

## INTRODUCTION

Adam knew his wife again, and she bore a son and named him Seth ["gotten"],  
because "God has got me another seed in place of Abel, for Cain killed him."

GENESIS 4:25

When Adam had lived 130 years, he begot in his likeness  
after his image, and he named him Seth.

GENESIS 5:3

The *sparks of randomness* are the drops of semen that Adam spilled, according to legend, during the 130 years that he was separated from Eve. The phrase is a literal translation of the Hebrew *nizozot shel keri*. When we analyze it closely in Chapters 5 and 6, we will try to show that the word *keri* is derived both from *mikreh*, a random or chance event, neither regular nor planned—an accidental occurrence—and from the involuntary emission of sperm that the Bible refers to as *mikreh laylah* 'nocturnal event'.

A lapse of 130 years separated Seth's birth from that of Cain and Abel and the murder that followed, after Adam and Eve had eaten from the Tree of Knowledge and were banished from the Garden of Eden. According to a talmudic legend, developed at length in the midrashic literature and kabbalah, during these 130 years Adam lived apart from Eve; the sperm he spilled during that period created and nourished demons, the source of the "lost generations" of the Flood and the Tower of Babel.

This story of knowledge and sperm is difficult for us to understand today, after two thousand years during which the knowing subject has been separated from the body, considered to be one of the objects of its knowledge. But knowledge—whether the biblical knowledge of Genesis, the spermatic knowledge of the Midrash, or the seminal reason of the Stoics—is the forgotten source of our present intuition of a physical union between soul and body. It had to be forgotten so that an autonomous and wide-awake knowledge, removed from the fusion of dream and illusion, could emerge. But can forgetting fully play its part if we are not aware of it?

Today we must revive the knowledge acquired through sex and through the fruitfulness of this concept in order to understand what biology, the cognitive sciences, and psychoanalysis are trying to tell us, perhaps clumsily, *in addition to* what they may tell us explicitly.

Knowledge, sexuality, generation, concepts and conceptions, birth and abortion, angels and demons, aging, disease and death: science and technology constantly bring us back to these eternal

problems, inherent in the human condition, while refashioning the terms in a way that is sometimes dramatic and unprecedented. Does a new science have a new morality? Who can decide this question? How, and with what tools? Using which concepts and conceptions of the world, of existence, of what is good and what is bad? What words can we use to talk about them? What style? Perhaps the empirical and logical mode of science and technology, whose terms are indispensable for posing the problems. Perhaps the narrative mode of literature. Or perhaps even the talking heads of television. Remember that today the standard response to the question of how virtue can be taught is Protagoras' rather than Socrates': good and evil are not taught only by means of scientific knowledge, but with the support of images taken from epic poetry, where moral problems are raised. In most cases, its heroes and antiheroes are the basis on which we accept or reject what we identify in our imagination as good or evil. Critical scientific and philosophical analysis makes it possible for us to delve ever deeper into technical and conceptual subtleties. But science and philosophy themselves are not the sources of universal norms. Nor can religious dogmas, despite the assistance their authority may furnish to those who hold to them, produce rules that are acceptable to everyone and suited to the complexity of specific situations.

In fact, myth has always taken hold of these questions and expressed them in its own synthetic and oniric mode, built on visualization and association, which, perhaps better than science, can uncover the concealed threads of a hidden fabric woven in different registers of experience and knowledge, which analysis strives to distinguish: not only Prometheus and Oedipus, but also the biblical myths of the Tree of Life and Tree of Knowledge, the Flood, and the Tower of Babel. Speaking and writing about how we ought to live demands a style in which diverse languages—scientific and technical, legal and philosophical, poetic—can coexist without being confounded; where the perception of reality is always pregnant with, but never supplanted by, the contributions of the imagination; where the rationalities of science and of myth can subsist side by side, without being confused, and can criticize each other.

Thus the new reflections on ethics seem to require inventing a new form of discourse. Its birth was registered when we came to the realization that modern science, contrary to Condorcet's dream, not only fails to resolve all social and political problems but in fact creates new ones, because it spawns new possibilities without providing means for settling them. What is more, scientific discourse is not always free of dubious extrapolations. Sometimes, unknown to those who conduct it, the myth still manipulates it; and the ancient issues, thought to have been left behind long ago, return to the surface. The Big Bang restores creation, if not the Creator. As for the celebrated "human genome" with its poorly defined contours, referring to it as an "endowment" that is sacred and untouchable is no less imaginative than seeing the heart as seat of the passions and the bile as the medium of anger. In the new form of discourse that we must construct, we must burn whatever fuel is to hand. We must not hesitate to stoop to case-by-base legalism to argue, after hearing both sides, about what is permitted and what is forbidden. But we must place the analysis of the technical details, and, perhaps, an examination of more basic principles, alongside complicated plots, real or mythological, and interpret them on several levels, where the always-present not-said and not-thought can at least be rendered visible and thus become, even if only for the moment, partly said and partly thought.

But this form may not be as radically new as it seems. No doubt we can derive inspiration from the dialogues of the schools of antiquity, in which myth, science, and philosophy were not yet separated, neither from one another nor from the experience of right thinking in pursuit of right living—with oneself, with others, and with nature. Alongside the works of the ancient schools of philosophy, the inquiries conducted in the rabbinical academies of Palestine and Babylonia have come down to us in the unique style of the debates and narratives of the Talmud. The legal disputations aimed at establishing just laws on the basis of multilevel interpretations of biblical myths and statutes are interwoven there with new legends or *aggadot*. The midrashic and kabbalistic literature took up these accounts and developed them into new myths, re-energizing and amplifying their interpretive power. We too can be inspired by this form, without necessarily adhering, of course, to the literal sense, for at least two reasons. First, the social, scientific, technological, and philosophic context of two thousand years ago is incompatible with that of today, even if what we call “human nature” does not seem to have changed very much in the interim, at least in the biological sense. Above all, however, it is the nature of mythical narrative to be resumed again and again, generation after generation, in a recursion that amplifies it and in which the letter of the commentary, and of the commentary on the commentary, serves as a new text to be interpreted, as a pretext for new interpretations.

