rebeyrol, *Le Monde* (August 1, 1979).

²⁶ “The fact that the beach is covered with plastic bottles and paper and that the water is foul from industrial waste might be disagreeable, but it is only rarely harmful to our health. The same is true of ‘oil spills’, which are disastrous for the ecological equilibrium of the ocean, but hardly likely to be dangerous to our health, above all because, when they do take place, you do not need to post a ‘no swimming’ sign.” *Cambio* 16, No. 449, July 13, 1980 [Spanish translator’s note].

²⁷ *Le Monde* (April 10, 1979).

existence of the entire social system: “Nobody likes nuclear power.”²⁸ Which might lead one to hastily conclude that nobody loves the existing social system, but only because it no longer possesses the means to make itself loved, if it ever had such an intention. “They love not poison that do poison need”,²⁹ and our leaders do not demand that we should like radioactivity; they only expect us to accept it, for the same excellent reason that we accept this social system and its management: because it’s there.

Rediscovering the spirit of sacrifice that first characterized the power of their predecessors so long ago, our leaders are also ready to practice what they preach and to be the first to accept radioactivity, with the same self-abnegation expressed by that expert who declared, with regard to the fish and shellfish that live in the vicinity of the radioactive leaks at La Hague: “I would eat them.”³⁰

In these desperate times, here is someone who proudly bears the standard of hope: the hope that it is possible for us to survive thanks to the capacities for habituation that have been so effectively developed by the human species over the course of modern history, and which have made so much progress that we no longer even know how far the thresholds of acceptability can be pushed, or, more to the point, it has become clear that such thresholds were never anything but antiquated conventions, imaginary “natural” barriers that a timorous humanity erected in its own path. There is nothing to which civilized man cannot adapt, as has been irrefutably demonstrated by the most scrupulous scientific research, undertaken on a scale that guarantees the seriousness of its conclusions, first *in vitro*, by way of the arbitrary concentration of sample populations in novel conditions of survival; and then *in vivo*, in order to correct for the false signals that the artificiality of such environments might have introduced in our observations. Inspired by such a rigorous methodology, we will easily bring about a situation in which we will feel just as much at home in radioactivity as a fish in the waters of Minimata, for example. To reach this goal, however, we must create a situation where the necessary adaptation of our bodies is no longer entrusted to the anarchy of uncontrolled pollution but is instead subject to authentic planning on the part of the authorities.³¹

This is not the place, however, for a consideration of remedies, as pleasant as such a diversion might be: let us continue, then, with our diagnosis of the anti-nuclear malady. We have clearly delineated, as a second irrational element, after the bizarre anxiety connected with memories of the past, the fears aroused by what is vaguely perceived to be the supra-sensory nature of nuclear energy.³² People are accustomed to the oper-

²⁸ *Le Monde* (May 23, 1979).

²⁹ William Shakespeare, *The Life and Death of Richard the Second* [Spanish translator’s note].

³⁰ *Le Monde* (January 25, 1980).

³¹ “The first step that must be taken,” according to Miguel Boyer, a PSOE economist, “is to establish certain low levels of contamination and impose a tax based on the amount by which these low levels are exceeded.” *Cambio 16*, no. 449 (August 10, 1980) [Spanish translator’s note].

³² “Anti-nuclear campaigns will endanger the survival of the current model of society, which is based on economic development and an adequate supply of energy that can only be met if nuclear energy is

ation of mechanical forces, which they can see in action and whose structure they can understand, at least superficially. Because nuclear fission acts on the very structure of inorganic matter (just as genetic engineering—the indispensable complement for the construction of a nuclearized human being—acts on the very structure of organic matter), from now on there is no longer anything to see.

We understand that this might be somewhat disconcerting in a world where sight is the sense that instructs all the other senses; what is not so easy to understand, however, is the fact that while people rebel against a power that escapes their senses, they nonetheless do not seem to have noticed that all of their activities are subjected to a power that is just as impalpable and invisible as nuclear power, a power whose reach is so generalized that nuclearization itself is merely one of its consequences, among others. It was undoubtedly necessary for the boundless social power constituted by the existence of market relations to boldly proclaim its autonomy in the form of nuclear power, so that people should become aware of the necessity of submitting to its imperatives. In this sense, nuclear power is, for the social question, a discovery that is just as important as the discovery of the unconscious was for individual psychology. And everyone knows how much resistance psychoanalysis provoked among people who were hardly inclined to admit that the most important part of their actions was by no means the result of their free will. We observe, however, that after those initial hesitations, people got used to the idea, and we have now reached the point where most of our contemporaries take pleasure in analyzing, in a leisurely way and with a truly noteworthy ingenuity, the great extent to which their lives have been diverted from the course they at first planned to follow, and learn to accept with each passing moment results that they had not desired. This process has led to such a reasonable level of awareness that now it must be imposed at the level of the society as a whole: where there was previously the disorderly and capricious interplay of individual interests, now there must be lucid submission to what we may call, employing a daring and ingenious metaphor, the economic *id*. Nuclear power is the indisputable materialization of this rationality, which will thus make its presence felt as the precondition for any and all activity, without the need to be imposed by the roundabout way of arduous and extremely exhausting conflicts, behind the backs, so to speak, of the protagonists of social life.

Once again, however, the reader will behold how, dragged along by the enthusiasm that sweeps away and irradiates all those who reflect upon the radiant and ionizing perspectives of nuclearization, it did not take much for me to break the thread of my argument. Let us continue. By addressing the delicate problem of radiation from every positive perspective, I did not dare to make any statements concerning the ob-

available. We therefore note that in the inevitable relation between the model of society/model of development, model of technology and energy model, a variation of the latter necessarily alters the entire chain and even affects its first link, changing the very structure of society itself.” Alfonso Álvarez de Miranda, President of the Spanish Atomic Forum, *Jornada de Reflexión Energética* (December 17, 1979) [Spanish translator’s note].

jective reality of the phenomenon, the evaluation of which is legitimately the exclusive purview of the Central Service for Protection against Ionizing Radiation, since their investigations and their results are veiled in a secrecy capable of protecting the public from any kind of contamination caused by disturbing information that might lead to the spread of alarmist rumors. No—perish the thought!—I would never even dream of compromising in any way such a necessary safeguard! I only wanted to show that the public, profoundly unaware of the necessity of its ignorance, reacted emotionally to a reality that seemed to be all the more dreadful due to its quasi-immaterial form, a reality that is furthermore incomprehensible because the public is utterly devoid of any ability to measure it; and how this reaction ended up nourishing the irrational fear of nuclear power.

This leads us, logically, to a third emotional factor, perhaps the most profound and the most influential of them all, which we must examine in order to complete the true clinical symptomatology of the anti-nuclear pathology. This factor is what we shall call the revolt of ignorance.³³ In other times, ignorance went hand in hand, as is normal, with respect for knowledge; and the ignorant, that is, the great majority of the population, felt a kind of reverential fear towards everything they did not understand. Today, however, in a reversal whose absurdity—the most obvious absurdity in an era that is so pregnant with absurdities—will be clear to all, even though these people, the ignorant, are, and not just in Seveso, in intimate everyday contact with the least disputable results of modern science—and therefore in the best position to be instilled with the feelings of humility entailed by an ignorance that they are compelled to acknowledge at each instant—they choose precisely this moment to turn with hostility against everything they do not understand, that is, against almost everything that exists. Anti-nuclear agitation viciously exploits this resentment of the ignorant with a disregard for logic that would be admirable if it were not so common among environmentalists, for at the same time that they demagogically encourage and praise hostility towards science, they invoke the rigor of the scientific method and certain objective necessities that they claim to have discovered thanks to that method, in order to seek to impose their point of view on the authorities in the name of nothing less than the survival of the species.

Concerning this point, however, we shall refrain from engaging in one of those prodigious flights of cognition which come so easily to us and whose results the reader has had an opportunity to admire in these pages, because we have the good fortune to possess, right at hand and pre-masticated, so to speak, the most pertinent formulations. I am referring to the formulations of Marc Ambroise-Rendu, someone who is nauseated by every kind of extremism, since he writes on environmental questions in the columns of the daily newspaper *Le Monde* with the acute sense of responsibility such a position

³³ “It is much easier to sell an anti-nuclear idea than a pro-nuclear idea, especially when, in certain undecided sectors, a whole series of prejudices have built up that creates a widespread sense of risk and danger.” Luis Magaña, in *Lunes Económico* (March 3, 1980) [Spanish translator’s note].

imposes upon him: for if it is true that the only real information worthy of the name, for which this newspaper is a model, comes from official sources, it is no less true that these same official authorities derive their own conception of the truth from the information provided by this newspaper of record. This involves a kind of repayment in kind, and taking care not to obscure his reflections in the abyss of the official truth, Rendu painstakingly abstains from engaging in any personal reflections in order to thereby present this truth in a truly ecological degree of purity. “The scientists,” he writes, “who have invented products that are useful but also dangerous, the industrialists who manufacture and use them, the government officials responsible for regulating these activities—will they be able to dispel the mistrust that will henceforth envelop them like an invisible pollution?”³⁴

We could not have said it any better, although we would have added: will all these very competent professionals be able to dispel this mistrust that is undoubtedly the most execrable of the environmental evils that existing society must confront? Time is running out, because for their part “the protestors exhibit even fewer scruples the more they get the impression that they represent a silent majority and that they possess a certain legitimacy. Is this not the dreaded machinery of a kind of fascism?”³⁵

Cloaked by the modesty of this single question mark, we must recognize in these words one of the most pertinent intuitions that have rewarded Rendu’s perspicacity. From someone who was one of the first to denounce the suffocating pollution comprised by the mistrust of specialists, we have the right to expect an equal degree of wisdom when it comes to revealing the potentially fascist character of anti-nuclear protest. Since the highest institutions of our National Education System have taught us that “language is fascist”,³⁶ we have learned to see fascism where no one ever saw it before, and these notable advances in anti-fascism have made it possible for us to unmask the hotheads who chatter foolishly and senselessly of fascism, and even of electro-fascism, as the most dangerous bearers of the bacilli of this emotional plague. These lunatics, furthermore, have gone so far in their invocation of Nature against Science, that when one seeks to understand their irrational revolt—at Plogoff, for example—one must resort to racial explanations: “The Breton, and the entire history of this country has proven this, is not a rational, compromising man, but a man of feeling. For him, there is no need, before plunging into battle, to know if he has any chance of success. The only thing that matters is that his cause is just. After that, what will be will be.”³⁷ There is much more that could be said of the racial aspect of anti-nuclear degeneracy, but Ambroise-Rendu leaves it to us to draw all the requisite anti-fascist conclusions. For his part, he continues to tirelessly devote himself to gratifying us with new proofs of his anti-fascist and republican vigilance: “They talk about taking up arms against

³⁴ *Le Monde* (April 21, 1977).

³⁵ *Le Monde* (February 7, 1978).

³⁶ Roland Barthes, inaugural lecture at the Collège de France.

³⁷ *Le Monde* (November 28, 1979).

the ‘blues’.”³⁸ “There is talk of the blood of the *Vendéens*, spoken with disgust or with pride depending on whether one is ‘for’ or ‘against’ the nuclear plant.”³⁹ This time he is talking about the Le Pellerin nuclear power plant and the natives of the land of Cardinal de Retz, whose uncouth backwardness seemed so exotic to the experts that EDF⁴⁰ commissioned a survey of this population conducted by social anthropologists, which rapidly made it possible to measure the deep roots of this phenomenon, since these people obstinately refused to cooperate with a scientific study of their habits and customs. Is this not the dreaded machinery of a kind of cannibalism, and should we not be afraid that the next time they try to conduct such a survey the anthropologists will end up in the cooking pot?

Whatever role might be played by *Chouannerie*⁴¹ and Monarchism in this mentality—a topic I leave to others who are more skilled to analyze in detail—you really need a mind that is prone to the worst excesses of irrationality to display such mistrust towards these scientists, industrialists and government officials, who are so scrupulous in their representation of the interests of the majority which they zealously safeguard in their integrity, withholding not even the smallest detail from the scrutiny and control of anyone who wants to challenge it. What they have made of the world speaks more eloquently in their favor than any speech: anyone who contemplates this world without allowing himself to be deceived, will fully appreciate their expertise, which is so obvious in every one of its details.

I am aware, however, of the fact that a vulgar formulation has incited the reader to think, so it seems to me, that it is incumbent on the immense majority of non-specialists to form some kind of judgment concerning this world in which they are involuntary tenants. However, apart from the fact, which has been proven by the discoveries of the most modern thought, that the formulation of a judgment constitutes a kind of hyper-fascism in the framework of the use of language (which is also more than suspect, although for now it would be difficult to totally dispense with it), we might very well ask ourselves how consumers could express themselves in such a way, in the sense that they would be, with respect to the products that they have created, with all their properties, skilled technicians: for most of them (and in this respect this tendency can only grow more pronounced) have never known anything else, and therefore the field of their perception is strictly limited to this experience. Thus, they have normally become accustomed to thinking that such products meet their needs because they were the only products that were available for satisfying them. It is true that now and then

³⁸ *Bleus*, the name given by the peasants of the Vendée (*les vendéens* or *les chouanes*, supporters of the King during the French Revolution, similar to the Carlists of Spain) to the republican army (Spanish translator’s note).

³⁹ *Le Monde* (December 6, 1979).

⁴⁰ “Electricité de France”, a State monopoly, the product of the nationalization of the electric power utilities carried out by the French Stalinist party during its participation in the post-war government of France (Spanish translator’s note).

⁴¹ The revolt of the *chouanes* (Spanish translator’s note).

we cannot help but notice the noisy complaints of someone expressing nostalgia for the past, but he can offer nothing in support of his recriminations except his petty regrets, because he is in no position to give the public any more persuasive element for comparison, in the absence of which the public is incapable of judging this system of production.

Thus, the simplest logic allows us to categorically state that anyone who consumes a commodity can never, unless he wants to succumb to the irrationality indicative of a certain kind of fascism, protest about the choice he already made by producing it; just as he does not have the right—due to the fact that he is associated with its production or its distribution as a wage worker—to express his opinion about the need to consume it, unless he wants to display evidence of an appalling unscrupulousness, since he does not possess any information at all that might enable him to ascertain the needs of the vast majority of the population. The incapacity displayed by the population in these two positions which it has successively adopted should be enough to convince it of how unqualified it is to judge the system of production. And that the only rational attitude that it can adopt in this respect is that of granting it its consent.

It will perhaps be said—and this is testimony to just how far our times have strayed from the elementary rules of sound reason—that a leak of radioactive gases from a nuclear power plant should not be considered to be attributable to the management of the specialists in the same sense that they are responsible for the products that are deliberately put on the market; properties that we hardly have the time to test—in view of the dizzying rate at which they are replaced—although some of them have left enduring traces in our bodies or in the bodies of our descendants, making it possible for us to preserve a sufficiently accurate record of them. The striking intellectual poverty of environmentalist propaganda is most clearly manifested in the way that it has to invent apocalyptic threats from whole cloth (“microscopic fissures become dangerous cracks that release who knows what kinds of lethal gases”);⁴² only to oppose to these alleged catastrophes the normal functioning of social life, concerning which one last shred of shame has prevented its exponents from impugning any of the fundamental principles of this normal functioning; and they end up clamorously demanding the elimination of every kind of risk from that same social life, the childish dream of security that only expresses the desire to sleep in peace. These people do not even see that their own stupid panic has been made possible thanks to technological progress, and not only in the sense of the words pronounced by a deep thinker who said that “Our freedom to write or to read these printed signs—G-u-l-a-g—and the freedom to express an opinion concerning the sufferings that are entailed by these signs, we implicitly owe, whether we like it or not, to Stalin”,⁴³ but also in the sense that thanks to the immense improvements made with regard to the sensitivity of measuring devices, today it is possible to detect more or less harmful substances everywhere and therefore

⁴² Dominique Jamet, *Le Quotidien de Paris* (December 22/23, 1979).

⁴³ Pierre Bourgeade, *Le Monde* (May 26, 1977).

to definitively map the territory of environmental degradation. Good faith obliges us to begin by congratulating ourselves for these advances in detection rather than foolishly becoming alarmed about what the detectors reveal.

