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## APPENDIX

[TO "THE KNOUTO-GERMANIC EMPIRE AND THE SOCIAL REVOLUTION"]

### Philosophical Considerations on the Divine Phantom, the Real World and Man

#### 1. THE SYSTEM OF THE WORLD

This is not the place to enter into philosophical speculations about the nature of Being. However, as I find myself forced to use this word, *nature*, often, I believe I should say what I mean by it. I could say that nature is the sum of all really existing things. But that would give a completely dead idea of that nature, which, on the contrary, presents itself to us as all movement and life. For that matter, what is the sum of things? The things that exist today will no longer exist tomorrow; tomorrow they will be, not lost, but entirely transformed. So I would approach the truth much more closely by saying that nature is *the sum of the real transformations of the things incessantly produced and reproduced within it*; and in order to give a bit more definite idea of what that sum or *totality*, which I call nature, could be, I would make, and I believe I can establish as an axiom, the following proposition:

Everything that exists, the beings that constitute the indefinite ensemble of the universe, everything existing in the world, whatever their individual nature, as much in relation to quality as quantity, the most different and most similar, large or small, near or immensely distant, necessarily and unconsciously exert, either in an immediate and direct way, or by indirect transmission, a perpetual action and reaction; and that whole infinite quantity of individual actions and reactions, by combining in a single, general movement, produces and constitutes what we call *universal life, solidarity and causality*, NATURE. Call that

God, the Absolute, if that amuses you, it matters little to me, provided that you give to that God no other meaning than the one I just specified: *that of the universal, natural, necessary and real* (but in no way predetermined nor preconceived, nor foreseen) *combination of that infinity of individual actions and reactions that all really existing things incessantly exert on one another*. Universal solidarity thus defined, nature considered in the sense of the Universe, which has neither end nor limits, is imposed as a rational necessity on our mind, but we could never embrace it in any real way, even through our imagination, and still less recognize it. For we could only recognize that infinitely small part of the Universe that is demonstrated to us by our senses; as for the rest, we suppose it, without really being able to even observe its existence.

Naturally, the universal solidarity, explained in this way, cannot have the character of an absolute and first cause; it is, on the contrary, nothing but a *Resultant*,<sup>1</sup> always produced and reproduced anew by the simultaneous action of an infinity of particular causes, the ensemble of which constitutes precisely the universal causality, the composite unity, always reproduced by the indefinite ensemble of the incessant transformations of all the things that exist, and at the same time creator of all these things; each point acts on the whole, (that is the universe produced) and the whole acting on each point (that is the universe as producer or creator). Having explained it in this way, I can now say, without fear of giving space for any misunderstanding, that Universal Causality, *Nature, creates the worlds*. It is Nature that has determined the mechanical, physical, chemical, geological and geographical configuration of our earth, and Nature, after having covered it surface with all the splendors of vegetable and animal life, still continues to create, in the human world, society, with all its developments, past, present and to come.

When man begins to observe with a persevering attention and pursues that part of nature that surrounds him and that he encounters in himself, he ends by perceiving that all things are governed by *laws that are inherent to them* and truly constitute their individual nature; that each thing has an individual mode of transformation and action; that in that transformation and that action, there is a succession of phenomena or facts that constantly repeats itself, in the same given circumstances, which under the influence of new, determined circumstances is modified in an equally regular and determined manner. That

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<sup>1</sup> As each human individual, at each given moment of their life, is also nothing but the Resultant of all the causes that have acted at its birth and even before its birth, combined with all the conditions of its later development, as well as with all the circumstances that act on it in this moment.

constant reproduction of the *same facts by the same processes*, properly constitutes the *legislation of nature*: order in the infinite diversity of phenomena and facts.