What is the status of the randomness of birth, of chance, of the ignorance of causes that we call “fate,” in a world that we are increasingly able to control, where we can even plan for uncertainty by means of probabilistic estimates of risk? Isn’t it the vocation—or destiny—of our species to use its inherent capacities, its large brain and its cognitive and linguistic abilities, to order and control the rest of nature? But does what applies to the rest of nature also apply to the human species? Is it humanity’s destiny to suppress destiny by means of planning? Are human knowledge and technology violations of natural law, a rape of nature, on which they are imposed like some monstrous anomaly? Could they be a curse on humankind, generation after generation, massacre after massacre, always increasing in number and intensity, in proportion to humanity’s control over everything that is not itself? Or are they merely one of the many products of that same nature?

Are we the children of Prometheus only? Are we not also the children of Adam, who was enjoined to fill up the earth, to occupy it and dominate it, to rule the fish in the sea, the birds in the sky, the terrestrial animals and every living thing that creeps on the earth? Clearly human domination of nature is not the *product* of the cultures that preserved this myth. On the contrary, the narrative merely expresses, in its own way, the dominion of the human species as it has always been experienced, in all latitudes and by all cultures.

In the same fashion, the narrative of Genesis is also the story of a curse. The narrative coils like a serpent around the two poles of the human anomaly, knowledge and morality, with *Homo faber* and *sapiens sapiens* at one end and the suffering they inflict on others and on themselves at the other. At one end is the evil that they do, suffer, imagine, and plan; at the other, the good, the happiness, and the bliss that they also imagine and try to plan—in short, the angels and demons with which they fill their universe, inside and outside themselves. The myths of Genesis and of the sparks of randomness make it possible to explore all this.

Curiously, as a matter of bourgeois morality and for law, the English term for an infant born out of wedlock is “natural child,” as if the institution of marriage endowed children with the superior status of “artificial children”! (The same idiom is found in French.) Today, indeed, we are not far from the production of true artificial children, not through social institutions but through biotechnology. Will this be bad or good? For humanity today? For the men and women of the future, at least some of whom may be such children?

When we refer to the biblical account of Adam and Eve’s transgression and the curse that followed it, we will do our best to forget the received ideas about “original sin.” In the Western world, the history of Adam, Eve, and the serpent is generally associated with the Augustinian interpretation imposed on Christian orthodoxy since the fifth century: human beings are doomed to unhappiness and suffering because of the sin of the flesh committed by our first parents, Adam and Eve. Sex is fundamentally evil; holiness demands abstinence and celibacy. We inherit their sin and guilt at the moment of conception, which is produced by that very same sin; this explains all the unhappiness and suffering with which human beings are afflicted from the moment of birth, including infants who have not yet had time to do something bad of their own free will.

For some Augustinian theologians, this universal predestination to evil negates free will; the only way to escape it is divine grace and obedience to the authorities of City and Church. In this form, which centuries of catechism have made familiar to and inculcated in millions of children, the story has played and continues to play a decisive role in the moral and religious mind-set that is almost consubstantial with Western civilization. It has shaped notions that still hold meaning, even for those outside the Church, of male and especially female sexuality; of the family and the body; of birth and death; of guilt, holiness, and innocence. But the early Christian Church, subversive and persecuted, before the Christianization of the Roman Empire placed it in the saddle, did not always hold this interpretation. Augustine himself was able to impose it only after protracted theological and political debates. Elaine Pagels’ *Adam, Eve and the Serpent*,<sup>1</sup> which offers a con-

1. Elaine Pagels, *Adam, Eve, and the Serpent* (New York: Random House, 1988).

temporary and critical Christian perspective on the history of primitive Christianity, clearly depicts the protagonists and issues of these controversies. It was a matter of divergent inter-

pretations of the first few chapters of Genesis, where this foundational story is told. In the year 418, at the end of the Pelagian controversy, the Augustinian reading was proclaimed to be orthodox. All other views were condemned as heretical and their proponents were excommunicated. Their interpretations, less misogynistic and less appalling, did not highlight the sexual aspects of the story but rather its message of individual freedom and responsibility to obey or transgress divine law, in a world that is fundamentally good, in the image of its Creator. These interpretations, deemed heretical ever since (despite having been defended by bishops of the Church), had been preceded by other interpretations, of Gnostic inspiration, which were, if possible, even more heretical and had been condemned even more quickly. Today, especially since the discovery of the library at Nag Hammadi, we know that Gnostic interpretations of the Bible and Gospels were an integral part of early Christianity, at least during its first two centuries. One of their characteristics was the symbolic nature, cosmic rather than anthropological, they attributed to the biblical protagonists. For example, in some of these interpretations Eve is an icon of wisdom, the mother of

the universe, rather than a woman of flesh and blood. In a similar vein, the virginity of the mother of Christ was not understood literally.<sup>2</sup> In general, these extraordinary stories, including the first chapters of Genesis, were understood less as edifying tales with a moralizing bent, intended to nurture a particular social and religious doctrine upheld by the Church about the relative values of celibacy and marriage, for example, than as myths of origin, like the Greek or Egyptian traditions they supplanted. This difference must be underlined. For some Christian Gnostics,

the story was never meant to be taken literally but should be understood as spiritual allegory—not so much *history with a moral* as *myth with meaning*. These gnostics took each line of the Scriptures as an enigma, a riddle pointing to deeper meaning. Read this way, the text became a shimmering surface of symbols, inviting the spiritually adventurous to explore its hidden depths, to draw upon their own inner experience—what artists call the creative imagination—to interpret the story. . . . Consequently, gnostic Christians neither sought nor found any consensus concerning what the story meant but regarded Genesis 1–3 rather like a fugal melody upon which they continually improvised new variations, all of which, Bishop Irenaeus said, were “full of blasphemy.”<sup>3</sup>