That the calculated risks taken by the nuclear industry are actually the most highly developed expression of today's rational management of society, is proven easily enough by applying simple common sense, that common sense of the French people to which the President of the Republic will not have appealed in vain. The nuclear industry is the leading example of all human activities that are concerned with calculating the probability of various types of possible accidents and statistically estimating the number of victims, and it is therefore capable of dealing with any contingency, estimating the number of hospital personnel available in the affected regions and instilling self-discipline in the population by way of the appropriate evacuation exercises. As Jacques Kosciusko-Morizet said, the director of Industrial Safety and Quality in the French Ministry of Industry, a man whose range of responsibilities provides us with the necessary guarantee with regard to the quality and content of his words: "All of society is affected. And it has to be correctly organized to confront the crisis situations that might arise."⁴⁴ He is in fact referring to the truly qualitative difference between the nuclear industry and all the other industrial activities that preceded it: for the first time in history, *during peacetime*, all of society will have to be organized in accordance with security imperatives dictated by machines, and not only at the place of production; we have yet to fully appreciate the progress that such compulsory submission to the objectivity of machine operations will allow us to achieve with regard to the rational organization of society. While science is organized common sense, its continued development comes into conflict with the absurd fantasies of pre-scientific thought. The more or less toxic warnings that the nuclear apparatus is directing at humanity must not be taken lightly, and insofar as that apparatus brings about, in a fully objective sense, what is most suited to it, any errors that arise can only originate from the regrettable fallibility of humans. An experience as providential as Three Mile Island has enabled scientists to get a glimpse of what remains to be done in order to reduce this source of error to zero. If a few more experiences of the same kind take place, there will be *no one left* to challenge the viability of nuclear energy: we will then be in possession of the definitive proof that all the difficulties that we have encountered were only due to the capricious irrationality of human behavior.

Now we can see why the vague mistrust towards specialists—the latent revolt of the ignorant—had to take the form of anti-nuclear hysteria, ever since the nuclear industry clearly enunciated, with its own particular kind of emphasis, the last word of scientific thought: "Submission or death!" This, for example, is the message that is comprehensively articulated by the report on Three Mile Island published by the French Academy of Sciences, which calls for the creation of an institution that would be responsible for effectively and dispassionately dealing with any crisis that might

⁴⁴ *Sciences et Avenir*, a special issue in the series, "The Nuclear Danger".

arise: “It is known that, at most, two to three percent of the population is in a position to deal with crisis situations.... The persons who are thus selected, on the basis of objective criteria, to the exclusion of every other consideration, will have to possess total decision-making powers and will have to enjoy a social position and a salary that are in conformance with the importance of their responsibility.”⁴⁵ And let it not be said that such a proposal implies any kind of threat to liberty, or rather to those liberties whose swarming multitude ensures in advance that the responsible officials hardly even have to use their total decision-making power to teach us its definition based on objective criteria, to the exclusion of any other considerations. Freedom is the consciousness of necessity: by creating necessities of a kind that ensures that no one can be deprived of the freedom to be conscious of them, nuclearization is creating the conditions for a kind of freedom never before seen in the history of the world.

This is unwelcome news only for those who have been lulled to sleep by the public relations dream of a world that would not only make their wishes come true but also allay their fears, simultaneously offering them total freedom—total, because it has no content—and a no less absolute security—absolute, because it has no object: adventure without the risk, and security without the boredom. The nuclear industry will give them precisely the contrary, and they will thus be able to rid themselves of the agonizing problem of knowing whether or not they want a freedom that they have never had an opportunity to put into practice, because they will no longer have to do anything but seek to desire as freedom whatever tasks are assigned to them.

The uprising of the mistrustful ignoramuses leads to the particularly outrageous result that scientists, no matter how much they wear themselves out publishing increasingly more precise assessments concerning the consequences of an eventual accident, not only absolutely fail to persuade the public to share their satisfaction when they provide detailed estimates of the number of possible fatalities, when they draw up more accurate graphs showing the rise in cancer diagnoses, or when they invent an improved prosthetic device for the treatment of the birth defects that they predict, but it seems that all this ever more complete information even serves, more than any other purpose, to nourish the hallucinatory delirium that leads so many of our contemporaries not only to perceive “pollution”, but nuclear power in particular, as the cause of all their misfortunes; a weird instrument of sorcery that can transmute them into toads.

The inability of the population to rise above its semi-animal emotions, an inability that is all the more odious insofar as these emotions are impudently invoked as an argument in the name of “nature”, quite understandably angers those who have been able, by an effort of will power, to rise to a more objective conception. At this precise point in my discourse, during the majestic and fertile course of a labor in which I have as a rule only quoted irrefutable authorities and certified experts, I now take special pleasure in rendering to professor Maurice Tubiana, the director of the department of ionizing radiation at the Gustave-Roussy Institute of Villejuif, the homage that he

⁴⁵ *Le Monde* (November 9, 1979).

deserves: “In effect, and this is the worst thing about it, the assessment of risk by a scientist and by a non-scientist are very different things, which explains why it is hard to establish communication between them. For a non-scientist, risk is a qualitative notion, it either exists or does not exist. For a scientist it is quantitative, it always exists, but its probability is greater or smaller.”⁴⁶ And professor Tubiana, with a marvelous sense of timing, offers as an example the likelihood, minor although not altogether impossible, that any particular person will be killed by an ill-fated meteorite. Although this example is not necessarily a serious example of critical negligence, we may perhaps deplore the fact that this learned researcher mentions in the same breath, so to speak, the risks we face from meteorites and the risks that we face, due to our own confusion, from nuclear power plants, without sufficiently stressing the enormous scientific superiority enjoyed by the latter over the former. For, as uneducated as the public is, how could it remain unmoved by the advances made possible by the use of the correctly understood scientific method, if, thanks to these very advances, the scientific method itself is no longer based on ever-capricious natural catastrophes but, having totally emancipated itself, is itself now capable of producing the entire ensemble of the modern conditions of catastrophe? Furthermore, this achievement allows it to more easily predict the features of the unfolding catastrophe and to calculate its consequences. Since then, however, this same professor Tubiana seems to have adopted our view of the matter, which is so appropriate for highlighting the value of his expertise, for quite recently he proudly proclaimed: “Apart from experimental findings, our knowledge is based on the observation of hundreds of thousands of irradiated subjects: sick people treated with radiotherapy, x-ray technicians and radiologists, survivors of atomic explosions, workers in uranium mines, etc.”⁴⁷ The list of subjects so providentially supplied for observation is still growing longer, and we do not doubt that it will continue to do so with each passing day, thus making it possible for professor Tubiana and his colleagues to put the finishing touches on their knowledge of the phenomenon.

As for the risks that human existence, still dominated by a pre-nuclear mentality, must face from nuclear power plants due to the imperfection of human nature, this very same imperfection nonetheless compels us to include in our calculations a number of somewhat discouraging variables. There is nothing, however, that we cannot expect from the selfless devotion of science, and we need not fear that it will let us down. And we should therefore welcome the new direction taken by the conclusions of the Nuclear Regulatory Commission with respect to its evaluation of the real nature of the minor difficulties encountered at the Three Mile Island nuclear power plant: according to one of the experts of this infallible commission, the cascade of human errors which so inopportunistically disturbed the normal operation of the power plant on March 28, 1979, that disastrous chain of circumstances, originated in the prominent “*gidouille*”⁴⁸

⁴⁶ *Le Nouvel Observateur* (May 21, 1979).

⁴⁷ *Le Monde* (January 30, 1980).

⁴⁸ Literally, belly. A word invented by Alfred Jarry in *Ubu Roi* to designate the symbolic obesity of the Ubu character.

of one of the operators of the plant, whose exorbitant volume unfortunately obscured the control panel readouts, which, had he been able to see them, would have alerted him to the malfunction that needed to be corrected.⁴⁹ We do not doubt that, armed with this data, specialists will make haste to calculate the indices of nuclear tolerance with regard to the abdominal curve, for the purpose of determining the ideal profile of the nuclear operator as well as his diet, in the expectation that some day they will be able to directly model, with the help of their geneticist colleagues, the morphology of the perfect *homo nuclearius*. (Some people think that nuclearization itself, by way of the genetic mutations that it will induce, will see to the production of its own human material, with the appropriate physical characteristics. I am very sympathetic towards this hypothesis, but the scientific rigor from which I will never separate myself prevents me from presenting it as indisputable: perhaps what is required is concerted action to make up for the anatomical defects of a humanity that still bears the stigmas of pre-nuclear society.)

I have called the Nuclear Regulatory Commission infallible, and I fear that such a claim will seem paradoxical to those all-too-numerous persons for whom the simple perception of reality is so repulsive that they refer to the alleged catastrophe of Three Mile Island as refutation of the claim that the experts are infallible. That is, to all those who have so completely broken with even the rudiments of logic that they would dare to coldly compare a poor event, in its scrawny anecdotal nakedness, lacking guaranteed meaning, with the immense accumulation of authorized interpretations supplied by the experts, the great mass of explanations for this event that they have diligently marshaled with their rhetorical warnings and their scientific solicitude, covering all aspects of the question from the corpulence of the operators to the size of the expanding bubble of radioactive gases, and the multitude of arguments that have provided the bona fides of their benign nature, conveying to the public a vertiginous sense of vacuity, and in short everything information achieves by way of specialists has once again been marvelously faithful to the profound reality of the phenomenon, while radioactivity is disseminated in that phenomenon with the same discretion as it is released in our environment, more with each passing day, while at the same time demonstrating the same degree of delicacy towards public opinion.⁵⁰

⁴⁹ *Science et Vie*, July 1979.

⁵⁰ "Faithful to the principles upon which it was initially founded and which inform all its activities, the Spanish Atomic Forum cannot remain indifferent to the demand for information that is so justly proclaimed by Spanish public opinion.... Level-headed and true information about nuclear energy, especially about nuclear power plants, is such an imperious necessity for society that this problem alone justifies the existence of the Spanish Atomic Forum.... A citizens', rather than a government body, and one not motivated by the quest for profit, which seeks to constitute a forum—as a real focal point for meetings, discussion and the dissemination of information—for all those natural or juridical persons that are interested in research on, and the production and use of, nuclear energy for peaceful purposes." *La energía nuclear en España: Respuesta a unas preguntas* [Nuclear Energy in Spain: Questions and Answers]. Fórum Atómico Español, April 1978 (Spanish translator's note).

As for those who would dare to call attention to an insignificant event for the purpose of discrediting science, one cannot expect that such persons would admit that if events of this kind were immediately comprehensible to the vulgar and if these events spoke for themselves, there would be no need for countless specialists to formulate and disseminate their explanations and commentaries. And because the existence of specialists is a notorious fact, we shall quite logically deduce the existence of the need that they satisfy, which in turn proves the incapacity of those who are not specialists to understand, using their own powers, what has taken place. In short, we may excuse their reluctance to resign themselves to this state of affairs, but, as Spinoza said, "*ignorantia non est argumentum*".

In the meantime, the insolent critics of the NRC have taken yet another step deeper into paranoid delusion with their insinuation, on the pretext that all the means of control of the contamination are in the hands of experts, that they could themselves more effectively operate those means than those who more or less voluntarily supply the material that must be controlled, and as a result completely falsify the documentation of the harmful effects produced in the environment. All you need to do is read the summary of the transcripts of the NRC meetings that were held during the Three Mile Island incident, which were conveniently released for the edification of the public, in order to dismiss the idea of such a vile Machiavellianism with the contempt it deserves: these transcripts absolve the members of the NRC of any suspicion that they may have deliberately falsified evidence, since the report allows us to conclude without any hesitation that no one at the NRC knew what they were doing.

In fact, the experts were essentially preoccupied with saving the public image of the nuclear industry from further deterioration, as they were aware of the fact that what was at stake was the possible deprivation of the public of an object of satisfaction, a deprivation which would have been cruel, at a time when so few other such objects were available. Even within the context of this particular activity, however, we cannot say that their actions were motivated by cold calculation. It is undoubtedly the case that the government experts, focusing on saving the image of the nuclear industry, have put too much trust in the abilities of the information technicians, the journalists, to constantly speak about everything with the authority that is conferred upon all those who are heard but not listened to and who are not contradicted even when they are not actually supported. The journalists have done everything possible to earn this trust—thus, for example, the television network ABC decided, with respect to its coverage of Three Mile Island, not to use any more adjectives in its news reports than were used by the authorities in their press releases and official statements—⁵¹but even so it was hard for these professionals of categorical certainty to pretend that they believed the changing claims of the government authorities, when the latter did not believe anything the owners of the power plant said, who were their only sources of information. There can be no doubt that this cascade of suspicion has caused a chain reaction, whose

⁵¹ Arlie Schardt *et al.*, "Covering Three Mile Island", *Newsweek*, April 16, 1979, p. 93.

damage has yet to be calculated in its full scope, within a population that is all-too-inclined to believe that it is being deliberately deceived. (According to one opinion poll, conducted by an organization that cannot be suspected of taking pleasure in broadcasting extremist views, among those people who live near French nuclear power plants, 80% of those asked what they thought about Three Mile Island agreed that “if such an accident were to take place in France, they would not tell the truth to the public”, and 61% agreed that “an accident like Three Mile Island has already taken place, but they have carefully concealed it from the public”).⁵² Such suspicion is a laughable error, since it is notorious that not even the highest authorities know what is going on at Three Mile Island, which is why they are hardly in a position to explain the miraculous re-absorption of the bubble of radioactive gases that occurred in the plant, or to explain how it formed. It would have required a great deal of effort on their part to deliberately deceive anyone, insofar as they were themselves so ignorant at that time that, as we were informed by the latest press release on the incident,⁵³ it took half an hour for the reactor core to melt, which they had prudently declared was impossible. No, we have to say this loud and clear: when the authorities issued their reassuring press releases, at no time were they ever completely *certain* that they were not correct.

We have, however, spent too much time responding, undoubtedly more than they deserve, to those who have slandered the NRC and, along with that honorable institution, the scientific community as a whole. But to reduce these fanatics to silence, which would be their fate in a society organized in accordance with the needs of nuclear security, we need more than just rational arguments of the kind that have been exhaustively provided by the specialists, which I have here distilled and conveyed in their essence. In order for us to obtain an idea of the extent of the obstinate madness of these enemies of progress, we shall merely suggest that the experts should not be content with seeing their infallibility absolutely guaranteed by their social monopoly of explanation, and by the control that they exercise over the dissemination of all information that might lead too rapidly to their being refuted, but that the affair of Three Mile Island has even further underscored their obligation to provide the public with supplementary proofs of their infallibility, by virtue of what we might refer to as *ante festum* clairvoyance. In fact, on January 19, 1979, the experts of the U.S. Nuclear Regulatory Commission contradicted their own previous assessments of nuclear safety (as set forth in the so-called “Rasmussen Report”), and *two months before Three Mile Island* they presented to the U.S. Congress a report that identified *one hundred thirty-three* “unresolved safety problems” in nuclear power plants, *sixteen* of which constituted serious threats.⁵⁴ You only need to know that, of these sixteen serious problems, at

⁵² Cited by Louis Puiseux, “The Three Mile Island Nuclear Accident As Seen from France”, *Futuribles* 2000, November 1979.

⁵³ *Le Monde* (January 26, 1980).

⁵⁴ *Science et Vie*, July 1979. (According to *The Staff Report to the President’s Commission on the Accident at Three Mile Island*: “In January of 1978, in response to a Congressional order, the NRC

least three of them played a role in triggering the incident of March 28, in order to admit the following fact: anyone who has not been convinced by such a demonstration of the accuracy of the analyses of nuclear specialists will be incapable of being moved by any kind of rational discourse; such a phenomenon, however, falls under the rubric of another eminent scientific discipline, psychiatry.

Thus, leaving such miserable dregs from the past in the hands of expert practitioners, science can tranquilly contemplate the future that is its proper responsibility. Thanks to Three Mile Island, we can now complete the list of “high risk” defects of nuclear power plants and it is quite reasonable to expect that, after a handful of experimental tests of the same type, we shall be able to compile an exhaustive system of classification. Likewise, these same risks will each be subjected to an increasingly more precise assessment. On the basis of the initial results, analyzed after a suitable waiting period—as exemplified by the rate of increase of the incidence of cancer and leukemia in the State of Utah after the atomic bomb tests of the fifties—scientists will soon be able to provide us with a preliminary analysis of the predictable effects of radioactivity. They are now in a position to predict, if everything proceeds smoothly, barring catastrophe, how many thousands of people who work in the nuclear industry will die between now and the end of the [twentieth] century. As for the rest of the population, unfortunately situated in less advantageous conditions for observation, the calculations are infinitely more complicated due to the variety and mutual interactions of the vectors of contamination. There can be no doubt, however, that scientists will be able to considerably fine-tune their extrapolations as experience provides them with new data, so that, with luck, barring confounding variables, in the year 2000 they will be able to tell us with the greatest precision the number of people who have died from cancer or leukemia due to exposure to radiation since 1980. And then, once all the indispensable information has been gathered, they will infallibly prognosticate the further unfolding of the same phenomenon through the third millennium.