The sum of all the laws, known and unknown, that act in the universe, constitute its *sole and supreme law*. These laws divide and subdivide into general and particular laws. The mathematical, mechanical, physical and chemical laws, for example, are general laws, which manifest themselves in everything that exists, in all the things that have a real existence, which are, in a word, inherent in *matter*, that is to say in the *really and uniquely universal Being*, the true substratum of all the existing things. I hasten to add that matter never and nowhere exists as a substratum, that no one could perceive it in that unitary, abstract form; that it only exists and only can exist, everywhere and always, in a much more concrete form, as more or less varied and determined matter.

The laws of equilibrium, of combination and of the mutual action of forces or mechanical movement; the laws of weight, of heat, of the vibration of bodies, of light, of electricity, as well as those of the chemical composition and decomposition of bodies, are absolutely inherent in all the things that exist, without excluding in any way the manifestations of sentiment, will and mind; all three of these things, which properly constitute the ideal world of man, being themselves only some absolutely material operations of organized, living matter, in the body of the animal in general and above all in that of the human animal in particular. — As a consequence, all these laws are general laws, to which all the orders of real existence in the world, known or unknown, are subject.

But there are some specific laws that are only proper to certain particular orders of phenomena, facts and things, and which form between them separate systems or groups: such are, for example, the geological laws; the laws of vegetable organization; those of animal organization; finally those that preside over the conceptual [*idéal*] and social development of the most accomplished animal on the earth, of man. We can say that the laws belonging to one of these systems are absolutely foreign to those that make up the other systems. In nature, everything is connected much more intimately than we generally think and more so, perhaps, than the pedants of science would like, in the interest of a greater precision in their work of classification. But we can still say that such a system of laws belongs much more to one order of things than to another, and that if, in the succession in which I have presented them, the laws that dominate in the preceding systems continue to manifest their action in the phenomena and things that belong to all the systems that follow, there exists no retrograde action of the laws of the successive systems on the things and facts of the preceding systems. Thus, the law of *progress* that constitutes the essential

character of the social development of the human species is not manifested at all in exclusively animal life, and still less in exclusively vegetable life, while all the laws of the vegetable and animal worlds are found again, undoubtedly modified by new circumstances, in the human world.

Finally, in the very heart of these great categories of things, phenomena and facts, along with the laws that are specifically inherent to them, there are also divisions and subdivision that show us these same laws always individualizing and specializing themselves more, accompanying, so to speak, the more and more defined specialization, which becomes more restricted to the extent that it is more defined, of the beings themselves.

Man has no other means to note all these laws, general, particular and special, than the attentive and exact observation of the phenomena and facts that occur both outside and within him. He distinguishes what is accidental and variable from what is reproduced, always and everywhere, in an invariable manner. The invariable process by which a natural phenomenon, whether external or internal, is constantly reproduced, the invariable succession of facts that constitute it, are precisely what we call the law of the phenomenon. That constancy and that repetition are not, however, absolute. They always leave a large field to what we improperly call anomalies and exceptions, — a very unjust manner of speaking, for the facts, to which it relates, only prove that these general rules, recognized by us as natural laws, being nothing but abstractions drawn by our mind from the real development of things, are not in a state to embrace, exhaust or explain all the indefinite richness of that development...

Does that diverse mass of laws, which our science separates into different categories, form a single, organic and universal system, a system in which they are linked, as well as the beings of which they manifest the transformations and development? It is very probable. But what is more than probable, what is certain, is that we could never manage, not only to comprehend, but even to embrace this single, real system of the universe, a system infinitely extended on one side and infinitely specialized on the other; so that in studying it we end up faced with two infinities: the infinitely large and the infinitely small.

Its details are inexhaustible. It will never be given to a man to know more than an infinitely small portion of them. Our starry heaven, with its multitude of suns, forms only an imperceptible point in the immensity of space and although we may embrace it with the gaze, we always know next to nothing of it. So we are forced to content ourselves with knowing a bit about our solar system, whose perfect harmony with the rest of the Universe we must presume, for if that harmony did not exist, it must either establish itself, or else our solar world would perish. We already know this last very well in the realm of mechanics and

we already begin to recognize it a little in the physical, chemical, and even geological realms. Our science will have difficulty going much beyond that. If we want a more concrete understanding, we must limit ourselves to our terrestrial globe. We know that it was born in time and we presume that in who-knows-what indefinite number of centuries or hundreds of centuries, it will be condemned to perish, as everything that exists is born and perishes, or rather is transformed.