But this was nothing new. Philo had employed and greatly expanded this method of allegorical interpretation. Similarly, for some philosophers, mainly Stoics, the Iliad and Odyssey were not to be understood according to their surface meaning as accounts of the rivalries and loves of the gods. Their surface meanings concealed deeper truths of natural philosophy that could be uncovered by a symbolic reading. The rabbis of the Talmud and the Midrash were raised in this type of interpretation, associated and superimposed on the plain meaning of the biblical text, to the extent that it allows itself to be grasped. Kabbalistic interpretations that uncover and develop the “hidden” meaning of the text merely amplified and systematized this tendency, already found in the Talmud. It is not astonishing that kabbalah sometimes demonstrates familiarity with Gnostic themes, as in its ideas about what preceded creation, to which we shall return later. Gershom Scholem saw this as reflecting the direct influence of Gnosis on some sources of the kabbalah.<sup>4</sup> Moshe Idel, on the contrary, suggests that it was Gnosis that drew on ancient Jewish influences, or at least that the influences were mutual.<sup>5</sup> The interpretations of the story of Adam and Eve that we will look at below, like the legend of the sparks of randomness that inspired the present work, are much closer in method, if not in content, to Gnostic construals than to those derived from Augustine.<sup>6</sup> They differ, nevertheless, in at least two points. First, the symbolic interpretation does not cancel out the literal meaning but is superimposed on it. Adam is at the same time the first man, an archetypal figure of the human nature in each person, “male and female,” and *Adam Kadmon*, the primordial human being, a cosmic and divine figure that fills the universe, simultaneously creator and created. (In this respect, the kabbalistic readings are often less rigorously allegorical than Philo’s, for

2. See eadem, *The Gnostic Gospels* (New York: Random House, 1979, 1989).

3. Pagels, *Adam, Eve, and the Serpent*, p. 64.

4. Gershom Scholem, *Origins of the Kabbalah*, ed. R. J. Zwi Werblowsky, trans. Allan Arkush (Philadelphia: Jewish Publication Society; Princeton: Princeton University Press, 1987); idem, *Kabbalah* (New York: Quadrangle, 1974), pp. 10–14, on “rabbinical gnosticism.”

5. Moshe Idel, *Kabbalah, New Perspectives* (New Haven: Yale University Press, 1988), pp. 115–157.

6. See, for example, Michel Tardieu, *Trois mythes gnostiques: Adam, Éros et les animaux d’Égypte dans un écrit de Nag Hammadi (II,5)* (Paris: Institut d’études augustiniennes, 1974).

example.) A second and decisive difference is that, unlike the Christian gnostic interpretations, which were swiftly condemned by the Church and banished from its doctrine, the kabbalistic interpretations, with all their diversity, have remained an integral part of orthodox rabbinic Judaism. They are less well known than interpretations that are easier to understand and employ in religious instruction, whose goal is edification and enlightenment; but over the generations, until the beginning of the twentieth century, their authors were frequently prominent teachers of rabbinic orthodoxy, sometimes community rabbis. For all these reasons, we will use the biblical story of Adam and Eve and its rabbinic commentaries as a myth that is pregnant with multiple meanings, discarding the received notions of original sin and hereditary curse, the inevitable evil character of physical nature that derives from them, redemption through celibacy, and mortification of the flesh as the road to salvation. We will read it, not as a story with a moral, but as an album of images of diverse and contrasting aspects of the human condition, associated in particular with the protracted period of childhood and maturation that follows birth and with the long interval between sexual maturity and intellectual and emotional maturity: the Tree of Knowledge is assimilated before the Tree of Life (although we can easily imagine that the inverse chronology might have produced a happier outcome). If, all the same, there is a moral to be drawn from the story, it must involve the search for some sort of redress or reparation—that is, a way to ameliorate this condition by identifying the harmful effects, the sources of pain and suffering, in order to eliminate, attenuate, or transform them.

In the first chapter of this work, we will examine the theme of the Golem, the artificial humanoid of the talmudic and kabbalistic literature. We will consider how it relates to the multiple levels of knowledge and holiness that can be attained through study of the Torah, which the Talmud conceives of as a parallel search for the truths of nature and for the ethical and legal norms, both societal and individual, that make right living possible. In the light of the biblical and talmudic myths, the transformations of the human condition that the twentieth and twenty-first centuries seem to be producing may not be as extraordinary as they seem. More precisely, it is their move from the imaginary world of myth to concrete reality that seems to be quite new and unprecedented, given that they have always been present in narrative fiction, at least as possibilities associated with some image of human nature.

Little by little, science and technology seem to be liberating the children of Adam and Eve from the biblical curse of painful toil and painful childbirth. The era of machines, industrial and postindustrial, increasingly frees men and women from their sentence to life at hard labor. The amount of time people spend working has been decreasing for the last two centuries. Unlike the pessimistic and resigned interpretations that some catechisms give to the biblical narrative, this release from labor and pain corresponds to the highest and most basic vocation of the human race, which—certainly for the talmudic sages—is precisely the creative activity of knowledge and wisdom and by no means subjection to toil and pain.

“Every man is born for toil,” stated Rabbi Eleazar, citing Job 5:7. However, the sage continues: “I do not know whether this means toil by mouth or the toil of physical labor. But when it says ‘for his mouth compels him’ (Prov. 16:26), I may deduce that toil by mouth is meant. Yet I still do not know whether [this means] toil in the Torah or in [secular] conversation. But when it says,

‘This book of the Torah shall not depart from your mouth’ (Josh. 1:8), I conclude that one was created to labor in the Torah.”<sup>7</sup>

Work is no more than a regrettable necessity. Release from it would permit the true nature of human beings to blossom in the world of wisdom and of the words that express it. The curse imposed on the first man, condemned to earn his bread by the sweat of his brow, was not pronounced to be borne as inevitable. On the contrary, it is to be rectified along with the sin itself, generation after generation. 7. B *Sanhedrin* 99b.