Thus, science will in the future have access to a whole privileged field for research in which no source of error will regrettably falsify their calculations: in the future, science will reign alone without anything ever standing in the way of its operations. An even better example is provided by a review of the mischief caused by a substance as banally toxic as asbestos, with which we are now just as familiar as we shall soon be with radioactivity. In November 1978, the International Labor Office (ILO) released a list of forty products used in industry that can cause what are called “occupational cancers”, and there can be no doubt that these are the same cancers that professor Tubiana genially referred to as “spontaneous” when he wanted to emphasize the fact that there were no appreciable increases in these cancers that could be attributable

provided ... a list of 133 unresolved safety problems.... [A subsequent report submitted by the NRC to Congress] lists only 17 unresolved safety problems with the highest priority of importance.” *The Staff Report to the President’s Commission on the Accident at Three Mile Island*, ed. John G. Kemeny, U.S. Government Printing Office, Washington, D.C., 1979 [American translator’s supplementary note]).

to small doses of radiation.⁵⁵ Asbestos is just one of these most affably spontaneous products; yet, according to one American study, over the course of the next thirty years it could “cause the premature deaths of two million American workers”.⁵⁶ It is true that according to other sources of information only 1,600,000 workers who have been exposed to asbestos will die in the coming years, at the rate of 67,000 per year.⁵⁷ In any event, and while we await the verdict of the evidence to be the judge in this clash of opinions, we must acknowledge the vast domain that lies before science in the future “when we think of 700,000 synthetic products used in agriculture and industry, a number that is growing by 10,000 new substances each year, only 100,000 of which have been subjected to testing to determine their harmful effects”.⁵⁸

Although, as it carries out its managerial mandate in the future, science must legitimately advance from one success to another, we must not forget that the past often proves more refractory when subjected to an accurate analysis that is exempt from any and all compromise with a vulgar empiricism. The past is revealed to be full of surprises, especially today, with so much accumulated backwardness, so to speak, that it is almost impossible to correctly record the diverse liabilities accumulated here and there by every kind of operation: it is not every day that one has the satisfaction of possessing figures as precise as those provided by a recent study, according to which, between 1977 and 1979, a nuclear weapons factory in Colorado released into the atmosphere exactly *19,000 times* the amount of plutonium allowed by the regulations then in effect, which is one way to put it: another perspective informs us that the cancer rates of the populations downwind from this factory spontaneously increased by 24% for men and 10% for women.⁵⁹ No, not all scientists are always as well informed as their colleagues in Colorado. And good proof of this is provided by a substance as benign as asbestos; it took forty years for scientific research to irrefutably prove what the owners of the asbestos industry had known for thirty years, and to calculate that about 17% of the cancers diagnosed in the United States were caused by exposure to asbestos and its mischievous spontaneity. Which, however, will serve to demonstrate, if such a demonstration were still necessary, the total lack of any basis for the accusations leveled at science for being in the service of the possessing classes: even before all the workers who were exposed to asbestos had died as a result, scientists revealed the danger posed by their occupations.

Since the past, however, is nothing but a future that ended up taking a wrong turn, science can tranquilly leave it to the morbid delectation of people with a taste for nostalgia, and continue its forward march, without pusillanimously turning back to look at the path it has trodden, a path sown with its most indisputable achievements.

⁵⁵ *Le Monde* (January 30, 1980).

⁵⁶ *Le Monde* (November 5–6, 1978).

⁵⁷ *Le Monde* (November 11, 1978).

⁵⁸ Isabelle Vichniac, *Le Monde* (November 8, 1979).

⁵⁹ *Le Monde* (April 13, 1979).

Thus, from this brief review of the triumphs of science, we may deduce that if science now reigns supreme over the future and still has to fight with regard to the past against pretensions encouraged by a certain air of a *fait accompli*, on the other hand it finds itself entirely helpless before the secondary, although compulsory, transition constituted by the present. Who could seriously blame it? The obscurity of the present moment, this confusion of multiple determinations, this flux of interactions resolved in the uninterrupted process of becoming and of the transitory; none of these things lend themselves to scientific analysis. We can even say that the present, with its polymorphous possibilities and its ramifications of consequences, is in a way anti-scientific by its very nature: its plasticity confounds the calculations of its wise tutors with a perversity that recalls the game played by children who, when confronted for the first time with education, amuse themselves by mixing up ideas and establishing whimsical connections.

In order to convey the meaning of my words, which will perhaps seem esoteric to some of my readers, I shall invoke the testimonies of two unimpeachable witnesses. First, that of a Framatome engineer⁶⁰ who was a member of the team of experts assigned to evaluate the seriousness of the cracks that were recently discovered in the containment vessels and pipes of the nuclear power plants that are under construction: “The existence of cracks opens the door to a particularly dangerous possibility, since we do not know how to foresee its occurrence nor can we calculate its consequences and risks: I am referring to a situation where the shutdown of a nuclear reactor due to the failure of any particular system is followed by other unforeseeable system failures, without any apparent relation to the initial failure. This possibility of multiple system failures without any direct relation to each other, has always been excluded from safety calculations.... Therefore, all of our safety calculations are based on the basic hypothesis known as the ‘simple failure’, according to which various systems that are independent of one another cannot simultaneously break down in the same reactor.... Experience has in the meantime taught us that it is extremely difficult to foresee everything.... In my opinion, the most serious aspect is connected with the fact that the components that have failed end up augmenting the number of factors of risk whose importance and eventual interdependence we are not currently in a position to evaluate.... In short, we have entered a zone of uncertainty where, starting from numerous facts and indices, we are learning that we are ignorant, but we are not yet able to measure the full scope of our ignorance. We know that multiple independent system failures are possible. We know that the parameters of our calculations are incapable of simulating accidents in which various system failures play a role. We know that the breakdown of certain parts can increase the risk of multiple irremediable failures, but we still do not know how to repair these parts.”⁶¹

⁶⁰ A private French corporation that manufactures equipment for nuclear reactors (Spanish translator’s note).

⁶¹ *Le Nouvel Observateur* (November 12, 1979).

I have quoted this interesting expert at length because I think it would be very difficult to more clearly express the tragic impotence of scientists in the face of the malignity of the present moment, in which the conspiracy of many independent system failures congeal into a totality. After having related this expert testimony, it will undoubtedly suffice for me to remind the reader of the pertinent finding of the NRC in the report quoted above, to the effect that, among all the unresolved safety problems, it turns out that, further condensing the regrettable opacity of the present moment, the conditions created by a serious accident within the containment vessel are prejudicial to the proper functioning of the equipment whose purpose is precisely to inform the technicians of the nature of the accident. This monitoring equipment, so it would seem, is only likely to function under conditions in which there is nothing to monitor except the perfectly normal operation of the reactor, just as its safety systems are only calibrated to prevent accidents simulated by computers. And therefore the NRC had to admit, with a consternation that we can only imagine, “that it will never know how much radiation escaped from the Three Mile Island facility because its quantity exceeded the capacity of the equipment that was supposed to measure it”.⁶² The most terrible thing about accidents is that they appear to derive a morbid satisfaction from not respecting normal procedures.

We shall therefore point out that the only thing that science has to do is to abolish this calamitous present moment and produce another present moment that is more in conformance with its methods and more worthy of its trust. To do this, however, it must resort to extra-scientific means. I will examine this question in more depth in the second part of this work, but let us proceed with our current investigation since our purpose is above all—by subjecting the obscurity of the present to the appropriate illumination—to prevent people from arriving at overly-hasty conclusions, due to their non-scientific spirit which, in its simplifying frenzy, seeks to resolve problems by just *turning its back on them*, easily, by simply *rejecting their terms*. As opposed to such an irresponsible attitude, we must accept all problems as problems whose solution is the exclusive prerogative of accredited specialists, since they possess the formulations of these problems in advance: we may rest assured that the solutions that they will elaborate will remain scrupulously faithful to those formulations. And this is the only way to “preserve the integrity and the rigor of the scientific method”, as the expert in cracks quoted above says he wants to do, and who, in order to be faithful to this standard, believes he must resign before anti-nuclear protest and flee from his responsibilities, rather than try to “do only what is calculable”. Because if we turn our backs on everything that is breaking up and threatening to collapse under the impact of multiple, independent system failures, the essence of this world will necessarily disappear, from the experts who so ingenuously confess that they are learning to understand just how ignorant they are without being able to measure the scope of their ignorance, to the

⁶² *International Herald Tribune* (June 23, 1979).

statesmen who kindly invite us to discover, under their direction, “an uncontrollable world”.

Awaiting their annihilation by more material means—which will not take long to materialize—I think that, for my part, I have definitively reduced to nothing all those pseudo-arguments whose aim is to prevent the integrity and the rigor of the scientific method from being seen for what they really are. And no matter how hard I try, I cannot think of a more effective way to present my position. In any event, I have done all that I could possibly do in this regard, without being afraid of compromising in the least the harmonious equilibrium of this work by taking the time to expatiate, and at such great length, on the revolt of ignorance, which I have shrewdly depicted as a third constitutive element of the anti-nuclear pathology, along with the “birth trauma” represented by the atomic bomb and the primitive fear of the supra-sensory nature of radioactivity.

Before we proceed to the more pleasing chapter on practical measures, we should point out that the anxiety about the end of all natural equilibrium that has been such an outstanding feature of the various delirious manifestations of nuclear phobia is itself, as is so often the case, the very cause of the object of its fear. The thoughtless actions of those who propagate this fear can only delay the advent of the perfect constitution of a neo-nature, a nature that will have to totally eliminate the old fashioned kind of nature in order to create a situation where its advantages can be fully appreciated. (Thus, when plastic vegetation is no longer reserved for the land bordering highways, police in hot pursuit of suspects will no longer run the risk of slipping on fallen leaves;⁶³ such mishaps, due to the fact that the police must always keep a finger on the trigger of their pistols, make them look too much like “Keystone Cops”.) This unfortunate mixture of natural disorder and artificial conditions is of such a kind that, each falsifying the effects of the other, we still suffer the inconveniences of our previous condition, without enjoying the advantages of the insufficiently-developed new situation that we can only descry from afar, as if through a hazy cloud of polluted air. If, however, we concede to the specialists—and we should do so willingly, if you ask me—a reasonable time frame, let us say the lifespan of a nuclear power plant, that is, twenty-five years, I am sure that we will not have waited in vain and that our hopes will not have been deceived. Then it will be easy for everyone to measure the magnitude of their ignorance, because the Earth in its totality will become for all of us just as mysterious as it was for the first human beings at the dawn of time.

Furthermore, the point of view of the enemies of progress was only sustainable as long as there was really something left to preserve of the former nature. Today, however, it would be hard to subscribe to, no matter how much one may strive to generate the most fatuous good will to do so, the slogan of those forerunners of reactionary

⁶³ A reference to the pretext offered by the police to explain the death of a police officer in an incident that took place while this book was being written.

environmentalism, “the Earth does not lie”:⁶⁴ a discerning palate for the taste of its products, not to mention the “follow-up” of its effects on the body, easily persuades us that the allegedly inalterable authenticity of the old nature has come to naught in the face of the power of infiltration of a second nature, which we may no longer accuse of being fake, when it has penetrated our customs like a pesticide soaking into soil. Based upon what justification, for instance, can we define the daily bread of the immense majority of the population as fake—and not just the bread? Heraclitus said that one must follow what is common, that is, universal. It is true that he also said that if all things end up in smoke, we will perceive them with our nostrils.⁶⁵ Although with respect to that point he was perhaps mistaken, because we have seen that the considerable development of the production of smoke of the most diverse fragrances has not made the olfactory sense of our contemporaries so acute—up until now, anyway—that they would be permitted to know this world with their “noses” as if by rule of thumb; instead, everything takes place as if they were content to not smell it at all and to just put up with anything.⁶⁶ What is most important, however, is not the way our contemporaries come to terms with the objects that are offered to their perception, but rather the fact that they should lose the memory of any other sensation apart from those which are permitted on an everyday basis. That which is on the verge of being erased from the memory of mankind cannot be invoked as truth, but it may subsist in the form of a confused nostalgia lacking any communicable content. In opposition to this morbid sentimentalism, which may potentially undermine existing pleasures due to the seductive powers of imaginary ones, it is the mission of modern culture to deprive mankind of even the memory of that which it has irremediably lost, a memory that can only be the source of dissatisfaction and misfortune.

This beneficial role played by culture, and the satisfaction that it guarantees us when everything has been forgotten, will be discussed in more detail in the second part of this work. For now, we shall only say that, in view of the current state of modern culture, it seems that nuclearized society has already found its artists and intellectuals. However, the development which has commenced before our very eyes, of which this work constitutes merely one element, still tainted with the impurities of the pre-nuclear era, this development, I repeat, is a long-term development. The current generation is like the Jews Moses led into the desert. It not only has a world to win but it must die in order to make way for people who are suited to the new world.

⁶⁴ Petain’s slogan (Spanish translator’s note).

⁶⁵ Heraclitus, Fragment 37, from Aristotle’s *De Sensu*: “... if all existing things should become smoke, perception would be by the nostrils.” www.classicpersuasion.org (American translator’s note).

⁶⁶ A play on words in French relating to the sense of smell: *a vue de nez*, “by rule of thumb” (literally, from the viewpoint of the nose), *ne plus pouvoir le sentir*; “to not be able to put up with something anymore” (literally, to not be able to put up with smelling it anymore) (Note of the Spanish translator).

How to Attract All Those Who Are Susceptible to Its Appeal to the Cause of Nuclear Power, and How to Prevent Everyone Else from Doing Harm

After having utterly annihilated all arguments against nuclear power, arguments that were forged by its enemies on the anvil of bad faith with the hammer of calumny, I must still elaborate in more detail, with the same admirable rigor that characterized the composition of the first part of this work, the positive reasons that can be evinced in its favor. This implies that we will consider the means by which these reasons can be universally imposed, because their truth will not be proven but rather imposed by overcoming all opposition. And we shall do so without special regard for particular people or institutions, because brutal candor is the best way to serve our purpose; even if, now and then, we annoy those who, although they consider themselves to be zealous partisans of nuclear power, nonetheless, by offering very poor reasons and then backing them up with even more laughable falsehoods, ultimately undermine the cause they claim to support. As one of our most cultivated government Ministers—a member of the *Academie Francaise*—said: you must never drive the contempt of the people to rudeness.¹

I shall begin with a pithy observation, one that I hope will stimulate the appetite of the reader. Throughout the course of history, we have constantly observed that cultural refinement went hand in hand with the refinement of culinary practices (when I use the word “cultural”, I am obviously referring to the totality of means utilized by humanity to free itself from the contingencies of nature). After all, there can be no doubt that the origin of the novel taste for modern delicacies is not found anywhere else in the vegetable or animal world; this is proven by the fact that the eccentric enterprise of restoring what is assumed to have been the taste for a certain kind of food that was not yet emancipated from natural constraints has become the object of a particular so-called cuisine. Is it really possible that we are more daring in our eternal march towards progress in culinary matters than we are in matters relating to

¹ An allusion to a saying attributed to Saint-Simon quoted by the Minister of Justice, Peyrefitte.

energy production? Can we really believe that we can preserve some kind of natural equilibrium by cooking our modern foods in a wood stove instead of a microwave oven?

Furthermore, the relation between these two aspects of progress, with respect to food and society as a whole, is a particularly close one in our country. Heinrich Heine had already celebrated this fact when he exclaimed: “Praise be to the French who have taken to heart the two basic needs of human society: good food and civil equality!” Thus, it is not at all surprising that France, a country noted for its assiduous development of modern culinary arts, a country that has made so much progress with respect to one of these two elements—good food—that today we are particularly struck by its achievements, is also the country that boasts of the “most ambitious nuclear program in the world”, with the obvious intention of using the same radical methods to perfect that other necessity of human life, equality; but rather than just the civil equality that Heine evoked, a fundamentally social equality, equality realized: equality before the atom.

In fact, there are so many parallels between all the historically documented advances recorded for human life in the fields of cuisine and nuclear technology, that it would be hard to tell their story within the constraints of a single book. Although we abide by the rule that we must be exhaustive in addressing all the themes that we touch upon, we must also take care not to try the patience of the reader when the time comes to provide details of the various extra-culinary effects of microwaves, chromosomal mutations and other somatic modifications.² Thus, we shall perhaps reserve for dessert, that is, for the not-so-distant future, a detailed account of the various ways to prepare nuclearized animal and plant species, “one-kilogram eggplants” and other marvels worthy of Cloud-Cuckoo Land:³ “The cultivation of eels in the warm water discharged by the power plants might also be fruitfully examined”⁴; and then everything is possible with the novel anatomical re-arrangements that, like the experimental fish of Bikini, will enrich the possibilities of culinary resourcefulness. And, while we shall only note in passing the promises made to fishermen by technicians working for EDF to the effect that the warming of the waters of the Seine by the Nogent-sur-Siène nuclear power plant will make the pike disappear just as quickly from that river as ordinary chemical pollution caused the gudgeons to disappear from the Rhône⁵, we shall be content to call attention to the fact that people who are nourished in accordance with the prescriptions of the most modern culinary techniques, even if their food cannot yet be

² *Science et Vie*, February 1979.

³ “The heat created by the power plant (30°C in the winter) will provide a tropical climate for this town (Valdecaballeros), in the tourist zone of the Guadiana Lakes. This climate change will benefit farmers, because it will make possible (the Ministry of Agriculture has discovered this in a study) the transition to tropical crops.” Agencia Logos, in *Ya*, Madrid (October 25, 1974) (Spanish translator’s note).

⁴ *Le Monde* (November 9, 1978).