How did our terrestrial globe, which was at first burning, gaseous matter, condense and cool? By what immense series of geological evolutions must it have passed, before it could produce on its surface all that infinite richness of organic life, vegetable and animal, from the simple cell to man? How has it manifested itself and how does it continue to develop in our historical and social world? What is the end toward which we march, driven by that supreme, inevitable law of unceasing transformation, which in human society we call progress?

These are the only questions that are accessible to us, the only ones that can and must be really embraced, studied and resolved by man. Forming only one imperceptible point in the unlimited and indefinable question of the Universe, these human and terrestrial questions offer all the same to our mind a world that is really infinite, not in the divine, which is to say abstract sense of the word, not as the Supreme Being created by religious abstraction; infinite, on the contrary, in the wealth of its details, which no observation, no science could ever exhaust.

In order to know our world, this infinite world, abstraction will not suffice. Abandoned to itself, it would lead us back, without fail, to the Supreme Being, to God, to Nothingness, as it has already done in history, as I will soon explain. It is necessary, while continuing to apply that faculty of abstraction, without which we could never raise ourselves up, from an order of inferior things to an order of superior things, nor consequently understand the natural hierarchy of the beings, it is necessary that, at the same time, our mind immerses itself, with respect and love, in the meticulous study of the details and of the infinitesimally small, without which we could never conceive the living reality of being. So it is only by uniting these two faculties, these two actions of the mind, which appear so opposed: abstraction and the scrupulous, attentive and patient analysis of the details that could raise us to the real conception of *our* world. It is obvious that, if our feelings and our imagination can give us an image, a more or less false representation of this world, science alone could give us a clear and precise idea.

So what then is that imperious curiosity that drives man to recognize the world that surrounds him, to pursue with a tireless passion the secrets of that nature of which he is himself, on the earth, the last and most perfect creation? Is that curiosity a simple luxury, a pleasant pastime, or rather one of the principal necessities inherent in his being? I do not hesitate to say that of all the necessities that constitute the nature of man, it is the most human, and that man only actually distinguishes himself from the animals of all the other species through this inextinguishable need to know, that he only becomes really and completely a man through the awakening and progressive satisfaction of this immense need to know. In order to realize himself in the fullness of his being, man must recognize himself, and he will never recognize himself really and completely as long as he has not recognized the nature that envelopes him and of which he is the product. So, short of renouncing his humanity, man must *know*, he must fathom with his thought all of the real world, and without hope of every being able to reach the bottom, he must always explore more deeply its coordination and laws, for his humanity only comes at this price. He must recognize all its inferior regions, prior and contemporary to himself, all the evolutions, mechanical, physical, chemical, geological, vegetable and animal, that is to say all the causes all the conditions of his own birth, his existence and his development; in order that he can understand his own nature and his mission on this earth, his homeland and unique theater; in order that, in this world of blind fatality, he can introduce his human world, the world of liberty.

Such is the task of man: It is inexhaustible, it is infinite and well sufficient to satisfy the hearts and minds of the proudest and most ambitious. An instantaneous and imperceptible being, lost in the midst of the waveless ocean of universal transformation, with an unknown eternity behind him, and an unknown eternity before him, the thinking man, the active man, the man conscious of his human destiny, remains calm and proud in the feeling of his liberty, which he has won by emancipating himself through labor, through science, and by emancipating, by inflaming, if necessary, all the men around him, his fellows, his brothers. If you ask him after that his private thought, his last word concerning *the real unity of the Universe*, he will say to you that it is *eternal transformation*, a movement infinitely detailed, diversified and, for that very reason, organized in itself, but having, nonetheless, neither beginning, nor limits, nor end. It is thus the absolute opposite of Providence: the negation of God.