The same applies to the curse that women will give birth in pain. Today childbirth is no longer the agonizing and dangerous ordeal that it was less than a century ago. We can even see, on the horizon, total release from its burden—at least for those women who perceive it as such. Symbolically, we can say that the pill and the automatic washing machine have set women free. The washing machine spares them a disagreeable daily domestic task and has also made men were more willing to pitch in and help. The pill permitted the revolution of manners that is called, perhaps not totally appropriately, “sexual liberation.” Sex without procreation became relatively easy. It was the beginning of “family planning,” which allows women to avoid unplanned pregnancies. The legalization of contraceptives and abortion has given them a large measure of control. For now this is merely negative—preventing the uncertainty of unwanted births. But the process of active planning, with the attendant risk, sooner or later, of achieving a total separation between reproduction and sex, is on the way. Children will then be produced from start (in vitro fertilization or cloning) to finish (artificial gestation) outside a woman’s body. We are still rather far from this, especially *ex vivo* gestation; in principle, though, nothing prevents us from imagining the solution of the many technical problems associated with the invention of an artificial uterus. When that happens, the production of living beings—human and nonhuman—will accompany, more or less inevitably, the liberation of men and women from the existential curses that compel them to suffer simply in order to survive, feed themselves, and reproduce. The pains of labor—in both senses of the term—will have disappeared.

Human reproductive cloning would be another step in this direction. For now it seems fated to be outlawed by a broad international consensus; and this is a good thing, for reasons that (as we shall see) are social, rather than biological or metaphysical. But who knows what humanity will have become in a century or two? What “value” will be invoked to deny women the right to control their own bodies and to liberate themselves from the constraints of pregnancy? As in the legend of Jeremiah and the perfect golem he made, the only question is whether human societies can reach the moral level required to meet the challenge posed by a capacity to employ technology to fully control and streamline the lives of human beings. Would the individuals and institutions that wield this power be generous enough and good enough to avoid succumbing to the temptation of diverting it to their own profit? Would the “parents” of infants produced in this way be sufficiently generous to create an environment conducive to their physical and moral growth and felicitous freedom? For the moment, it would no doubt be overly optimistic and naïve to answer in the affirmative. But this might well change in the near or distant future. The most pessimistic scenarios are not necessarily the most probable ones. We can heed the prophets of disaster and avert their predictions. In the end, there is no reason moral progress cannot accompany technical

progress. After all, slavery—a social norm in the ancient world, not to mention in recent centuries—has finally been abolished, almost everywhere, by virtue of the technological progress that diminished its utility—even if its surrogates survive in regions where humans are still exploited. For the first time in human history, the violence of war as a way to settle disputes—along with other related forms of brutality such as torture, genocide, and repression—is condemned by the international community. Certain measures, though still rather limited, are being taken; institutions like the International Court of Justice have been established to translate this condemnation into action, however timidly. Yet well into the twentieth century, not only was such violence the norm, it was the main source of glory in the ethos of nations. Pacifists were utopians even more than they were a minority.

So nothing prevents us from imagining an era when humanity, at peace and increasingly open to the refinements of the life of the mind, makes intelligent and constructive use of the results of technological progress, including those related to the production of life. Nothing is inherently evil, in this domain as in others. Everything depends on the intellectual and moral environment. We have no reason not to believe that practices that raise the specter of serious moral regression, in our present environment, might one day, in a different moral and intellectual context, be beneficial. Today we can only imagine such a context, in a more or less mad utopian vision of another world, or of a return to a lost paradise.

But reproduction without sex poses another problem. What will become of sexual knowledge if it is totally detached from procreation, when there is no longer a created child to support the family and social bond or just to serve as a pretext for this bond? Here, at least, the concept is not so far-fetched and we can already come up with some idea of the answer.

Every sexual union is intrinsically fertile. Even if it fails to produce a child, its effects are like spirits or souls that remain attached to those who produced them, angels or demons, depending on the spiritual state of the two partners at the moment of their union. Angels or demons, depending on whether the encounter went beyond self and was giving and open, or was merely use and abuse of the other party—it being understood moreover, that angels can become demons and vice versa. The Tree of Knowledge of Genesis, *'ez ha-da'at tov va-ra'*, is not only the “tree of knowledge of good and evil,” as it is usually rendered. The Hebrew can also be rendered the “tree of knowledge, [which is both] good and bad,” of life and death intermingled. It is contrasted to the Tree of Life, although the two trees are in fact only one, at their source, where, as we shall see, evil is not evil. This biblical knowledge is clearly nothing other than the libido, but the entire libido: an awakening of the senses and the mind to knowledge of sex through sex, an initiation in the reality of impulses and their stakes, in the power of desire, in happiness and unhappiness, and the good and evil that accompany their satisfaction; loss of the animal innocence of one who didn't know, good and bad knowledge, the source of joy, pleasure, happiness, and even of “blessedness,” but also the origin of unhappiness, suffering, and death. In the wake of moral codes, law, and psychiatry, biology has now gained a hold on this ambivalence; we can—and perhaps should—use hormones to treat sexual deviants. The fact that, in these extreme circumstances, Eros has not been able to separate itself from Thanatos is the meaning of the warning to Adam and Eve, when their eyes were not yet open, in the (relative) innocence before they achieved puberty: “On the day that



you eat of it you shall die" (Gen. 2:17). Not simply to die at the appointed time, in accordance with nature, but also not to live, unless it be a life that is entirely "for death."