⁵ “We release the cooling water—at the rate of 24 cubic meters per second—which is 8°C warmer than the temperature of the river, which benefits agriculture, because it regulates rainfall, and now the fish will come to spawn near the power plant.” Federico del Pozo (See note 11).

said to be nuclearized, are nonetheless subjected to the best possible preparation to become inured to the future modifications of their environment: after having swallowed such food, they will certainly be able to put up with all the rest.

But let us finish with the appetizers and return to our main dish. Proceeding boldly and without further ado to the heart of the matter, we shall summarize the results of our reflections: endless speculation on what our premises might have been does not allow us to escape from the need to arrive at a conclusion. This explains why people have wasted so much time in endless debates about the problem of knowing whether history could have followed a course unlike the one that now confronts us with the consequences of a power that can no longer be ignored: the fact is that it has taken this course and now it is a matter of providing it with the nuclear conclusion that will make this course definitively irreversible and thus prohibit all idle discussion; or, rather, it will allow such discussion to take place in the best possible conditions of objectivity, that is, conditions that obviate any kind of practical consequence. As a leading figure of the nuclear industry so laconically expressed this idea, in a style befitting a leader of men: “It is always possible to debate choices that have already been made. Right now, the only thing to do is to continue along the path that has been chosen.”⁶

The obvious superiority of nuclear power in contrast to all reformist environmentalism consists in the fact that its proponents are concerned less with the preservation of a few secondary details, such as baby seals or breathable air, and more with the preservation of the very foundations of the present social organization. It is in this sense that one must understand the profound statement of the academic Vladimir Kirillin, Chairman of the State Committee for Science and Technology and Deputy Chairman of the Council of Ministers of the Soviet Union, who authoritatively declared: “Nuclear energy presents us with the best solution to the need for environmental protection.”⁷ With this statement he nullified the long chain of pseudo-events, from Three Mile Island to the recent leak of eighty tons of radioactive water from a Japanese nuclear reactor, which tend to frighten us with the specter of a protection, so scrupulously assured by all the powers of the world, that is at the mercy of any environmental catastrophe.⁸ This protection shall never fail us, of this we can be sure, and if one factor in this equation, we or it, is to fail, it will rather be we who shall fail. In the meantime, it is meticulously working on everything that constitutes the most important part of our environment, beginning with its own conditions of existence.

⁶ Philippe Simonnot, “The Nucleacrats”, quoted by Louis Puisseux, *Le Nouvel Observateur* (April 17, 1978).

⁷ *Le Figaro* (November 15, 1979).

⁸ Recently, Eduardo González, the President of the Nuclear Forum, the official lobbying group of the Spanish nuclear industry, had the merit of saying that “nuclear power is the most important source of pollution-free energy production”, minimizing the problem of wastes, and pointing out that “nuclear power plants account for only one percent of the total amount of toxic waste generated in Spain”. *El Periódico*, March 13, 2007.

After all, what person with even the least degree of respect for materialism would deny that our environment is much less aquatic than social, and that it is composed much less of plankton and more of every kind of thing and person which, like these alleged catastrophes that supposedly prove that the State is not doing what it is supposed to do, are exhibited performing functions so contrary to their real nature? For instance: all these people who think they are discriminating and well-informed because they regularly have to admit that they have been deceived and defrauded, these people who even believe they want the world in which they live to disappear someday even though everything that structures their lives must in such a case also disappear with that world; in short, all those people who are so accustomed to remain silent, who have forgotten the sound of their own voices and who think they are shouting when they are doing nothing but groaning.

Thus, many people think that they have an obligation to take a stand against nuclear power in the name of environmental protection, even though a four-year-old child, without the help of any Soviet professors, can easily understand that in order to assure such protection an omnipotent State is necessary, and therefore that what we have to do is to assure this omnipotence rather than think about aquatic fauna or recycling wastes. All the half-truths they haphazardly pile up in order to construct what they pompously call their arguments imply an infinite extension of authoritarian regulations, but they stop half-way and fail to consider how these regulations must be applied, while the pertinent regulations that already exist cannot be applied at all. Anyone who is in favor of regulation also must be in favor of increasing the power of the State, and anyone who wants to reinforce the State has to want, as I shall demonstrate in detail, the nuclearization of the world.

This argument should be sufficient to win the support for the nuclear program of all those who, with regard to every issue and in every domain, abstractly advocate—and therefore appeal to the State—more controls in the name of their safety or in the name of what they call their quality of life, an advocacy which, in a single impulse, also embraces the old habits of self-management that they have dusted off and taken down from the shelves of the museum of the old revolutionary workers movement. My purpose is to make them consciously accept what they are actually fighting for, although they do not know it yet, so true is it that self-management for them is merely a generously vague term for the *idea* of a social activity modeled on their own activities, the ones for which they are currently being paid, jobs dedicated to the control of the secondary details of the progress of the economy and the management of its impact on people's lives. All these employees of the institutions of social control do not see that total nuclearization will entrust the most beautiful future to their self-management, just as its preliminary phase already presently assures the prosperity of their most favored ranks, risk analysts and other experts on cracks and evacuations!

Finally, a lucid approach of this kind will allow us to confer a concrete content upon the term “self-management”, whose deplorable imprecision has caused it to acquire a bad reputation. We must accept the fact that those people to whom the management

of no aspect of their lives has been entrusted, and who do not even possess the means that would enable them to entertain any illusions in this regard, should be seduced by such an abstract idea, insofar as it gives them something they can conveniently identify with all of their most confused aspirations: because they exist at an almost infinite distance from the practice of governing, no experience can temper the ardor of their imaginations, and their very condition predisposes them to relish general and abstract theories concerning the question of social organization. But how are we to explain the attitudes of those advocates of self-management who actually do possess such means? It is certainly much more surprising to behold the large number of leaders or alleged leaders who cling to this abstraction as if it were a life-preserver: what can self-management mean, we may ask, for those who manage society or who are alleged to manage society? Not only do they clumsily confess that they are themselves not at all satisfied with their own management—and if they are not, who will be?—but they also bitterly convey the impression that they have founded all their hopes on some miracle that will soon compel society to walk on its own two feet, with the praise of general good intentions, thus liberating them from the numerous worries and concerns connected with their managerial functions, but that will nonetheless maintain them in their current positions. Such political perversity evokes the Baron de Breteuil, concerning whom Chamfort recounts that he declared in 1788: “I want the royal power not to degenerate into despotism, and I want it to remain within the limits within which it existed under Louis XIV”!

But let us return to those who think they are against nuclear power and must be liberated from this illusion. We have already pointed out that nuclearization would constitute the best safeguard for their environment, as well as the most secure road to their self-management. In order to unfailingly win them over to our cause, it will undoubtedly be preferable to call their attention to the immediate advantages that they can enjoy, and which they are indeed enjoying even now. For we know that at the present time the most zealous consumers, those whom we must call by their name, *cadres* [“executives”],⁹ from among whom are recruited that type of opponent of nuclear power which can be perfectly characterized simply by saying that they spend their Sundays denouncing what they did the other six days of the week, these consumers, therefore, are the same ones who are trying to restore some of their lost prestige (the prestige that was once attached to the happiness that they were supposed to derive from their own consumption) by loudly proclaiming their unsatisfied demand for quality; thus, their *standing*¹⁰ is henceforth expressed in their negative grandeur, that is, by the quantity of dissatisfaction they mobilize against the products of modern industry, which they nonetheless must continue to consume due to the fact that they can never escape from the chain of needs that renders them indispensable. And, likewise, the

⁹ *Cadres*: strictly speaking, the highest category of wage-earning or salaried employees in government administration and private industry; historically speaking, the petty bourgeoisie that has been transformed into a wage- or salary-earning class (Spanish translator’s note).

¹⁰ In English in the original (American translator’s note).

real quality attained by these products is measured by the introduction of new scales of harmfulness, whether we are talking about measuring the volume of an oil spill in Amoco-Cadiz units,¹¹ or using rems to measure the “qualitative factor” of the effects of ionizing radiation on the human body. (In this respect, as in so many others, the military led the way, with its invention of the term *megadeath*,¹² i.e., a measuring unit consisting of one million corpses.)

How can we fail to recognize these developments as the “historical transition ... from quantity to quality” that we shall have had the good fortune to enjoy, now that “consumer society ... has devastated part of our coastline, our cities, our way of life, our culture”, in short, now that “it has wreaked formidable damage”?¹³ We take this definition of the transition to quality seriously, because it comes from someone who possesses, apart from those qualities conferred upon him by his role as President of the Republic, most of the qualities, which are quite notable with respect to the advancement beyond quantity, that are more closely associated with the lower ranks of the management of society: he is, in a manner of speaking, the executive-President, just as Louis Philippe was the bourgeois-King. And the good fortune that accrues to him when he discourses on the damage done to this country, of which he is the Chief of State, is a harbinger of the good fortune that modern consumers will be able to incrementally derive—lacking any other—from the *comentarius perpetuus* on their misfortunes.

What a marvelous time to be alive, when the widespread tendency to derive satisfaction from the proclamation of one’s dissatisfaction, as if this was the most distinct expression of one’s subjectivity, conveniently finds reasons for constant renewal in the hangover of a vast objective defeat! How admirable it is to balance supply and demand, as is accomplished by those who, for the greater glory of medicine, while inventing a procedure that uses human spleens to cure a disease, can also take advantage of the copious supplies of this organ made available thanks to traffic accidents! And this adaptation shows that those consumers who are ultimately responsible for everything, and this world that leads to nothing, are, in some essential aspect, well adapted to each other. This adaptation—whose existence, due to the mania for originality that is the hallmark of a myopic worldview, some seek to dissimulate by proclaiming that they are against nuclear power—must be accepted as the basis of all their possible pleasures; the pleasures they like to read about in the books for which they have so much respect, just as they like to read the menus of restaurants that they frequent, and for the same reasons. Where is the qualitative existence of that which breaks with the economic routine and disturbs the habits of quantitative thought most faithfully manifested, if not in the stress and doubt with which the most modern type of production oppresses the lives of most of our contemporaries, awakening them from their

¹¹ Today we would use *Prestige* units (Spanish translator’s note).

¹² The text of the Spanish translation has “*megabody*”, in English; the correct term is *megadeath* (American translator’s note).

¹³ Giscard d’Estaing, *Paris-Match* (September 14, 1979).

petty dreams and preventing them from accepting a contemptible comfort? Where the dismal indifference of planned existence reigns, man once again encounters, raised to a higher level, the uncertainties of his first steps in the appropriation of nature. Once again he must be exposed to the winds that sweep the skies and to the currents that traverse the seas, because the courses taken by both winds and currents deliver all kinds of diversely toxic surprises to him. He can be sure of nothing, neither of the precise content of the air that he will breathe, nor that of the water or the wine that he will drink.

The undeniable merit of our time, which consists in its having thus brought quality to center stage in a world that wanted to ignore it, is particularly valid for nuclearization; so much so, in fact, that we may say that it involves a *generalized qualitativization*: following the example of the works of the boldest thinkers of modern qualitiveness, it transmutes everyday drudgery into a thrilling stage-set for a multitude of adventures, all of them equally exciting. It's true: adventure really is waiting just around the corner¹⁴ for every Parisian, since the Nogent-sur-Seine nuclear power plant promises to transform the simple act of breathing or drinking into a deed replete with risks. And look: professor Tubiana, to whom we are already so greatly indebted, supplies yet more convincing arguments, telling us that the radiation inflicted on the residents of Harrisburg last spring was "the equivalent of spending a few days at a ski resort".¹⁵ Thus, taking account of the impact of these weekends in the mountains, calculated according to their general equivalent in rems—the rems with which the malfunctions of the nuclear power plant at Nogent will reward the Parisians—the residents of Paris will soon be able to replace the ordinary risk of breaking a leg while skiing with other more original, and more intoxicating, risks.¹⁶ This direct access to irradiation, by dispensing with the need for so much travel, will undoubtedly seduce those who in every respect prefer to get results without going through a whole ordeal to get them, and who will therefore be able to take the straight road, by the oral route, to what the suntanned tourist was still unable to obtain, to accurately depict the impact of a few weekends at a ski resort. And with the perfection of this technique of transforming one's place of residence into an exotic destination, there will no longer be any need for distractions to excite the weary executives by transporting them to harrowing destinations: the jungle of the

¹⁴ A reference to the book by the neo-thinkers Pascal Bruckner and Alain Finkielkraut, *The Adventure That Is Just Around the Corner*, a book along the lines of Raoul Vaneigem's *Book of Pleasures* (Spanish translator's note).

¹⁵ *Le Monde* (January 30, 1980).

¹⁶ "Similarly, man, either for pleasure or by necessity, climbs the highest mountains and flies at the highest elevations, thus increasing his annual equivalent exposure. It is estimated that the increased exposure, above the amount that he would have received at sea level, while flying in a supersonic jet airliner, is approximately 0.3 millirems/hour. As you will see, only a few hours of flight per year are required for a passenger to receive a higher exposure than what he would receive while living 24 hours a day in the vicinity of a nuclear power plant." *Medio Ambiente en España: Informe General* [The Environment in Spain: A General Report], CIMA, Subsecretariat of the Interior and the Environment (Spanish translator's note).

cities will exude far more poisonous vapors than any that might be encountered in what remains of the Amazonian rainforest. In a world where, according to a beautiful formula whose author would perhaps not suspect the electric jolt of enthusiasm that it induces in those who are nostalgic for adventure, “*stocks of plutonium are created by means of human brains, just as new plants are unthinkingly created by bees*”,¹⁷ in a world that is entirely covered by such vegetation, we shall no longer have anything to envy with regard to the great enterprises that in other times were unleashed in the struggle against nature.

This point seems very germane for gaining the support for nuclearization of all the white collar employees and middle level executives who have not yet rallied to its cause, since these elements form the specific public of those who frequently use the word, “adventure”, and we cannot doubt that the intensive consumption to which they subject this word corresponds to a real need. There is still one more argument to set forth, along the same general lines, for this particular category of semi-opponents of nuclear power. This argument is as follows: if nuclearization is irremediably condemned, and with it the whole system of production at whose summit it is erected, and if they were to concern themselves with arranging for the means by which this sentence could be executed, what other topic of conversation in the world would allow their adored thinkers to be so up-to-date by saying what no one would have ever imagined saying if they did not exist? How many admirable works would be lost? And what is true of specialized geniuses by way of incessant labor in a merely theoretical struggle, is also true of those who associate on a daily basis in this activity as simple enthusiasts of more honorable deeds. With respect to this point, I will take advantage of this opportunity to remind the reader of the striking similarity, to which I have already referred, between the discovery of the unconscious and the discovery of nuclear energy. The contribution of the latter to the delights of conversation will certainly be no less than that of the former. What topic of conversation would be more suited to a middle-level executive for passing himself off as a discriminating man who will not let just anyone make a monkey out of him, such as is now the case with the intelligent and unprejudiced man thanks to the generalization of psychoanalytic commentaries? And who would mistake the producers and consumers of environmentalism for profound critics, if industrial production, mainly in its nuclear form, was not there to regularly supply them with targets for their vituperation? If a hundred charlatans of this kind were to put their intellectual abilities to work describing the marvels of a society that conformed to their desires, I am sure that they would meet with nothing but boredom and indifference.

Now, after having invoked such noble reasons for supporting the cause of nuclear power, I can hardly dare to appeal to more prosaic interests. Nevertheless, it seems to me that, now that unemployment is driving so many younger executives to desperation, it is worth calling their attention to the fact that nuclearization will create a large

¹⁷ Louis Puiseux, *Le Nouvel Observateur* (April 17, 1978).

number of jobs in their respective professions, and I am not just referring to jobs that are indirectly created, making a detour through the growth of employment in the fields of culture and leisure that is simultaneously made possible along with self-management; no, I am referring only to the professional categories whose future is directly bound up with the future of nuclear power, and we shall once again offer as an example the experts in cracks and evacuations, and all the other risk analysts and waste managers. If we consider the prodigious growth of professional specializations associated with the administration of the harmful effects produced in the environment by traditional industries alone, or managing the information on these effects (whether with regard to maps showing the microbial quality of beaches, or explaining to the public the reasons to learn to live with asbestos), it is easy for us to foresee the nature of the contribution that the nuclear industry will make to the struggle against unemployment; always keeping in mind the fact that the start-up of a nuclear power plant is assumed by the respective responsible parties to be the start-up of a process of breakdowns concerning which, in view of our inability to prevent all of them, we only have to assure “continuity”, for example, by way of “the implementation of methods of automatic detection of ‘cracks’ ... which will monitor their expansion over the course of the operational life of the power plant”.¹⁸ No petty concern with the risks that we will face can stand in the way of the audacity of the managers and technicians: if, in the past, we used to commence operations at nuclear power plants without knowing what might happen when they were shut down, now we commence operations at nuclear power plants without even knowing how to ensure their continued operation. First we fire up the reactors and then we will discuss the best way to repair them.