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We understand that in the universe thus understood, there can be no question of previous ideas, nor of preconceived and preordained laws. Ideas,

including that of God, only exist on this earth to the extent that they have been produced by the brain. We therefore see that they come much later than the natural facts, much later than the laws that govern these facts. They are just when they conform to these laws, false when they are contrary to them. As for the laws of nature, they only manifest themselves in this ideal or abstract form of laws for human intelligence when, reproduced by our brain, on the basis of more or less exact observations of things, phenomena and the succession of facts, they take this form of quasi-spontaneous human ideas. Prior to the birth of human thought, they were not recognized as laws by anyone, and only existed in the state of *real processes of nature*, processes which, as I have just said above, are always determined by an indefinite combination of particular conditions, influences and causes which repeat themselves regularly. This word *nature* therefore excludes any mystical or metaphysical idea of substance, final cause or providentially combined and directed creation.

But since there is an order in nature, there must necessarily have been an orderer, one might say? Not at all. An organizer, were he a God, could only have hindered by his personal arbitrariness the natural order and logical development of things; and we know well that the main property of the Gods of all religions is to be precisely superior, that is to say contrary to all natural logic and to recognize only one logic: that of absurdity and of iniquity. For what is logic, if not the natural development of things, or else the natural process by which many determining causes, inherent in these things, produce new facts?<sup>2</sup> Consequently, I will be allowed to state this axiom which is so simple and at the same time so decisive:

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<sup>2</sup> To say that God is not contrary to logic is to affirm that, in the whole extension of his being, he is completely logical; that it contains nothing within itself which is above, or, which means the same thing, outside of logic; that consequently, he himself is nothing but logic, nothing but this current or this natural development of real things; this means that God does not exist. The existence of God cannot therefore have any other meaning than that of the negation of natural laws; from which results this inevitable dilemma: *God is, therefore there are no natural laws, there is no order in nature, the world presents chaos*, or else, *the world is ordered in itself, therefore God does not exist*.

Everything that is natural is logical, and everything that is logical is either already realized or will have to be realized in the natural world, including the social world.<sup>3</sup>

But if the laws of the natural and social world<sup>4</sup> were not created or ordered by anyone, why and how do they exist? What gives them this invariable character? This is a question that it is not within my power to resolve, and to which, as far as I know, no one has yet found and will probably never find an answer. I am mistaken: theologians and metaphysicians have tried to answer it by the supposition of a supreme first cause, of a Divinity creator of the worlds, or at least, as the pantheist metaphysicians say, by that of a divine soul or absolute thought, incarnated in the universe and manifested by the movement and life of all beings who are born and who die within it. Neither of these two suppositions withstands the slightest criticism. It was easy for me to prove that that of a God, creator of natural and social laws, contained within itself the complete negation of these laws, making their very existence, that is to say their realization and their effectiveness, impossible; that a God ordering this world must necessarily produce anarchy and chaos; that consequently, one or the other, either God, or the laws of nature do not exist; and as we know with certainty, by the experience of each day and by science, which is nothing other than the systematized experience of centuries, that these laws exist, we must conclude that God does not exist.

By delving deeper into the meaning of these words: *natural laws*, we will therefore find that it absolutely excludes the idea and the very possibility of a

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<sup>3</sup> It in no way follows from this that everything that is logical or natural is, from a human point of view, necessarily useful, good and just. Major natural disasters: earthquakes, volcanic eruptions, floods, storms, pestilential diseases which devastate and destroy entire cities and populations, are certainly natural facts produced *logically* by a combination of natural causes, but no one will say that they are beneficial for humanity. It is the same with the facts that occur in history: the most horrible divine and human institutions; all the past and present crimes of the leaders, of these so-called benefactors and guardians of our poor human species, and the desperate stupidity of the people who obey their yoke; the current exploits of Napoleon III, Bismarck, Alexander II and so many other sovereigns or political and military men of Europe, and the incredible cowardice of this bourgeoisie of all countries which encourages them, supports them, while abhorring them from the bottom of his heart; all this presents a series of natural facts produced by natural causes, and therefore very logical, which does not prevent them from being excessively fatal to humanity.