In this story the Tree of Life is the remedy, the wisdom that is hard to reach but attainable. It is guarded by the ominous Cherubim who stand vigil over the gates of Eden after the expulsion; but the sap of the Tree of Life, the wisdom inscribed on the Tablets of the Law, waits to be incorporated and given loving voice, between the Cherubim who embraced in the Holy of Holies in the Temple. It makes it possible to invert the image, at least in principle, and to conceive of death as "for life." This evokes the notion of programmed cell death, what we now call "apoptosis," a physiological death that is part of the normal processes of embryonic development and tissue regeneration in organisms. As for the reality of our own death, which we can only imagine, wisdom tends to keep it within the bound of "death in its own time." While waiting, in a sort of mental apoptosis, we live it as a desire for and impending failure of the future and the fullness of possibilities.

In the Lurianic kabbalah, developed in Safed in the sixteenth century, the legend of the sparks of randomness served as the foundational myth of an arcane account, both moral and cosmic, whose crux, from the origin until the end of time, is precisely the career of these scattered sparks in the chain of generations and their role in a narrative of humanity as a series of begettings, the production of living beings by other living beings.

An analysis of this myth (an extension of the myth of the Tree of Knowledge) will serve us as the connecting thread for addressing several problems raised by the artificial fabrication of living things as it relates to the fundamental ambivalence of knowledge. Science is not neutral, as is often still said in an attempt to attach value judgments about its constructive or destructive effects to its applications only. But neither is it bad or good in itself; it is ambiguous, both at the same time. Science is simultaneously good and bad, open and closed, the carrier of both life and death, the source of truths and of illusions—just like life itself, which exists only by virtue of the thousand deaths that enable it to be renewed. The Tree of Knowledge and the Tree of Life are one. Good and evil, life and death: these are relative to the point of view, particular or universal, to the long-term or immediate interest. The myth of the Tree of Knowledge is not that of Prometheus; knowledge is not stolen, any more than life is. It is *given*, like life, through a sin without guilt that is an integral part of the system of giving and receiving, which can be recognized as a sin and can then set in motion the desire for atonement.

But the contemporary biological revolution is not merely technological. It has clear philosophical implications, inasmuch as the notion of Life has a new status. To paraphrase the biologist Albert Szent-Györgi, Life no longer exists as the object of scientific investigation. Life per se is no longer the object of those disciplines still called "the life sciences." But life, as the sum total of the lived experiences of our existence, clearly remains at the center of our social images and of our philosophical and moral questions. This is the source of the multiple misunderstandings and problems that accompany the progressive biologization of daily life. The objects of biology are increasingly remote and differentiated both from "life" and from the living in general, as this science focuses on the study of physical and chemical mechanisms that can provide an operational explanation of the structure and activity of organisms. The value of these explanations derives

essentially from the fact that they make it possible to control the normal or pathological functioning of organisms and offer, for the first time, the possibility of producing biological artifacts (transgenic organisms, chimeras, clones, etc.) in the way in which we are accustomed to manipulate inanimate objects using physics and chemistry. Our society's prevalent images of life and death; of the vegetable, animal, and human; of sexuality and illness; and of the normal and the pathological are superpositions of concepts derived from biology on top of outdated images that integrated the experience of daily life with traditional animist and vitalist ideas. This is why our most common images of the living (*le vivant*) are often at odds with contemporary biological ideas; the former are generally based on a confusion of the notion of Life, as the ostensible object of the biological sciences, with the subjective and intersubjective experience of daily life. Furthermore, these confused images depend on the accelerated pace of fundamental discoveries in biology and the upheavals that these discoveries have provoked and stimulate in our images of what we habitually refer to as "life."

As for the social sciences and humanities, their traditional object is human beings, of the same order as the animal and vegetable and disjoined from the inanimate mineral. Scholarly discourses about social images of the living generally maintain that the living, the object of the life sciences, is also what everyone automatically understands by the word "life." In fact, biology increasingly locates its objects at the cellular and molecular level, of the same order as the "inanimate" objects of chemistry and physics, severed in practice (if not in principle) from the living, of which human beings are supposed to be in some fashion the ultimate paradigm. This helps perpetuate the misunderstanding about the development of this science, which is still held to be, as in the past, the science of life or the science of the living. A similar situation exists with regard to psychology and social images of the mind. These are still permeated by ancient notions of the nature and activity of the soul, though today these belong to the realm of folk psychology. But the soul has long since ceased to be an object of scientific inquiry and psychological science no longer concerns itself with these questions. The same has happened, although much more recently, to "life," which used to be associated with the vegetable, animal, and intellectual souls and was held to explain the activity of "animate" (i.e., endowed with an *anima*, a soul) beings. This too is no longer an object of scientific inquiry, although it remains the province of what we might call "folk biology."

In Chapter 2, we will look at some consequences of this state of affairs. We will see that we have indeed returned to the age of seminal reason and spermatik knowledge. The absolute monism suggested by the current sciences of living and thinking bodies makes the ancient notions of the *logos spermatikos* or of the spermatik sparks of randomness, endowed with cognitive properties, less strange to us. The total integration of the physical and mental implied by these notions was difficult to assimilate into the vitalist and spiritualist (or Cartesian dualist, in the best case) context in which theology and then natural philosophy were propounded until the second half of the twentieth century. The materialist monism presupposed by contemporary biology, extended to human biology, is certainly quite different from the physicalist and animist monism of the ancients. But it leads us to rediscover the reality of a "union of soul and body" whose most remarkable properties we forgot while philosophy was busy with the Mind or with Life and the

material sciences dealt only with the relatively simple physical objects of physics and chemistry. Until recently, these sciences were not able to extend their domain to the complex and compound bodies that are organisms. Three centuries later, Spinoza's prediction in the *Ethics* seems to have been realized: "We thus comprehend, not only that the human mind is united to the body, but also the nature of the union between mind and body. However, no one will be able to grasp this adequately or distinctly, unless he first has adequate knowledge of the nature of our body" (II 13, Note). This also entails that we deal seriously with the natural determinations we discover in our actions. They include, of course, biological causes that cannot be reduced to the effect of genes, because they include the effects of regulatory systems—nervous, endocrine, immune—that develop epigenetically in and through the life of each individual and guarantee his or her continuing identity. But there are also social and cultural causes, conscious or unconscious, that are integrated with the previous set. All of this reopens the question of free will and moral responsibility, this time on the basis of new foundations that cannot be reduced to those of Kantian or post-Kantian idealism. We shall see how the author of a kabbalistic treatise of the early twentieth century, *Sefer ha-De'ah* (The Book of Knowledge), interprets the biblical myths and the legends and parables of the Talmud by means of the metaphor of a divine intrigue or drama in which our experience of free will is an actor. The drama is that of an absolute determinism that exploits this experience while always proceeding according to the law of its timeless necessity, foreseen from all eternity.