I shall not go into greater detail about all the attractive professions and various kinds of jobs that will arise with the nuclearization of the territory, when it will be necessary not only to mobilize robots that can repair the cracks in the radioactive zones, but also, once such zones are extended well beyond the nuclear power plants, we will have to introduce men who will be capable of repairing and maintaining in good working order these indispensable robots, men, furthermore, who are capable of surviving the intervals between the occasions when such repairs will be necessary. I will only mention the following fact: this contribution of nuclear power to a victorious struggle against unemployment will not only be expressed by its considerably increasing the number of jobs, but also by significantly decreasing, and doing so in a quite antiseptic way, the number of men who are likely to find themselves in the unfortunate situation of looking for a job.

At this point in my argument, I do not think it is necessary to go into further detail about the material advantages that would accrue, with the nuclearization of the world, to those executives who currently consider themselves to be enemies of nuclear power, because the completely disinterested relations they maintain with the truth will compel them to understand the numerous arguments that I have specially produced in their

¹⁸ *Le Monde* (January 23, 1980).

honor, and it is undoubtedly due to the fact that certain people who seem to them to be like brothers claim to be enemies of nuclear power that they display the same rigorous attitude that those others simulate in order to justify their lives whenever they feel the need to do so, which is almost constantly. Similarly, the justifications offered for nuclear power are characterized by a certain adjustment to the reality of the facts—it is a platitude to say that this familiar taste comes from society itself¹⁹—an adjustment that must make these justifications the spiritual food of all those who feel obliged, and willingly obliged, to swallow, giving it the name of “food”, something that was merely the logical material result of a distinctly scientific type of thought.

As for those who hesitate to accept that last claim, I will cite no other example than this information I just read in a newspaper: “The area around Alès, where attempts have been underway for quite some time to find industries to replace the jobs lost when the mines were closed, will over the next few months be the scene of a very peculiar experiment in the field of agricultural food science.... The patent, it would appear, is owned by a Danish firm, Sanovo, which already has facilities in the Netherlands, Switzerland and Great Britain. The operation consists in breaking eggs, separating the white from the yolk, and then reconstituting the contents by a cooking process. The result is a cylinder 18 centimeters long and 4.5 centimeters wide, produced by automated machinery. The factory will produce approximately thirty thousand ‘large eggs’ each day.... An automated machine will make it possible to produce equal-sized sliced cross sections of these products, 36 for each 18 centimeter cylinder. Not only will their thickness, a half-centimeter, remain constant, but the egg white and the yolk will be uniformly distributed throughout each slice.”²⁰

Who can say whether this newspaper article is about food, or cooking, rather than materialized ideas, or, to express it more precisely, *highly concentrated ingots of scientific thought*? And from now on, with respect to those cranks who do not savor such instances of progress attained in the quest to eliminate the capricious irregularities of an eccentric and unpredictable nature, we can tell them that, just like an omelet, you cannot make ingots without breaking some eggs. However, this latter concession to natural contingencies will soon be nullified: someday they will make ingots without breaking any eggs just as boldly as they will make wine without harvesting any grapes.

But let us resume our discourse, *ab ovo*; now is the time to delineate those factors that, in the justifications of nuclear power—whether presented in the form of ingots or slices—are intended to please the executive who is so concerned with outward appearances. I have spoken of his marvelous adjustment to the way things are and I shall return to this aspect only to add the following point: radioactivity is not at all perceptible to the sense organs and it is very good that this is so. Why should it be any more perceptible in information? Is it necessary to oppose this respect for appear-

¹⁹ A reference to the well-known French advertising slogan for a chemical beverage: *A goût étrange venu d'ailleurs* (a foreign taste from far away), representative of the insolence of the modern commodity in its affirmation of its extraterrestrial autonomy (Spanish translator’s note).

²⁰ *Le Monde* (December 27, 1979).

ances, when the appearances of respect have been lost everywhere? Those who have allowed themselves to be easily convinced by the arguments of advertisers, according to whom it is always better to see their advertisements than to contemplate the dilapidated walls and the cracks that those advertisements conveniently cover, will admit *a fortiori* that news stories about nuclear power are always more agreeable to consider than the diverse, crack-ridden realities.

With regard to this question of information, we shall indulge in some nostalgic reminiscences of the “Rasmussen Report”—subsequently repudiated by everyone in industry and government—which stated that the probability of one hundred persons dying during the course of accidents affecting a complex containing one hundred light-water nuclear reactors is equal to the probability that one hundred persons would die as a result of a meteorite strike. If we are looking for reassurances of this kind, however, we might calmly seek consolation in the crack that existed, even before Three Mile Island, in this tranquilizing hypothesis, and we should heed the conclusions of a Canadian expert from the International Atomic Energy Agency, who, “based on an extremely detailed risk analysis”, taking into account “not only the final stage of the production of energy but also the initial and intermediate phases” to determine the number of working days lost “both by the workers themselves as well as by the public due to fatal accidents, injuries or illnesses”,²¹ was able to demonstrate that nuclear energy is the least dangerous kind of energy,²² with the exception, however—and this shows how totally impartial he is—of electric energy produced using natural gas.

I think that if we were to authoritatively put the finishing touches on this magnificent proof, we would definitely put nuclear energy head and shoulders above all other forms of energy production, and we would utterly refute all the irresponsible visionaries who praise methanol without taking into account the accidents that take place during the course of cutting down trees, and those who praise solar energy without evaluating the inevitable risks entailed by the extraction of materials that are used to manufacture solar panels, not to speak of those associated with their installation and the large number of people who sprain their ankles when they fall off their roofs. Nor do we need to mention that if we were to take into account the final phase of energy production, its utilization, we could demonstrate that it cannot take place without causing immense harm to the consumers,²³ real harm compared to which the entirely

²¹ *Science et Vie*, July 1979.

²² “I would have no problem living in Zorita, even if the local residents can tell me why I should not go there. I can say with all certainty that I run a greater risk when I cross the street in Serrano than I would in a nuclear power plant.” Luis Magaña, quoted in *Cambio 16* (March 2, 1980) (Spanish translator’s note).

²³ “*The environmental problems associated with clean energy*. The renewable energy technologies that are often considered to be particularly favorable for the environment, may very well entail serious environmental problems, according to a report released by Lord Flowers, prepared at the request of the British Commission on Energy and the Environment.... Modern wind turbines could cause major problems such as interference with television reception. Given the quantity of relatively crucial materials required for solar arrays, and considering their wide dispersal, this technology would ultimately entail

hypothetical risks posed by nuclear power are trivial: how many people were electrocuted before nuclear power plants even existed, whose deaths were attributable solely to the classic forms of energy production?

However, since the working day is the unit of measurement so perspicaciously chosen by our expert as the abstract general equivalent of all risks, it behooves us, if we may speak in dialectical terms to a scientist, not to use it in a one-sided way: it is not enough to say that the risk might “be evaluated quite differently depending on whether we view it from the individual’s point of view, or from the collective point of view”, that is, from the point of view of the Economy and the State that embody the interests of the collective, and from this latter perspective, in accordance with that original accounting “one death is equivalent to 6,000 ‘lost working days’”.²⁴ We must pursue this reasoning to its conclusion, without fear of the prejudices of popular opinion, because now the disturbing prediction of an eminent figure in nuclear physics, a former colleague of Enrico Fermi, according to whom “energy derived from nuclear fission is incompatible with the human race”,²⁵ can precisely ascertain just how many days will be lost: the objectivity of time is everything, the human carcass is nothing, or at most a unit of the measurement of time. Thus, given that under the reign of the Economy working days are never lost for everyone, with the disposable exception of the worker—who can already be satisfied if he does not lose 6,000 days all at once—we must not use this unit of measurement only in a *negative* sense, as days consumed by the users of labor power, but also *positively*, as working days produced for the greater good of those same users. And any sensible individual will therefore be able to conclude that no source of energy can possibly compare with nuclear power with respect to the production of working days, by constantly creating new jobs involving the management of nuclear wastes; among the latter we must, of course, include the broken-down human material, whose injuries or illnesses—in the final accounting—must reasonably be evaluated as stimulants to economic activity, to which health-care related industries make a notable contribution. I will spare the reader the calculation of the number of working days produced by the need to keep watch over radioactive wastes or other materials from nuclear plants that will have to be sequestered for centuries; instead, I will merely mention the findings of a German economist who proved how an activity as seemingly un-economic as crime, whose “social cost” others have also sought to measure in terms of lost working days, is in fact a powerful stimulant for the general progress of the Economy. Indeed, criminal activity not only eliminates from the market the surplus part of the population, but the fight against crime, by absorbing another part of that population, also opens up another whole field of useful occupational categories. The criminal therefore produces all the police and all the persons who staff the criminal justice system, the criminologists, the judges, the executioners, the jurors; and every

significantly more breakdowns and accidents per unit of energy produced than other energy-producing industries.” *Fórum Atómico Español*, no. 71, Afi. Saga-79 (Spanish translator’s note).

²⁴ *Le Monde* (January 30, 1980).

²⁵ Georges Weil, quoted in *Science et Vie*, April 1974.

one of these different occupations, which constitute so many categories of the social division of labor, develops different faculties of the human spirit by creating new needs and new ways to satisfy them. Torture alone has given rise to the most ingenious mechanical inventions and has kept a swarm of honorable artisans busy producing its instruments. If we take a close look at the relation between this particular sector of production, crime, and society as a whole, we can immediately dispense with a large number of prejudices. The evaluation of the advantages of nuclear power will be significantly benefited by the application of this method of analysis.

If, unafraid of the prospect of being hit on the head by a meteorite, and if I were to be so bold as to compete with the many correct inspirations relating to the question of informing the public which have flourished so luxuriantly ever since it was understood that the under-informed status of the public might prove catastrophic, with regard to the problem of those cracks that continue to agitate public opinion—so oblivious is the public to the real dangers that are lying in wait for it around every corner—I would dare to propose to the authorities that they stage a demonstration whose implacable logic would make it possible for them to pacify even the most distrustful members of the public. All they need to do is publish in the news media a press release signed by the most respected experts, more or less in the following style: First of all it is false to say that the gases that are deliberately released from the vents of nuclear reactors are toxic in any way; in any event, these vents are in perfect condition; and, when it comes right down to it, these releases of radioactive gas only represent the radiation exposure equivalent of a few weeks holiday at a ski resort, always bearing in mind the fact that, regardless of all other considerations, the evacuation plans are perfectly adequate. I do not think that there would be any need to mention in this communiqué—which, formulated in this way, has the advantage of being suitable for application to La Hague and to all the cracks that will come in the future, whether underwater or directly exposed to the air—any promises about the wind direction, since not every nuclear power plant is as ideally situated as the Cattenom facility, whose dissemination of gases and other inoffensive effluvia toward the populations on the east bank of the Rhine will be assured by the prevailing west winds. This argument, used to pacify the domestic population, cannot be so easily denounced by the German authorities, insofar as “the leaders of the Federal Republic themselves made calculations of this kind when they decided to build their nuclear waste reprocessing and storage facility at Gorleben, very close to the Eastern border”.²⁶

Now, it would only be fair, the way I see it, to use the issue of the prevailing winds to selectively reduce rates, a proposal made by the President of the Republic to EDF, in which the President called upon the EDF to discount the utility bills of its customers who live near nuclear power plants, in order to indemnify them for a risk that, with admirable munificence, the authorities have not been satisfied to merely insist without more ado that it does not exist.

²⁶ *Le Monde* (December 22, 1979).

Alongside all the Boiteux-arguments,²⁷ as I propose to designate them in honor of the President of EDF, the argument that I shall for my part modestly submit as a “pressure release valve argument”²⁸ seems to me to be likely to be accepted with the requisite enthusiasm by all those who have embraced, as justifications for all aspects of their lives—whether their habitat, their food, their jobs or their amusements—arguments that are just as irrefutable as this one. And they might even pass beyond enthusiasm, so true is it that the groans to which they willingly give vent these days are just as unimportant as the gasps of pleasure they emit while they watch televised debates in which others groan on their behalf: what is important is that they should carry on as usual, never thinking for themselves, because they lack all the means necessary for doing so, and that they should not seek—for a thousand reasons, in relation to particular complaints concerning which they receive detailed daily reports or which they discover through their own experience by way of prodigious efforts—to impose a necessarily premature definitive conclusion, because it is obvious that they will never be fully apprised of all the insults they must endure, since this is a field of study in which there is always new information to acquire, a *cursus honorum* whose graduating diploma, which is necessary in order to be able to address this topic professionally, they will never be awarded. And that they should therefore find, in the flawless logic of my argument about cracks and fissures, the example in the name of which they will be able to contemptuously reject the grotesque illogicality of those who think they can use arguments against nuclear power that not only do not clash with the Economy and the State, but are supportive of them.

Thus, we see that all those who only have bad reasons to oppose nuclear power can easily be won over to its cause, with some adjustments to deal with their susceptibility to appearances. Some have even begun to add carbonated water to their organic wine, and in a press release EDF quotes a certain Pierre Samuel, while someone named Brice Lalonde²⁹ declares: “We are realists.... we are forced to adapt our struggle to

²⁷ A play on words involving the name of the President of EDF, Boiteux, and its literal meaning in French, “lame”. Boiteux-argument: a lame argument (Spanish translator’s note).

²⁸ A play on words based on the French homonyms, *tuyère* and *théière*, “pressure release valve” and “teapot”. The teapot argument is the modern form of the “cooking pot argument”, the classical example of a sophistical argument in which each successive assertion contradicts its predecessor (Spanish translator’s note).

²⁹ “Brice Lalonde, an environmentalist and member of the Paris chapter of the Friends of the Earth, a contributor to and supporter of *Userda*, was named this past June 15 as the Green Party candidate for the 1981 presidential elections.... The successor of René Dumont, the first Green Party candidate to run in the presidential elections, he has the support of the Friends of the Earth network, Alsatian groups and elements from the self-management-socialist oriented sector of the movement. Brice will now try to gain support from libertarian elements and action groups working at the local level.” *Userda*, no. 7, summer 1980. With respect to the previous elections to the European Parliamentary Assembly, in June 1979, in a comment to *30 Jours d’Europe*, the journal of the CEE, he said: “Since the princes who govern us have decided to stage European elections, we are ready to get our share in this unique opportunity.” Quoted by *Userda*, no. 2, January 1979 (Spanish translator’s note).

the situation.... we do not want to be all alone shouting in the wilderness.”³⁰ There is, however, as I have already pointed out, an even worse kind of anti-nuclear dissident. And despite the disgust I feel when I contemplate a reality that is so unappetizing, I do not think that ignoring it is enough, for it can no longer be ignored. Such enemies must not be convinced, but defeated. For no argument of any kind can lead them to abandon a hostility that is not the product of reason. They have not timidly cast doubt on the authority of the State in the name of scientific objectivity, but rather, viewing the State as the enemy, they have refused to have anything to do with the State’s scientific arguments; they are not willing to take any economic necessities into consideration, because they have even cast doubt on the need for the Economy and want to free themselves from labor instead of enriching the Economy. Finally, when their noisy complaints, despite the vigilance of the legitimate owners of public expression, manage to reach an audience, they resound like a lugubrious echo of detestably laconic formulas that were thought to have been buried in well-deserved oblivion: “Let all the arts perish, if necessary, as long as real equality remains to us!”, “Disappear at last, revolting distinctions between rich and poor, great and small, masters and servants, rulers and ruled”,³¹ and other lucubrations of the same ilk.

Their utopian project is so archaic that it deliberately turns its back on the increasing complexity of modern society, a complexity that modern society is further intensifying precisely in order to discourage such utopian projects, and insolently bases its cause on the ignorance of its supporters, an ignorance that provides the yardstick by which it measures everything that is over its head, that is, more or less everything that exists, in order to bring it down to its level. Thus prepared, its supporters have ventured to judge the world with utter scorn for the precautions of the scientific method, which they could never master in a lifetime of study, for the manifest purpose of transforming it *ex abrupto* into a world that is immediately understandable by all; and to achieve this goal no other means have occurred to them except to abolish without any delay everything that constitutes a material obstacle to that understanding, that is, more or less everything that exists. How easily the knowledge of the specialists is rejected, when they simply do not want to know anything about the realities they claim to address!

Unlike some people, I do not think that this kind of utopianism is merely an atavistic survival, destined to fade away and die out under the effects of the profound changes whose consequences we are just beginning to perceive, and among which nuclear power constitutes as it were the elite shock troops. Of course, these people often attempt to stand in the way of the radical transformation of life in the name of ossified memories, against the transformation that has become the rapturous watchword of all the responsible figures of society, and presumably those memories will fade with the passage of time so as to be reconfigured in a sense that is more in conformity with a healthy

³⁰ *Le Figaro* (January 8, 1980).

³¹ Two quotations from the *Manifesto of Equals*, by Sylvain Marechal (Spanish translator’s note).

confidence in historical progress. Memory, as Locke says, is a wax tablet covered with characters that time is insensibly erasing, and now and then new characters are engraved with the stylus of time. And Helvetius, for his part, states that its power is determined by the order that we impose upon it by seeking to fill it exclusively with objects that due to their nature or to the way we view them preserve the right relation between them so that they may be mutually recalled. If it is hard to intervene effectively in the choice of objects that we store in our memory, as is proven by all attempts to impose authoritarian censorship, we can instead use the “stylus”³² on those objects, so that neither their nature, nor any possible way of looking at them, can allow a relation to arise among them that could possibly reconstitute their previous state, with the result that memory will encounter increasingly greater difficulties in its attempt to preserve the record of that state. We shall offer just one example: the vigorous way in which urban planners and other re-arrangers of the territory have used the stylus, or, more precisely, the bulldozer and asphalt, on the realities that we still persist in designating by the names of “streets”, “houses”, “cafés”, “avenues”, “parks”, etc., is the cause of the fact that these things no longer preserve any relation with each other on the basis of which one could understand the accounts of those who still remember what “Paris” was once like: soon, the inhabitants of the place that still bears that name, even if nowadays they are more worthy of living in Parly 1,³³ soon these inhabitants, I say, will encounter enormous difficulties in trying to discern just what that name “Paris” might have meant to their predecessors, if by chance such a thought were to occur to them. The effort required to do so would be comparable to that marshaled in the quest of the Arab, Averroes, when he sought to understand what the words “tragedy” and “comedy” meant to the Greek, Aristotle. And the attempts made by the Parisians of the future to understand the Paris of the past will be equally unavailing.

At this time, however, there is still some possibility that the younger generations will be contaminated by the disastrous deviation of judging what exists based on a frame of reference for comparison, a frame of reference that is preserved by memory; a comparative frame of reference that in their case is all the more unfavorable insofar as it will at the same time be embellished by the works of the imagination, as the latter will complete the task that nostalgia had already begun: no reality can compete with a memory, but no memory can compete with a dream. Thus, the rulers of this world must never take this kind of resistance to progress—resistance that gives the impression of having been spontaneously born from the soil of our society—lightly

³² The stylus of the ancients was composed of not just the pointed end for engraving wax tablets, but also featured a scraper or spatula for use as an “eraser” (American translator’s note).

³³ The author is referring to Parly 2, the name given to a residential complex for middle class, white collar employees in the vicinity of the French capital, built during the 1960s and given that name because Parisians successfully protested against its being called, as was originally planned, Paris 2. This urban complex is a characteristic precursor of the urban desert that our cities are gradually becoming: in this new Paris the names of the neighborhoods of the real Paris, displayed in brightly-lit letters, are all that remains of a bygone past (Note of the Spanish translator).

and dismiss it as if it were only an impotent clinging to the past; such an attitude fails to take account of the self-evident fact that there is nothing so evil that modern production cannot make it worse yet, and that a new improvement can be introduced thanks to which something that was always just bad can be taken for good. Our rulers must remember, assuming of course that they will preserve a certain use of memory for their own purposes, that it has often been the case that, in order to prevent a change that they did not want, the people themselves attempted to change everything.

It will be objected that they never succeeded. And I will respond that it is also true that no society has ever enjoyed the permanent stability of its institutions that nuclearization promises to deliver by the end of the twentieth century. Therefore, if we consider the question from a historical point of view, a point of view that we can hope will very soon become as impossible to conceive as it will be useless to adopt, we will simply point out that what we are talking about is a fight to the death between two irreconcilable enemies, a fight whose outcome cannot be infallibly predicted based on the events of the past or the discovery of general laws; and what is at stake in this fight is nothing less than the totality of human existence. Now that the nuclear question is no longer a technical question, but a social question, the public authorities must understand that it is too important to leave in the hands of scientists, and that they must not allow themselves to fall victim to the appearance of impartial scientific rigor that attaches to the managerial style of the scientists. Because their enemies will never forget that in a fight you do not have to understand your enemy: you have to strike him.

I am aware of the fact that, with each new season, increasingly more definitive thinkers prove that the infinite hierarchical wage and salary subdivisions of contemporary society, which is called post-industrial, trans-industrial, postmodern and other things, cast doubt upon the validity of using a concept as vague and as simplistic as "class". I shall merely point out that the most stubborn enemies of nuclear power, and the most fanatical, are recruited for the most part—due to their excessive consumption of potassium sorbate-laced wine or from a diet that is not strictly in accordance with the rules of modern dietetics, as determined by sociologists—they are recruited, as I was saying, from among those persons who have no connection at all with either decision-making or administrative positions in the Economy, and who have no control over their labor power, either; curiously, therefore, it is these people who will derive no advantage from it who are the most bitter opponents of nuclear power, with the further aggravating factor that they are in precisely the best position to form an objective opinion, insofar as they are not biased by their own individual interests.

Such arbitrary partisanship, of course, can only be defended with completely irrational arguments: first of all, based on their inveterate prejudices, these individuals choose to focus on everything that can be used to discredit the expertise of the specialists and the rationality of the current social management of technical means; and since the facts that allow such an interpretation are never exposed to public scrutiny when they should be, but only in the form of a narrative that reestablishes equilibrium

in order to prevent the population from reaching hasty conclusions, they prefer to understand only what conforms to their prejudices. On this basis, they manufacture the framework of a theory that has all the hallmarks of a satisfactory explanation of the nuclearization of the world, and which can be effectively endowed with all the appearances of logic and honesty, because they eliminated from it anything that might contradict their construct before they even started. Finally, by asserting, based on such fragile premises, the catastrophic decomposition of existing society, and predicting its inevitable collapse, they demonstrate just how misinformed they are with regard to their understanding of the facts, for instead of waiting to see if their hypothesis is verified without their intervention in the process, as is demanded by the scientific method, they shamelessly falsify the data relating to the question and by means of sophistry they seek to assert the correctness of their position without further investigation, doing the unspeakable so that the social organization will effectively collapse.

This kind of opposition, insofar as it is incapable of being based on any kind of scientific proof, is much more like a bet than anything else. There is nothing about this phenomenon, however, that could reassure the owners of this world, because even those wage workers who remain within the limits of prudent submission no longer do so because they cannot imagine doing anything else, but because they think that this social organization will not disappear during their lifetimes, so it is better to accommodate oneself to it than to wear oneself out by fighting it. This, too, is a kind of bet on the scale of a generation, a bet on the continued survival of the existing society. The least we can say is that it is a very bad omen for a society to have thus become an object of a bet, even among the most submissive of its members. Even so, those who have all decision-making powers concentrated in their hands cannot do otherwise, when, for example, they wager that we will discover a solution to the problem of what to do with radioactive wastes by the end of the twentieth century: the common people no longer accept such assurances; nor can those in command give them. Thus, this world is, from top to bottom, hostage to an uncertainty that seems to make all bets equally likely to pay off.

Everyone can see the effects of this uncertainty on high-level decision-makers; all of them are aware of the problem, but none of them has the courage or the energy required to look for something better—there are desires, aversions, hardships and joys that lead to no palpable results, to nothing enduring, like the passions of senility that lead to nothing but impotence. So why should anyone be surprised by the fact that many people conclude that the world is now too complicated for a handful of people in power to control; people whose paralysis is like an invitation to attack them, and thus to attempt to prove the possibility of social creation *ex nihilo*, due to the impossibility of continuing under the existing social organization?

At this point I must admit, with great mortification, that although as a rule I am compelled by a sense of modesty to respect as much as possible the new rules and methods of writing, I often use the word “power” without using the luxurious capital letter that legitimately corresponds to it in accordance with the latest philosophical

and typographical protocols, which, given the license of the pure idea, allows one to hold it responsible for all of humanity's past, present and future evils. I must, however, also unabashedly confess that I am incapable of abiding by this universal trend of the thought of our time. These days, it is hardly possible to criticize any demand to abolish this or that power without seeming to be imprudent or unreasonable. And reticence with regard to such criticism is even displayed by politicians themselves—do they not appear to be unanimous on this point, to judge by their speeches and writings, which deal with nothing but counter-powers, decentralization, self-management and who knows what else? Not to mention the numerous authors who have made their reputations on the basis of eliminating from their writings every reference to the concrete existence of power. (With respect to this last example, as I was writing this paragraph I initially intended to render homage, by listing their titles, to the numerous works of this genre that have accumulated in large stacks in all the bookstores and which are featured in every display window; when I went out a few hours later to make a list of them, however, I saw that they had already been replaced by others: all my subsequent inquiries about these works among readers and bookstore clerks were fruitless. So I can only make the following general declaration: we have an abundance of this kind of anti-hierarchical literature, but to go into details about it is something that is too elusive a task for my meager abilities.)

It was my misfortune, as I was saying, not to be in complete agreement with this opinion. I will even be so bold as to say: even if I was convinced that this work would be condemned to universal discredit as a result, I would still assert that, in the present state of world affairs, the need to extirpate every form of power seems to me to be neither urgent nor absolute. A curious individual seeking to amuse himself might perhaps take advantage of this opportunity by emphasizing the wide range of variations that affect the genius of a people over the course of half a generation. The view to which I subscribe, so contrary to the one that is currently generally accepted, will not make much headway: some older people, however, told me that they still remember it. Back then, a demand to abolish power would have seemed as absurd as writings or speeches in favor of power would seem today.

Since, however, I have to defend my opinion against the dominant opinion, I will say that if we objectively consider the reality around us, we will be unable to prove that there is an abundance of what we conventionally call power. That is, there are not large numbers of people who can effectively do as they please. Of course, I must point out that I am not referring to the great mass of individuals who are utterly lacking any means of action: as for them, the question of what they want does not seem very interesting. And it hardly matters that they derive consolation for their powerlessness by imagining that they want “everything”, which is the most comfortable way of sparing themselves the hard work of actually obtaining whatever this “everything” is. Yet if we listen to the litany of complaints of those who, even though they possess every means of getting things done, endlessly talk about what has to be done, we are easily persuaded that if power does exist, it is very badly apportioned. As for the larger

context of humanity and the power that humanity exercises over its own products, this notoriously has little relation with the caricature of an authority that exerts its rule in every detail of life; I apologize for insisting on this fact. I will only say that if we observe the behavior, if it can be so called, of all those things that are put into circulation every day in such an offhand and matter-of-fact way all over the planet's surface, we will admit that at this rate they will soon have to be subjected to the control, if only to limit the effects of their vagaries, of a power more dictatorial than any that has ever existed.

Although I harbor great hopes that the need to address this issue will eventually be acknowledged, I must now admit that it will be much more difficult to achieve universal agreement on the question of who will exercise such a dictatorship. I think, however, that it would not take a sensible person more than three seconds to come to a decision on this question. It is evident that, insofar as the crisis in question is a total crisis, it favors the expeditious decision-making and simplistic slogans of radical theory. It seems that we will not be able to save ourselves from the abyss of misfortune except by adopting extreme principles, and these principles are, as such, of a simple nature. This is why they are rapidly understood even by the most ignorant people, and—since their universal quality confers upon them the claim to solve all problems—with a dash of talent, a little individual character and a touch of ambition, they have just enough of the necessary eloquence to embrace everything. These principles produce a mesmerizing effect on the reasoning powers of the rabble that, despite its lack of expert knowledge, now thinks it is capable—it will stop at nothing—of creating new foundations for all of social existence. In fact, however, the practical skills possessed by our statesmen thanks to their daily experience are not so easy to acquire. And it is precisely these qualities that are indispensable at a time when “the historical transition ... from quantity to quality” assures us of a constant succession of crises, and at a time when, “at most, two to three percent of the population is in a position to deal with” them. How can one not recognize in the statesmen that we have right before our very eyes the men “selected on the basis of objective criteria” who must “have total decision-making powers”, in the words of the Academy of Sciences?

To put it another way, that is, from the perspective of these statesmen—the only perspective that is worthy of consideration—we must recall that a sensible man makes a virtue out of necessity, and that there is no better way to do what he wants to do than for him to want only what he is capable of doing. We must also recall that in politics real genius resides not in creation but in conservation. And also that governments can only survive by the same means that made their birth possible, and that the best law is not a good law but the one that is most immutable. This elite detachment of profound political maxims will no doubt suffice to provide food for thought until the end of the millennium, or even beyond, but because on the one hand it is to be feared that such rich food will provoke indigestion, or even apoplexy, in the reader who is accustomed to modern rations of thought, and on the other hand because I do not want to leave

anything to chance in this all-important task that I have assumed, I shall now proceed to a more detailed examination of these verities.

This next argument is the most difficult one that I have ever dared to make and constitutes a critical test of my powers. I therefore beg the reader to pay very close attention: today everyone knows quite well—when ideas come to us as truths that are right in front of everyone’s noses, and we take the trouble to subject them to closer examination, we find that they are discoveries—that the various traits that statesmen and other leaders display in such abundance are entirely appropriate for this particular society, where they find their justification and their field of application. This is why no one can seriously demand that they should display any other traits: for what need would they have for the eloquence of a Pericles or the integrity of a Cato, when historical progress has made us so unlike the Athenians and Romans? If the particular traits that they actually possess are not good enough, we would have to conclude that it is society itself that has become completely inadequate, even for its own perpetuation. As for that hypothesis, so utterly at variance with our theme, we must discard it with the same tranquil assurance that a scientific observer assiduously excludes from his field of experimentation every source of error. Having ruled out that hypothesis, there can be no doubt that today’s leaders possess the requisite capabilities in a satisfactory and sufficient form, for we shall prove this in a way that is truly appropriate for our purpose, that is, a way that is suitable for generating, in a sufficient quantity, the same kinds of satisfactions that are provided by these same leaders.

Thus, simple logic demands that we reject the run of the mill political proposals that, by calling attention to the increasing difficulties encountered by the State in its attempt to control reality—an attempt whose errors appear to be accumulating at the same rate as the means at its disposal—propose to adapt the State to contemporary needs by way of a more or less radical restructuring of its institutions, and with this goal in mind call for leaders who will be able to prove that they possess such unusual qualities as imagination, a sense of reality, humanity, candor, logic, etc. Such proposals display the ultimate implication of the systematic confusion of all reformers: the chimera of adapting the State to society! The political dissent of our time is composed of nothing but sophistry: since the State is responsible for safeguarding the preservation of society, it is impossible to legitimately invoke, as opposed to the State’s interests, certain interests discovered or allegedly discovered in society itself. This is what the experts in risk analysis mean when they say that risk can “be assessed in very different ways, depending on whether we view it from the perspective of the individual, or from the perspective of the collective”, that is, from that of the State which is the custodian of the general interest, and whose mission is to ensure that this general interest prevails within the domain of individual ends. Thus, there are numerous reasons why a prison warden would know what kind of regime was most suited to the inmates under his control, but there are no such reasons why the inmates could know what regime is most suited for the prison warden.

Instead of searching for a type of State power that would be most appropriate for society, a quest that is clearly destined to fail, we must discover the kind of society that will be most suited for the existing form of state power, and that will allow the latter to grow stronger. For what kind of society is still possible, and under what conditions, that would be compatible with the full exercise of that state power with which we are familiar, always keeping in mind the fact that we shall never know any other? The ingenuousness of this question can undoubtedly be explained by the fact that only a spirit totally alien to the subtleties of politics could have formulated it.

Even before unveiling the answer to this question in a decisively simple form, which is my contribution to this debate, and which the reader will grasp thanks to the tour de force embodied in the brilliant argument I shall deploy below, it must be pointed out that, given the need for a total power, its exercise is more within the reach of those who already in part possess it than it is within the reach of those who possess nothing. However, should the reader fall victim to an excessively superficial understanding of this truth, he will perhaps think that we have strayed from our path, and that however pleasant our little detour may be, we will find ourselves a long way from nuclearization if we focus instead on the necessary reinforcement of the power of the State. I admit that it smacks somewhat of paradox to beg to differ, but nevertheless I do not believe that these two problems are as unrelated as it might seem at first sight to the educated reader. The proof of this lies in the fact that, having postponed an examination of the question of the need for total power, the way that we have proven that it will have to be exercised by those who already possess the qualifications for it without therefore currently performing that function, is exactly identical to the way the advocates of nuclearization prove that they are, as such, the only persons capable of correctly judging its results. Thus, for example, Pierre Tanguy, EDF's Inspector General for Nuclear Safety and Security, whom we have already quoted over the course of this work: after having defined "the goal of nuclear safety" as "assuring that the level of risk at any moment will be low enough to be acceptable", he irrefutably proves, although he kindly spares the reader the full deployment of his chain of reasoning, that "only the public authorities are in any position to define what an acceptable level is".³⁴ Of course, they are also the only persons who have access to complete information concerning the nature of what must be accepted; furthermore, it is also true that the person who imposes something is also the same person who defines it, rather than the person who has no choice but to accept it. We will refrain from engaging in further exegeses of the numerous charms of this laconic statement, and merely observe that, if we listen closely to the spokespersons of nuclearization, we will recognize, beyond the more or less cacophonous gibberish of technical hairsplitting, the same language, haughty and without reply, spoken by the State.