In Chapter 3, we will tackle the question of the moral subject, whose actions are set in motion by hidden internal and external causes. This will lead us to elements of what might be called "talmudic demonology." More precisely, we will consider those elements of the myth of the sparks of randomness (and the many commentaries on it) that lead to intercourse with various natural forces that are held to be spirits, whether angels or demons. Such beings continued to infuse the science of classical antiquity and the Renaissance until the century of Descartes, with his "animal spirits." So it is not astonishing that they are to be found not only in the legendary narratives of talmudic *aggadah* and the Midrash, but also in the legal sections of the Talmud. Our reading of these texts will be guided by the hermeneutic method of ancient rabbinic thought, which postmodern literary criticism seems to have rediscovered in part. We will apply this method to a number of talmudic texts and commentaries that credit spirits and demons with causal agency in the natural course of events, beneficial or otherwise, and in the meaning of these events for the human beings affected by them. We will then employ our sketch of talmudic demonology to restore the use of causal explanations in the attempts to make the world intelligible, which has characterized human thought always and everywhere. The characteristics of this magical, pre-scientific causality may help us uncover the newer traps of scientific causality, into which those who would extend its effective operational control to serve as a source of meaning for human existence keep falling.

Through the lens of the paired myths of the Flood and the Tower of Babel, where we again encounter the demons of the sparks of randomness, we also see the shadow of subjects built from the scattered remnants of Adamic knowledge. Everywhere and always, ever since *Homo sapiens* invented articulate language—though without turning into a computer programmed by one of

his descendants (that is, without emerging from his affective animality)—there has been a close link between the two modes of breakdown of the subject, represented by these myths. The alternatives are fusion into the undifferentiated whole, drowned by the flood, and solipsistic imprisonment in some language of Babel that is never truly understood without misunderstanding, except by each individual, alone, in the unique fortuity of the conditions in which he or she learned it. To join these two, for more than twenty-five hundred years human beings have been endeavoring to pave a path of linguistic intersubjectivity, called “reason,” across the bridges built of “common” notions, which we recognize, well or poorly, as shared by many individuals endowed with articulate language. The other type of intersubjectivity, nonverbal and nonrational, neither rational or irrational—music, for example, or, more generally, aesthetic or amorous communion—does not diminish the tension between these opposing terms. On the contrary, it pulls on the separated beings, tugging on their nostalgia for an undifferentiated mystical fusion that today can only be both exciting and death-dealing.

Our hermeneutic ramblings in these first three chapters will expose us to various themes of classical philosophy, such as determinism and freedom, causality, and the mind-body problem. We will then discover a close resemblance, which may seem paradoxical and unexpected, to what is sometimes referred to as “absolute rationalism,” as expressed in Spinoza’s *Ethics*. This is why, in Chapter 4, we will attempt to untangle the threads of the ambiguous link between myth and philosophy in general, and, more particularly, between certain currents of kabbalah and Spinoza’s thought. This chapter may appear to be a long digression from our main theme; readers in a hurry who decide not to linger there will not lose the thread of the book as a whole. Nevertheless, this is where the engine that propels our inquiry is taken apart, where the points of departure, angles of attack, and perspectives from which we speak, read, and write are enumerated and analyzed, to the extent possible. In that chapter we will try to clarify the mode of thought and method of analysis, based on association and dissociation, that I have referred to elsewhere as an “intercritique.” Rather than an intercritique of science and myth, the subtitle of that earlier work, *Enlightenment to Enlightenment*, here we are dealing with myth and philosophy.

We shall see that even if the inquiry is, strictly speaking, philosophical, the answers that philosophers supply to their own questions are always permeated by elements of myth, ancient and modern. After three centuries during which the natural sciences and philosophy have been relatively independent of each other, the latter remains, as in the past, and despite the critiques of the Enlightenment, a jumble of philosophical questions and mythological answers. Even Spinoza in his key work, despite the rigor of the geometric method employed, proceeds in the tradition of ancient philosophy, for all that he radically refashions it in the mold of classical rationalism and the new science that was developing before his eyes and with which he was acquainted. In this context we shall analyze the relevance and foundations of several major critiques of Spinoza, including, among the most striking, Leibniz on Spinoza’s “monstrous doctrine,” “a combination of the Cabala and Cartesianism, corrupted to the extreme,” and Salomon Maimon’s apparently paradoxical concept of the kabbalah as “expanded Spinozism.” But our concern will not be merely historical. Rather, we will embark on a process of construction, incorporating the great philosophers of the past, singly or in combination, into our thinking in the present, so that, transcending

specific historical conditions, a *philosophia perennis* can emerge. In a certain sense, the scientific revolution of the seventeenth century did not reach its conclusion until the twentieth, because it is only for us—witnesses to the successes of contemporary biology, which is mechanistic, molecular, and physical-chemical—that the mechanical revolution that transformed first physics and then chemistry has had an impact on our knowledge of living beings.