At this point, doubt causes me to hesitate, for I fear that an overly hasty formulation has given rise to a deplorable misunderstanding that I want to dispel before proceeding

³⁴ *Science et Avenir*, special issue entitled, "The Risks Posed by Nuclear Power".

any further. For I have referred to the strengthening of the existing State power and perhaps I gave the impression that I was excluding that mighty labor on behalf of the greater good carried out by what we conventionally call the “Left”. Nothing could be further from my intentions: the Left enthusiastically presents itself as the standard-bearer of that State power of a completely new type that, in its view, we all yearn for; but I see in this proclamation of intentions above all a kind of coquetry, an affected modesty that obliges the Left to downplay the immense part it plays in the exercise of real power today, up to the point where one may say that, without the Left, not only would power not be the same, but its restoration would not even be possible to conceive.

After having clarified this point, since I believe that one of the most noble and beautiful actions of which man is capable is destroying prejudices and shedding light on the real meaning of things, the light that is most favorable to them, I shall once again resume the thread of my argument by pointing out that among the components of the Left, it is precisely the French Communist Party, which has given so many proofs of its understanding of the State, that we have seen taking the most resolute and consistent stand on the nuclear question.³⁵ And its stance is all the more meritorious in view of the fact that, among the factors that Giovanni Berlinguer, the brother of the Secretary of the Italian Communist Party, was capable of defining ideally as “the dangers of the loss of influence of the workers in the party of the working class”,³⁶ we must include the pressure that is exerted on it to induce it to gradually embrace opportunist concessions to environmentalism. A vain undertaking; without needing to know anything about either physics or technology, even a minimal knowledge of the history of our century will allow anyone to acquire a correct idea of nuclear power, by merely considering what the French Communist Party has done, which has never failed to take advantage of every opportunity, at every level, to defend “the existence of a powerful French nuclear industry”.³⁷ In this respect, we have no doubt that the Party has sought to prevent the workers from losing all influence over themselves, which would not take long to render them vulnerable to the irradiation of ideas that are foreign to the world of labor, their only world, and that might furthermore instill them with the whimsical notion that they are something else besides workers, a mutation whose consequences would certainly be more terrible for this world than all the merely biological mutations induced by nuclear power.

³⁵ “Nuclear energy is one more step forward in the dialectic of the progress of Humanity” (Ramón Tamames). “Personally, I am convinced that no modern country can renounce nuclear power plants. To accept this renunciation in our time would be to accept underdevelopment. The question is how they must be managed and whether they must be under the control of the public sector or in private hands.” Santiago Carrillo, at the Provincial Congress of the Spanish Communist Party, Madrid, March 17, 1978 (Spanish translator’s note).

³⁶ *Le Monde* (August 13, 1977).

³⁷ Gaston Plissonnier, *France Nouvelle* (July 28, 1979).

Meanwhile, we deplore the fact that the French Communist Party has been content to acknowledge its support for nuclear power spontaneously, like cancer spreading in the workers in the asbestos industry, without considering more explicitly the whole array of consequences produced by this interesting concordance. However, there is no shortage of men who are capable of conceiving the much needed synthesis between two equally scientific projects: I am referring, for example, to one of the most eminent members of the Party, insofar as he is the director of a large number of its associations, whose activities are carried out with equal talent in the most varied domains, from foreign trade to the food and agriculture sector, now that he is directing a project bearing the exciting name of *Bovi-séco*, evocative of that new language that is undoubtedly necessary for a society liberated from its irrationalities: “The procedure? Imagine immense barns containing eight thousand cows. Twice a day, their excrement is recovered by mechanical shovels in order to be distilled in vats and then formed into cubes. The proteins that the cows did not digest (approximately 25%) are then extracted in the form of granules. Then you feed the cattle the ‘juice’ from their manure.” This very inventive man is, furthermore, totally faithful to the party: “Lenin was the greatest mind of his time, because he applied Marxism. Stalin continued his work. Of course ... he caused some deaths, that is true, but no more than are caused by traffic accidents in Europe. These anomalies—although I cannot vouch for their having taken place—have not left a blemish on the system, in any event.”³⁸ Both the technology of intensive recycling of manure, reminiscent of the pleasure we get from creativity liberated from the pressures of a market economy and applying Marxism just like Lenin, as well as the idea of justifying the restrictions paternally imposed by Stalin on the circulation of persons and the few cases when this restriction of circulation led to such immobility that it attained a corpse-like rigidity—contrasting the large-scale harm occasioned by an anarchistic circulation of vehicles, a pertinent comparison that matches the rigor of the pro-nuclear arguments of the first super-pressurized water—lead me to think that a Doumeng, without looking any further afield, would have been quite capable of proving just as magisterially as I have, how nuclearization offers the Left a simple and completely secure means of realizing all the changes concerning which it has spoken, as well as some others concerning which it has not spoken and which are perhaps the most important and the most suited to its temperament.

Having reached this point in my essay, I must say that when I denounced the lack of realism of the frenzied enthusiasm displayed by numerous leaders for the idea of self-management, I committed a grave injustice that I want to remedy as much as possible: for I failed to mention the fact that there is a fraction of leaders for whom this idea already possesses a more realistic content, even before the advent of nuclearization, and this fraction is composed of the leaders of the trade unions, since for them self-management can only mean the official recognition of their zealous and effective collaboration in the management of enterprises. Who, on the Left, can

³⁸ Jean-Baptiste Doumeng, *Le Nouvelle Observateur* (August 22, 1977).

fail to experience a feeling of nostalgia when recalling the fact that, according to its “Common Program”, the workers were supposed to have at least *one hour each month* to discuss the notices transmitted to them by the enterprise committees and trade union sections? Even the most incorrigible democrat will have to admit that this would have been more than enough to ensure that their discussions would not be subject to the danger of deviating from the approval of the decisions taken by the higher committees. This encouraging perspective has in the meantime receded into the background, but the time for such innovations will undoubtedly come, and insofar as the danger still exists—although no trade unionist can recall ever having seen the abolition of wage labor—that the workers, if by chance they should lose all influence and all control over themselves by separating from the organizations that exercise that control in their name, might think that self-management is one thing, and that occasionally entrusting decision-making powers, safe from any clumsy use by unpracticed hands, to those who monopolize their use, is another thing entirely. We are thinking of the warning issued by Malouet to the Constituent Assembly in 1789: “You wanted to make the people intimately familiar with ‘sovereignty’, and you constantly tempted them with this prospect, without, however, allowing them to exercise it. I do not think this is a sensible point of view. You will weaken the supreme powers by having defined them as dependent on an abstraction.”

Now is the time for me to lay bare the profound relation that exists between nuclearization and the implementation of self-management, correctly understood, a relation that I believe that I am the first to call attention to, except, however, for the author of the lines that we could have read in May 1978 in a special supplement of a Parisian publication of the French Communist Party, which has since ceased publication, *Paris-Hebdo*: “In view of the current situation, and seeing how it is unfolding, our Party can simultaneously call itself, without any contradiction in terms, the Party of the State and the Party of Self-Management. For modern history has itself assumed responsibility for a more precise characterization of Lenin’s beautiful definition, according to which communism was Soviets + electricity. Our communism is democratic self-management + nuclear energy: when this magnificent energy, due to its constant abundance of generative powers, has become totally independent, and when it has been suitably integrated with automation and information technology, then not even the most ferocious statist will be able to offer any objection to the fact that social life—within the limits defined without any possible discussion by the requirements of security and technical demands—will be left in the hands of a system of self-management that we shall henceforth be able to call, without fear, generalized.”³⁹

As a French politician, whose words are being diligently transmitted by the press at the very moment that I write these lines, said: “Democracy is a luxury of developed

³⁹ This *Paris-Hebdo*, referred to as a publication of the French Communist Party, was actually a *faux*, a fake issue of the paper published by unknown anti-Stalinists on the occasion of the tenth anniversary of May ’68, which the Stalinists were celebrating after having done everything possible, ten years earlier, to cause that same movement to fail (Spanish translator’s note).

countries.” Thus, the numerous pre-election polls and “surveys of public utility”⁴⁰ in which we have the civic joy to participate—whether to decide which modern artists should be entrusted with the job of decorating the cooling towers of nuclear power plants, or to determine the style and color of the compulsory anti-contamination uniforms when evacuation drills are carried out—all this modern exuberance of democratic life constitutes a luxury that the Athenians of the 5th century B.C., for example, could not even have imagined. To get an idea of the anti-democratic sentiments produced by underdevelopment, we only need to read what a commentator tells us about Afghanistan: “The dignity and the pride of the Afghans—insists a westerner who resides in Kabul—are not imaginary. Perhaps it is a Medieval value system, but to ignore it, to scorn it, to defy it, is to condemn oneself to commit errors, insults, and so many other offenses that, in the eyes of the Afghans, ineluctably call for revenge. Thus—this observer adds—to disarm an Afghan amounts to the same thing as to destroy him. The result is extreme humiliation.”⁴¹ For our part, it has been many years since the development of our democratic lifestyle has disencumbered us of such an anachronistic value system, and now the fact of being disarmed does not cause us to feel any sense of humiliation at all. The inhabitants of Plogoff, however, who for their part have been compared with these medieval Afghans (“Plogoff is not Kabul!”), must not yet have been liberated from such an overwhelming sense of honor, insofar as they have shown such a lack of understanding of the modern democracy that is being imposed on them, a democracy as luxurious as the multiplication of “supplementary municipal councils”,⁴² as swift as its escorted convoys on the highways of Finisterre, and as friendly as its protective squadrons of police.

Thus, even before the development of computer technology made it possible to establish an ongoing survey of the citizens regarding all the details of their existence for

⁴⁰ *Enquêtes d'utilité publique*; a refinement of representative democracy that consists in opening up to the public, in the municipal offices, certain registries in which the people can express their opinion, which will obviously not be taken seriously. An even greater refinement is the creation of Local Information Commissions (Comisiones Locales de Información—CLIs) in Spain by the Association of Municipalities in Areas Hosting Nuclear Power Plants (Asociación de Municipios en Áreas de Centrales Nucleares—AMAC), an institution that administers the funds earmarked for compensating towns for the danger that is supposed to be posed by nearby nuclear power plants. The CLIs, far from debating the pros and cons of nuclear power, actually function as a pro-nuclear propaganda group. Their permanent commissions are composed of the mayors of the municipalities in question, two other mayors from nearby towns who are advocates of nuclear power, a representative of the nuclear power plant, a representative of the Nuclear Safety Commission and a spokesperson for a state-subsidized non-governmental organization. All anti-nuclear groups are prohibited from membership in the commission and from receiving any economic assistance from it (Spanish translator's note).

⁴¹ *Le Monde* (January 23, 1980).

⁴² During the implementation of the system of “surveys of public utility”, when many municipal councils refused to surrender their offices to the State, the latter was obliged to install *in situ* prefabricated barracks, pompously called *mairies annexes*, supplementary municipal councils, which have police posted around them to protect the registries from being vandalized by the residents of the area (Spanish translator's note).

the purpose of allowing them to participate more actively in the acceptance of what is essential, we see how the word “democracy”, so long disgraced by tendentious interpretations, takes on a perfectly univocal meaning, so that even a Breton will soon be able to understand it without too much effort. Nuclear power is inscribed at the heart of this tendency of our society that is improving all previously-existing realities by seeking not to leave them intact in anything but their nomenclature: we have already been able to verify how strikes have been transformed, when the workers of the nuclear power plants of Tricastin and Gravelines teach us that even if they are allowed to declare a strike, they cannot do anything but continue to work just as if they had not gone on strike at all. This took place at the most opportune moment for all the trade union leaders, who are seeking to “invent a new form of struggle that will replace the strike and allow the trade unions to enjoy a more broad-based consensus of support, inflicting less harm on the consumers”⁴³—according to the program formulated on the “Problem of the Self-Regulation of the Right to Strike”, drafted by the Italian Communist Party—who have had to follow with great interest this development towards a form of strike that has none of the effects of a strike and which thus allows the trade union to gain the greatest possible degree of consensus support without offending anyone.

This new trend, however, that is currently transforming the strike, will be even more transformative for self-management, when the latter is reduced to the management of what remains after the imperatives of nuclear technology have been imposed on everything else. In fact, nuclearization will grant to the workers, and not just those directly implicated, but also—by way of the network of interdependencies that it will introduce—all the other workers, certain responsibilities that cannot be taken lightly without endangering the whole community. This authentic transformation of the value of labor will erect an impenetrable barrier against the abuses of those for whom labor is nothing but a disagreeable preliminary to the acquisition of a wage and who, not content with doing everything possible to spare themselves this intermediate stage, now and then even judge the world produced by labor and the world consumed by their wages to be equally contemptible; in short, those who do not want to free themselves in labor, as the self-management advocates of the State invite them to do, but to free themselves from labor. Self-management under the constraints of nuclearization will provide the solution, for example, to the problem of sabotage that is such a major concern of the Italian trade unionists. Up until now, whenever anyone spoke about workers self-management, a great deal of imagination was necessary, in view of the current state of the processes of production and the machinery involved in those processes, in order to conceive the precise lineaments of such a thing: with nuclearization having become a *fait accompli*, everyone will immediately understand what it involves.

I would like, however, to take advantage of the enormous interest that cannot but be aroused by the revelation that nuclear power is by its very nature favorable for self-management, to present to the public authorities a modest proposal that, I hope, will

⁴³ *L'Unità*, quoted in *Le Monde* (September 22, 1979).

not provoke the least objection. My proposal involves a simple measure to accelerate the orderly advance towards a nuclearized society, a measure whose appropriateness for the goal we have in mind will be obvious to every sincere reader of this text—however much he may disagree with the idea that the self-management we are talking about will be a permanent generator of an abundance of Quality, somehow achieved automatically, in a world where we will no longer have any reason at all to envy Doumeng’s cows, because we know that not just 25%, but all of the plutonium used in the reproduction process of a nuclear power plant like Super-Phoenix will be recycled, with a surplus besides of 3% per year, the organization of whose sumptuary dispersal will be perceived by the authorities as a democratic luxury.

My idea, which is the logical end-product of all of the preceding reflections,⁴⁴ has led me to consider the fact that the nuclear industry occasionally allows the trade unions to speak in the name of the general interest, no longer abstractly, by invoking the needs of the economy and thus taking the chance that they will not be understood by the workers, but very concretely, assuming the position of defenders of nuclear safety, with the certainty that they will be heard. This defense of the security of the nuclearized territory has seemed to me to herald a considerable enlargement of their responsibilities and, furthermore, a reinforcement of the means to implement them; and this would not be a bad thing, if we take into account the difficulties they encounter in the most backward sectors of production.⁴⁵ Trade unionists are, in a manner of speaking, workers *par excellence*, those who work in defense of Labor, along with everything that the latter implies today in the most pejorative sense: can we admit that, due to the lack of a really qualitative dissuasive force, the trade unions are constantly exposed to the incomprehension of the workers, who are always inclined to believe that they are badly represented, ignorant as they are with respect to what all representation implies? On the other hand, we know that the wage-earners of the police forces are distinguished, along with prison guards, by a trade union discipline that is a marvel of devotion: among these sectors, the trade union representatives are not viewed with suspicion, nor is the strike fund cynically used as a supplementary form of Social Security, but,

⁴⁴ *S’inscrit dans la droite filière* is a play on words with regard to the phrase, *s’inscrit dans le droit fil*, “is the logical consequence”, and *filière*, which is a technological process for the enrichment of uranium (Spanish translator’s note).

⁴⁵ When there are anti-nuclear demonstrations, the trade unions often mobilize the workers of the nuclear power plants and their families to participate in counter-demonstrations in favor of nuclear power. In a note dated April 20, 1989, the Enterprise Committee of the Nuclear Power Plant at Garoña expressed its views to the Anti-Nuclear Coordinating Committee in the following words: “Your goal is to shut down the plant. We have a different goal: to work, and to prolong the life of the power plant for as long as possible. The Spanish Constitution says that Spain is a social and democratic State based on civil rights. In this State based on civil rights, and as an active part in the functioning of the nuclear power plant of Santa María de Garoña, we, as workers, have the right to demand that you do not attempt to circumscribe our right to work and the freedom of enterprise in the framework of the market economy.” Reproduced in *Amanecer sin Garoña* [“Dawn without Garoña”], Editorial Revolución, Madrid, 1991.

to the contrary, everything takes place as if there was a perfect harmony between the status of the police and the trade union ideal. Why, then, should these two institutions, which stand watch over every aspect of the two complementary sides of production and the circulation of commodities, continue to be separate entities? It is easy to see just how arbitrary this separation actually is, if we observe how the police, which seem to dominate only the sphere of circulation, in fact rule over the production of that essential commodity, that is, the wage workers themselves; while the trade unions, which for their part seem to have a relation only with the sphere of production, in fact regulate the distribution and the circulation of labor power as a whole. The reader will, however, forgive me for the pedantry of this distinctly superfluous clarification, since the complementary nature of the institutions I am discussing is obvious at first sight. And this is especially true with regard to nuclear power, which is, in a way, the revealed truth of this social organization: in nuclear affairs it is revealed that a security problem, in this case, one that involves the consumption of labor power by the power plants, can only be controlled by a single institution. We thus behold the birth of a new natural law, in which—because they are not merely formal and external but derive from the nature of things—all laws, all rights and all duties will be determined by the simple need to survive.