Thus we find ourselves at the junction between modernism, which seems to be coming to an end, and a new era in the adventure of knowledge. Postmodernism, the deconstruction into caricature of established verities, is only a first step—a trial run?—a symptom of the transition between yesterday's modernity and tomorrow's. As for earlier transitions, we would do well to investigate its foundations and its links to the knowledge of the past. Who knows whether we will have need of new foundations that necessarily reuse older stones, though arranged in a different pattern? It is not useless to delve into the memorial debris of past eras and try to discover whatever is there that can still be of service. Spurring a dialogue among the ancient foundational texts, over the centuries and across languages, can help uncover some of these building blocks. The Talmud—produced at the interface of the Greco-Roman world and the Christian and Muslim Middle Ages, and the kabbalah, elaborated at the junction of the Middle Ages and the Renaissance—express a unique body of thought developed over centuries, in Hebrew and in Aramaic, in the crucible of the rabbinic academies; they also mirror the Greek and Latin philosophy (sometimes with a detour through classical Arabic) that parallels it. Later, at the watershed marked by the Scientific Revolution, we will of course encounter Pascal and Descartes, but also, perhaps more profoundly, Leibniz and especially Spinoza. We will see that the philosophy of the *Ethics* is an indispensable link between a natural philosophy, re-embedded in the present, and the ancient doctrines that understood ethics on the basis of knowledge of the determining causes of the undissociated body-mind.

We must pause here to avoid misunderstanding. It would be absurd and ridiculous to think that the references to Spinoza in this work, alongside analyses of texts from the ancient Jewish hermeneutic tradition, might justify an attempt to “recover” this philosophy for theology, rabbinic or other, from which it was always at pains to demarcate itself and against which it always fought. Although Spinoza's philosophy can serve as the consummate link between the seventeenth century and the Modern Era, its richness, originality, and coherence mean that it cannot be reduced to anything other than itself. His ideas have justly been referred to as absolute rationalism and have been tugged in various directions, sometimes toward modern materialism and sometimes toward the idealism of the philosophies of mind. Yet Martial Guéroult's “mystique without mystery” remains the most suggestive, if not the most appropriate, epithet for this philosophy, because of the strange way in which it seems to be paradoxical when it is in fact perfectly rigorous and in any case irreducible. Numerous contemporary studies, following on the heels of three centuries of fascinated ostracism and ignorance of the “accursed” philosopher, have begun to correct many misunderstandings. They make it possible to follow the proper motion of this thought in its timeless and eternal aspect, modeled on the mathematical truths to which its own format refers. Neither the critical philosophies of the eighteenth and nineteenth centuries nor positivism and the linguistic philosophies of the twentieth century have detracted from the relevance of this system,

which seems from the outset to have shielded itself against blows from any source, not by retreating into its own shell but, on the contrary, by warding off in advance the successive assaults that these philosophies have made on their predecessors and on the very idea of a philosophical system.

In *The Atheism of Scripture*, Volume 2 of the present work, we shall see how the rabbinic hermeneutic tradition of midrash and kabbalah escapes the confines of a single and unique meaning that the presumed divine author of the text impressed upon it. The ultimate meaning, the secret or *sof* of kabbalistic interpretations, is more deeply “hidden” in the text because it is suggested by what is *not* there, by the infinite possibilities of the blank page, the margins, the white space between the words. Far from being deducible from the text, the formal rules for constructing interpretations project the latter onto it and often modify how the words are read, while leaving their written form untouched. Only scrupulous respect for the form of the written text and for the hermeneutic rules limits the apparent arbitrariness of these construals and guarantees that they retain some anchor in the text being interpreted.

Nothing could be more alien to this tradition of reading than the critical method of analysis of Scripture inaugurated by Spinoza in his *Tractatus Theologicus-Politicus*. It is clear, on the other hand, that in his youth he knew only the doctrinaire forms of rabbinic Judaism and that the maximum openness and rationality he could conceive of in this context was that of Maimonides and his followers. But he had to distinguish himself from them violently—while leaving them ample room—because he could find nothing in them “which was not a commonplace to those Gentile philosophers, . . . nothing but the reflections of Plato or Aristotle, or the like, which it would often be easier for an ignorant man to dream than for the most accomplished scholar to wrest out of the Bible” (*TTP*, chap. 13, p. 176). “Maimonides and others” are criticized for twisting the plain sense of the text merely “to extort from Scripture confirmations of Aristotelian quibbles and their own inventions” (*ibid.*, chap. 1, p. 17)—in particular with regard to the incorporeality of God and the theoretical and abstract character of the divine word, thus clearly contradicting, time and again, the explicit meaning of the biblical narrative. But reproaching Maimonides for his Aristotelianism was also popular with kabbalistic writers, some of whom, like Nahmanides in the thirteenth century, demonstrated how poorly this theology was suited to the plain sense of the biblical text. As for their own philosophy, linked to the ancient Jewish tradition of the Talmud and Midrash, and apparently closer to the Gnostics, Neoplatonists, Stoics, and even Epicureans, they based it on what the text does not say, rather than on its plain meaning (Hebrew *peshat*), which they considered to be “simple” (Hebrew *pashut*), meant only for the uneducated common folk (Hebrew *peshutei ‘am*). Thus Spinoza’s desire to detach philosophy from biblical exegesis, in order to guarantee his freedom to practice philosophy in a Christian society—the true objective of the *Tractatus*—led him to analyze the ancient phenomenon of prophecy and take it seriously. He ignored philosophical rabbinism, for which, nevertheless, “the sage is superior to the prophet”<sup>8</sup> and whose emblematic figure, as he was for

8. B *Bava batra* 12a.

Spinoza himself, is the philosopher-king Solomon, the “wisest of men” and author of Proverbs and Ecclesiastes. This mode of thought, which

informs the debates and *aggadot* of the Talmud, replaced ancient prophecy in the Diaspora Jewish communities from the time of the Babylonian exile, several centuries before the advent of

Christianity. It is also possible, as we shall see, that in his contemporary Amsterdam the author of the *Tractatus* was even more sensitive to the rabbis' "childish exercises" and the kabbalists' "madness" because he witnessed the false messianism of the Sabbatean movement (which, like present-day messianic movements in Israel and elsewhere, claimed to be based on kabbalistic speculations and other eschatological calculations of the End of Days).

But this did not prevent Spinoza from conducting a dialogue, *sub species aeternitatis*, with the ancient texts, even if he quotes them infrequently, simultaneously building on and breaking with the scholasticism of the Middle Ages and Renaissance, just as modern science established itself by developing and rejecting prescientific thought. For us, this dialogue is essential, not to pull Spinoza toward religion and theology but, on the contrary, because the tools and insights provided by reading the *Ethics* in our modern philosophical context can facilitate interpretation of the ancient texts. As we shall see repeatedly, his philosophy, more than any other, makes it possible to reread and understand the masters of that ancient tradition in a rational and open context that is particularly suited to the spirit of our own age. This spirit, whether we admire it or deplore it, is nourished by the "geometrical" sciences of natural causes, which demythify and render intelligible the world of living beings and of consciousness that were, until not so long ago, the last refuge of ignorance. On the other hand, despite the traces of prescientific thinking (ancient astrology, the natural magic of the Renaissance), the tradition of questioning these texts—the constant oscillation between myth and philosophy, between existential individual ethics and impersonal abstraction and shared reason—can be an inspiration for our own search for practical wisdom, going beyond science and technology while recognizing them as unrivaled means for achieving comprehension and control.

Once again, we are not talking about ignoring the differences. The same questions seem to be posed, even though the concepts are borrowed and transformed, and different and often contradictory answers are offered to them. Nevertheless, in Spinoza, as well as in some kabbalists, Stoics, and Neoplatonists, we find, more than anywhere else, elements of an epistemology that is associated with an original monistic ontology, neither idealist nor materialist, and that is particularly suited to a natural philosophy that is aware of what contemporary biology, as the physics and chemistry of organized beings, teaches us. The irreversible achievements of critical and positivist philosophy clearly cannot be ignored. But their proponents, whether Kant and the post-Kantians or the logical positivists (with the notable exception of Wittgenstein), frequently fall into the error of a critique that believes itself to be grounded absolutely and does not criticize itself.

According to Wittgenstein, "'We are quite sure of it' does not mean just that every single person is certain of it, but that we belong to a community which is bound together by science and education. We are satisfied that the earth is round."<sup>9</sup> We can apply our experience of rational thinking about the objects produced by scientific praxis to essay second-degree, critical thinking about our own thought itself. This is one of the tasks of the philosophy of science and where it differs from the sciences, although it can no longer claim to be their ground, as it once did. But there does not seem to be any reason to halt in midstream and believe that our thinking about our thoughts of things must not be thought in its

9. Ludwig Wittgenstein, *On Certainty*, ed. G. E. M. Anscombe and G. H. von Wright, trans. Denis Paul and G. E. M. Anscombe (Oxford: Blackwell, 1974), §§298–299.

own turn. To put it in Spinozist terms, we can believe that the idea of an object, conceived reflexively as the idea of an idea, should lead us to take this idea of an idea as an ideatum in its own right and to form an idea of an idea of an idea—and so on ad infinitum. But this infinite regress is meaningless and comes to an end with the first reflexive idea of an idea. The fact that we pose the question and answer it, even in the negative, seems to imply and constitute another level of reflexivity. But this second level is inextricably interwoven with the first one. A nonrelativist critical philosophy believes that it can consider a certain level of reflexivity as the source of the ultimate ground of its truth. A relativist critical philosophy knows it cannot have such a ground, because of our limited ability to hold multiple interleaved processes in the mind simultaneously and because of the limited capacity of language to express them. Furthermore, modern critical philosophies, both idealist and materialist, have proven to be out of step with the progress of the natural sciences, which they were unable to foresee. By contrast, we believe that by transposing and translating these older philosophies we can draw inspiration from them, without falling into a precritical regression, and try to produce or reconstruct a natural ontology, and perhaps an ethics, for our own time.

Another warning concerns the references to kabbalistic texts. Kabbalah, as the most important expression of the mystical currents of Judaism, is traditionally opposed to the “rationalist” legal and philosophical currents whose emblematic figure is Maimonides, the twelfth-century physician, codifier, and philosopher, a disciple of Aristotle and Averroes. Today, when irrationalism is reconquering lost territory and taking over the media in one form or another, mild or violent—mild in the astrology of the salon or broadcast studio, violent in the antics of certain God-crazed individuals and cults—the scientific mysticism of Córdoba<sup>10</sup> or the overt delirium of various mil-

10. At the 1979 colloquium in Córdoba, “Science and Consciousness,” scientists, clerics, and Jungian analysts got together to demonstrate the supposed conceptual unity of modern physics and ancient esoteric traditions. For an analysis and critique of this strange enterprise, whose allure never seems to fade, see Atlan, *Enlightenment*, pp. 22–24.

lenarian sects—we should not be astonished that kabbalah is enjoying a spirited revival, in association with astrology, magic, tarot, and other occult pseudo-sciences, and that it is also popular among some fundamentalist and/or messianic currents of Orthodox Judaism. Hence we must strongly emphasize the classic distinction between speculative or philosophical kabbalah—which is what interests us here and is a scholarly tradition closely related to Neoplatonism, no less

“rational” than the Aristotelianism of Maimonides that it supplanted in the Renaissance, at the dawn of modern science—and practical kabbalah, the contemporary substrate of superstition and eschatological frenzy. Today this distinction is even more germane than the difference between ecstatic or prophetic kabbalah and theurgic kabbalah propounded by some modern historians of religion. The latter distinction, part of the tradition of academic Jewish studies, is the product of an external comparative analysis more than a real difference of doctrine (it is, in fact, usually only a matter of emphasis). By contrast, the distinction between speculative kabbalah and practical kabbalah has grown wider since modern science and critical philosophy broke with the prescientific practices and lore of Renaissance natural magic. Here we are interested exclusively in speculative or philosophical kabbalah as a tradition of inquiry in which, as for the sages of the talmudic academies and the philosophers of antiquity, the pursuit of ethical values cannot be separated from the quest for rational intelligibility, which is always attentive to and dialoguing with the sciences.