Once we set aside the scorn merited by the absurd idea that this functional integration of the trade unions, by officially dedicating them to serving the State, would utterly transform their nature and function and would constitute a betrayal of their vocation—because their unwavering firmness in the fulfillment of their mission is a sufficient guarantee in this respect—I must warn the reader against drawing the hasty conclusion that this would mean changing the trade unions into something like a para-State force in working-class clothing, just as people used to refer the specialized armed units whose job was protecting the State as being in “civvies” when off-duty.⁴⁶ This would be to totally misconstrue the meaning of my proposal: I never even imagined that I should become the defender of easy solutions of the top-down type, which—apart from the fact that this would be utterly disrespectful towards the trade unions’ capabilities, which make it possible for them to aspire to something better than the subordinate role of informer—are all-too-reminiscent of certain foreign precedents. However, insofar as there is nonetheless a certain similarity, one that is completely formal and external, between such a hardly-recommendable solution and my own proposal, I shall attempt to make the superiority of the latter perfectly clear.

To get an idea of just how superior my proposal actually is, I only need to point out that I have posited a bold change of perspective, thanks to which the very necessary merger of the police and the trade unions is radically transformed in its import by bringing about the absorption of the latter by the former. It amounts to nothing less than the self-management of the police. And thus, the memorable discovery of

⁴⁶ *Police en bourgeois* is an expression, that has since fallen into disuse, that was once used to refer to police without uniforms, that is, in “civilian clothing” (Spanish translator’s note).

Gaston Defferre when he was the Minister of the Interior, when he suggested that he should change the name of his Ministry to the Ministry of Liberty and Decentralization, could be improved even more by adopting the admirable name of Ministry of Self-Management. I think that with the advance of nuclearization and the subsequent improvement of customs, the conditions will soon be ripe for my proposal to be accepted by the public in much the same way that they will accept nuclearization itself, that is, with the greatest eagerness.

Some readers might think that we have strayed considerably from our initial topic, which consists in finding a way to prevent the irreconcilable enemies of nuclear power from doing harm. I think, however, that, to the contrary, this is the closest approach we have ever made to solving this problem.

Meanwhile, one point remains to be clarified to completely satisfy the most demanding reader: someone might object to my proposal that this first merger, so necessary and so deeply inscribed in the nature of things, will not fail to bring in its wake others of a similar kind, and will certainly lead to layoffs in the information and culture sectors whenever one function is usefully superimposed upon another: will we need so many sociologists when “social indices” will be generated directly by our self-management police? I think that this minor inconvenience is more than adequately compensated for by the enormous advantages to which I have already referred, and must be accepted as the necessary consequence of all rationalization. As for the question of how to carry out this process of absorption, and how to determine who will staff this Ministry of Self-Management, and to do so effectively enough that as a result the public authorities will not have to worry about their security from the very start—conveniently identified by way of the demands of nuclear security with everyone’s security—it is clear enough that these personnel can only be matched to the enemy that must be fought. If we take, for example, which is now incumbent upon us, the disturbances of May ’68 as a “model event”, we must admit that my proposal is even more moderate, because, in order to prevent similar catastrophes, or to suppress the ones that do arise, it is necessary that, in the preservation of Labor, the forces that work in favor of its preservation are superior to the forces that are working for its abolition. The problem consists in the fact that they are always the same people, but that they have *gone over to the other side*. Even if we employ them in the defense of Labor against the majority of the wage workers, we still will not have any guarantee of victory in a struggle in which the other side recruits its forces by plainly and simply promising the wage workers their liberation from Labor, a promise that will maintain a certain power of seduction over them to the extent that nuclearization does not free Labor from its mercurial changes of mood.

In fact, to establish a correlation of forces more favorable than the one that has the grave defect of existing, and therefore of being destined to perish, there is always the possibility of pursuing nuclearization by other means, such as, for example, the Pluto missiles with which the units of the army conveniently deployed in July 1979 in the Paris region were equipped, whose mission was “to respond, if the situation

arises, in any strategic direction apart from the traditional incursion on the North-Northeastern borders”;⁴⁷ means that would allow for imposing upon refractory elements in a concentrated and authoritarian way that which they stupidly refuse in a diffuse and democratic way. For now, such extremes are only considered with repugnance by the authorities, who are aware of the harm that might be inflicted on the natural environment, at least as long as our army is not equipped with that magnificent weapon known as the “neutron bomb”, whose solicitude towards everything that is not human is familiar to all.⁴⁸

To prevent any resort to such extreme measures, the responsible authorities concur regarding the importance of what I shall call *control of the map*. Because with regard to territory, we are unfortunately not endowed with the same resources as the Soviet Union, where eminent environmentalists—since we are talking about a scientist and an economist who write for the journal of the Central Committee—have proposed that nuclear power plants should henceforth be built at a great distance from major urban concentrations, along with the factories that depend on them for their electricity supply, and it is known that in the most remote regions of Siberia one finds, thanks to the foresight exercised by Stalin and his successors with regard to the circulation of persons in their country, the conveniently-located pool of labor power required by the indispensable needs of such a concentration of industrial activities. Unfortunately, we regrettably lack such advantageous environmental conditions, and by virtue of our inability to rationally organize the nuclearized territory, the authorities must agree to engage in meticulous control over the map, that is, over the image that the public develops of that territory on the basis of the information that it is supplied.

As has been said so well by an expert, the pseudo-accident of Three Mile Island was more than anything else “a public relations disaster”.⁴⁹ And in order to prevent the image of nuclear power from being shattered by too many cracks in the minds of the public, we need to prevent, as soon as possible, “the confusion that can be created in the population by the multiplicity of sources of information”.⁵⁰ Thus, “in the event of an emergency, all designated persons must constitute, for each of the institutions that they represent, authorized sources for all technical information, for decision-making processes and for the latest assessments of the situation”.⁵¹ These “designated persons”, who are of course designated by other persons, and who are “selected on the basis of objective criteria”, which are in turn determined by other persons, unless it be by the

⁴⁷ *Le Monde* (June 27, 1979).

⁴⁸ “On Thursday, the French Prime Minister, Raymond Barre, confirmed that his country would acquire the neutron bomb, and that its deterrent force would be used in Europe, if its security were endangered, and anywhere on the planet if required to ensure the ‘freedom of trade and transport necessary for our economic life’.” *El País* (September 14, 1980) (Spanish translator’s note).

⁴⁹ *Le Monde* (August 28, 1979).

⁵⁰ Report of the research committee of the French Ministry of Industry, *The Nuclear Accident of Three Mile Island*.

⁵¹ *Ibid.*

same ones, will assure us that the relation of the facts will respect in every point the objectivity that presided over their designation, so that we will be spared the effects of a public relations disaster.

The responsible authorities are not, however, unaware of the fact that the delirium that runs amok in such a case is nothing but an over-dramatized expression of the frustration and ignorance of the population, even in normal times, when it has access to objective knowledge: "... people view this new phenomenon that threatens them with some apprehension and even irrationality. Basically, this is the case for two reasons: first, they do not calculate its further development and its possible outcomes. They will never be able to evaluate it in detail..."⁵² Under such circumstances, for the public to really be able to have access to a democratic source of information, that is, a kind of information that would be accessible and assimilable, they should know as little as possible: "... by wanting to publish absolutely everything as soon as possible, we induce paralysis in the faculties of reflection and decision-making, and bring about a situation where the experts censor themselves, avoid their responsibilities and defend themselves with opaque jargon, without paying any attention to the facts, but only to rumors. In the case we are discussing, it is very much to be feared that all these factors will seriously jeopardize safety. Therefore, it is indispensable to ensure the existence of a zone of calm so that the scientific experts can breathe."⁵³

It seems to me that the idea of a "zone of calm" is rich in implications, and it was only his modesty—which is the shield he uses to defend himself whenever he gets in over his head—that prevented the industrious Minister André Giraud from providing us with a more detailed explanation of what he means by this term, since, had he done so, he would have given the impression that he was trying to trespass beyond the bounds of his job description and infringe upon the prerogatives of the Ministries of his colleagues, thus anticipating something like the nuclear fusion I discussed above. Moreover, it would have been a real blunder to explore this theme in more detail, for it is no less true with respect to this matter that by publishing everything one only adds fuel to the fire of the most extravagant rumors. It is nonetheless clear, however, that for anyone who understands what the word "democracy" means today, the term "zone of calm" must be understood in a temporal sense, the breathing-spell that is needed by the experts so that their creative powers are not disturbed by a stifling atmosphere of rumors, that mistrust that contaminates even the highest levels of scientific thought, and so that they can fully assume their responsibilities, never informing the public of anything except what will never be refuted or twisted by any sophistry. With regard to the spatial dimension, it is no less true that this "zone of calm" must encompass precisely the dimensions of the nuclearized territory, and, soon enough, the dimensions of the whole country and even those of the "new juridical space of Europe".

⁵² André Giraud, Minister of Industry, at the Academy of Sciences on October 15, 1979.

⁵³ *Ibid.*

Indeed, anywhere, at any time, malicious rumors can emerge and spread like malignant tumors, up to the point where the ordinary language of the people is no longer appropriate for the understanding of nuclear power. This is why, since Three Mile Island, where, “from the very beginning of the crisis it was apparent that communication posed a major problem, and that communication was dependent on the ability to influence people and their language”,⁵⁴ the responsible authorities, with the assistance of specialists, have been trying to introduce a new language that precludes any irresponsible extrapolations, by not providing the morbid imagination of the public with anything solid on the basis of which it might be stimulated. This involves a kind of *design* operation applied to verbal material, whose purpose is to ensure that this language presents the same appearance of smooth, shiny and cold opacity that industrial *design* bestows upon the modern commodities whose job is to represent in everyday life the consequences of cutting edge technology. We have already had an opportunity to consider the enormous difference between something as disturbing as *cracks*, which irresistibly evoke disintegration and collapse, and *subsurface defects*, partaking of the neutral and the abstract so that the vulgar would be prevented from thinking that these subsurface defects were ordinary cracks. We have thereby experienced the same kind of satisfaction as the *garbage men*, who have been transformed via a similar linguistic operation into *sanitary technicians*.

While awaiting the effective solution of the problem of communication by way of a reorganization of language, which could be entrusted to a State Secretariat formed specifically for this task within the Ministry of Self-Management, and which would control Thought Quality in exactly the same way that Industrial Quality is controlled, I suggest that all citizens should be obligated—subject to penalties that remain to be defined but whose concept of security would allow a Peyrefitte to perform marvels—to take the same oath as the members of the Central Service for Protection Against Ionizing Radiation: “I swear to perform my job competently and faithfully and not to either reveal or utilize anything that has come to my attention as part of my job.” If everyone swears not to reveal anything to anyone of what they might be able to discover by their own direct observation concerning nuclear power and radioactivity, we would be assured of preventing “the proliferation of isolated fragments of information” that gives rise to “confusion and terror among those persons who lack the requisite knowledge for their analysis”.⁵⁵ As the Prefect of La Manche himself said so well when a rather unique and exceptional leak was discovered at La Hague (not the last one, or the one before that, but the one before that one), while he generously provided the residents of the locality with some information concerning certain plans for “quarantine” or “evacuation”, without however going into too much technical detail concerning the specific operations involved: “This plan does not have to be a means of providing

⁵⁴ Report of the research committee of the French Ministry of Industry, *The Nuclear Accident of Three Mile Island*.

⁵⁵ André Giraud at the Academy of Sciences, on October 15, 1979.

information that will be used by malcontents.”⁵⁶ The ears of the enemies of nuclear power hear us: each person must measure his words. And since non-specialists do not have any objective criterion by which they can determine for themselves just how much of a risk is posed by stoking the flames of rumor and providing arguments for spitefulness, it is preferable that they do not express themselves in any way with respect to this delicate topic. Goodwill, on the other hand, has no need to be informed in order to competently express its faith in the experts.

All the specialists in risk analysis agree that a risk is acceptable if it is accepted, that is, if it is somehow introduced as customary; it is with regard to this point that the difference between traffic accidents and nuclear accidents resides. Thus, “we must take account of just how serious a problem the public has in objectively assessing the risk entailed by the situation in which it finds itself”.⁵⁷ We have to thank the public authorities for the fact that, by keeping the public in the dark about nuclear power or by disdaining to acknowledge its dangers, they have succeeded in causing the risks of nuclear power to be accepted with complete objectivity, and they have made it clear that such risks were therefore acceptable—just like the traffic accidents about which we know nothing, along with various other similar realities concerning which we were capable of closing our eyes to their dangerous nature, during the era since the beginnings of the motor car industry. Because, as the President of the Republic has promised, “it is not as if we were imposing upon the French people a nuclear program that they are adamantly opposed to, after they have been completely informed about it”,⁵⁸ but simply a question of exhaustively informing them, while implementing the program and letting them be the judge, based on reliable evidence, rather than letting their imaginations get the better of them. Furthermore, this method is so much in conformance with the modern criteria of objectivity, that no other method is applied to any detail of the control of the territory; this is what happened right before our eyes to “Les Halles”: “Parisians want to stop the renovation project. It will be completed, as planned, in 1983. Then they can judge.”⁵⁹

I think I have done everything possible to answer with select arguments the most diverse, and even the most hostile, opinions, and that this work has made its contribution to bringing about the anticipated unanimity in favor of nuclear power, a unanimity whose compulsory nature nuclear power will itself assure in short order. I also possess the presumption to think that the reader has, in reading this text, been considerably enlightened with respect to official pro-nuclear pronouncements. As for the pro-nuclear mainstream, I was greatly disappointed when I saw the President of the Republic, in his “most cordial” New Year’s speech on January 1, 1980, speaking about nuclear power, on the one hand, from the exclusively energy-oriented point of view, and on the other hand talking about it in relation to the necessary unity of the

⁵⁶ *Le Monde* (January 5, 1980).

⁵⁷ André Giraud, addressing the Senate on April 24, 1979.

⁵⁸ Giscard d’Estaing, January 26, 1978, quoted by *Le Monde* (January 10, 1980).

⁵⁹ Jacques Chirac, quoted by *Le Monde* (January 29, 1980).

French people, without drawing any connection at all between these two perspectives. Although I do not entertain the outrageous pretense of demanding that he should be more dialectical, I nonetheless hope that the reader of these pages will be able to understand that nuclear power, which has no energy benefits of any kind, not even in terms of economic cost, constitutes instead the best way to bring about the unity of the French people and to ensure that they rest in peace, from here to eternity. All modern States, zealously desirous of social peace, are prepared to fight for it and to eliminate violence by exterminating the violent. This should not be so surprising, but we can hope that the French State will also apply its doctrine of deterrence to the internal enemy as well, thus sparing us from having to engineer a wave of costly, and very risky, terrorism, such as the Italian State was compelled to initiate in order to try to persuade the Italian citizens that their fate was bound to the fate of the State. In France, with the most ambitious nuclear program in the world, the citizens will soon have to admit—without having had to *uselessly* sacrifice a handful of politicians as irreplaceable as Lecanuet or Chaban Delmas—that their fate is bound to that of the State by an unbreakable chain; and they will not even feel anxious about the fact that they do not know whether this bond is for good or for ill. I think, however, that I have provided adequate proofs in this regard. Anyone who is not convinced will turn in vain to the mainstream of pro-nuclear thought: among its proponents one will find no argument that has not been presented here in its most veridical aspect.

In addition, my proposal to complement nuclearization would have the added advantage, with immediate effects and an undeniable impact, of creating a prospect for the national economy of a wave of expansion that is only a little less than infinite, according to my calculations—which the reader will find, along with all the corresponding graphs, in volume two of this work, currently under preparation—and we can thus expect exactly two hundred thirty four years of prosperity, scientifically guaranteed (I confess that I cannot entirely rule out any possibility of a certain stagnation, and even of a relative recession, in a subsequent period).

Finally, there is only one thing that can stand in the way of such an excellent program, so pressing is the current need for each and every one of us to demonstrate his support for the cause of liberty, a need that is not at all satisfied by deliberately avoiding any concern with coherence or by a propensity to make unconsidered, snap judgments (two traits that stand above all the other traits that distinguish the totalitarian mentality), but which provides a glimpse, as of some far-off culmination or future threat, of the end of the exuberant democracy from which we have allowed ourselves to derive so much advantage here and now. Perhaps it will be said that the measures that I recommend for ensuring the success of nuclearization, and even nuclearization itself, entail the risk of provoking over the long run such an absolute reinforcement of the State, that the State will become total, not to say totalitarian. I think, however, that it will be easy to reassure the most demanding supporters of democracy if we show them that a social organization of this kind—so radically unlike any other that has ever existed and so contrary to the entire course of contemporary

development, which is proceeding in the direction of the enrichment of our liberties by way of their thorough definition—a monstrosity on this scale will never be introduced in our country without the population suffering it as an intolerable outrage and rising against it.

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Jaime Semprun
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