<sup>4</sup> IN THE MARGIN: I follow established usage, in some way separating the social world from the natural world. It is evident that human society, considered in the whole extent and breadth of its historical development, is as natural, and as completely subordinate to all the laws of nature, as the animal and vegetable world, for example, of which it is the last and highest expression on this earth.



creator, an orderer and a legislator. Because the idea of a legislator in turn excludes in an equally absolute manner that of *the inherence of laws in things*; and from the moment a law is not inherent to the things it governs, it is necessarily, in relation to these things, an arbitrary law, that is to say based not on their own nature, but on the thought and will of the legislator. Consequently, all laws which emanate from a legislator, whether human, divine, individual or collective, even if he was appointed by universal suffrage, are despotic laws, necessarily foreign and hostile to men and to the things that they must direct: these are not laws, but decrees, which we obey not by internal necessity and by natural tendency, but because we are obliged to do so by an external force, whether divine or human; arbitrary decrees, to which social hypocrisy, more unconscious than conscious, arbitrarily gives the name of law.

A law is only truly a natural law when it is absolutely inherent in the things that manifest it to our mind; when it constitutes their property, their own more or less determined nature, and not the universal and abstract nature of some divine substance or of an absolute thought; substance and thought necessarily extrawordly, supernatural and illogical, because if they were not, they would be annihilated in reality and in the natural logic of things. Natural laws are the more or less particular, natural and real processes by which all things exist, and from the theoretical point of view, they are the only possible explanation of things. Therefore whoever wants to understand must renounce once and for all both the personal God of the theologians and the impersonal Divinity of the metaphysicians.

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But from the fact that we can deny with complete certainty the existence of a divine legislator, it does not at all follow that we can account for the manner in which natural and social laws were established in the world. They exist, they are inseparable from the real world, from this set of things and facts, of which we ourselves are the products, the effects, unless we become also, in our turn, relative causes of beings, things and new facts. This is all we know, and I think, all we can know. Besides, how could we find the first cause, since it does not exist; what we have called universal causality, itself being only one resultant of all the particular causes acting in the Universe. Asking why natural laws exist, would that not then be the same thing as asking why this Universe exists, outside of which there is nothing? Why Being is? It is absurd.

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In obeying the laws of nature, I said, man is not a slave, since he only obeys laws which are inherent in his own nature, in the very conditions by which he exists and which constitute his entire being: in obeying them, he obeys himself.

And yet there exists within this same nature a slavery from which man is required to free himself under penalty of renouncing his humanity; it is that of the natural world which surrounds him and which we usually call *external nature*. It is the set of things, phenomena and living beings which obsess him, constantly envelop him on all sides, without which and apart from which, it is true, he cannot live for a single moment, but which nevertheless seem to conspire against him, so that at every moment of his life he is forced to defend his existence against them. Man cannot do without this external world, because he can only live in it and can only feed himself at its expense; and at the same time, he must protect himself against it, because this world always seems to want to devour him in turn.

Considered from this point of view, the natural world presents to us the murderous and bloody picture of a fierce and perpetual struggle: *of the struggle for life*. Man is not alone in fighting: all animals, all living beings, nay, all things that exist, although in a much less apparent way, carrying within themselves, like him, the germ of their own destruction and, so to speak, their own enemy, this same natural fatality which produces, preserves and destroys them at the same time within them, struggle like him, each category of things, each plant and animal species living only to the detriment of all others; one devours the other, so that, as I have said elsewhere, “the natural world can be considered a bloody slaughter, a mournful tragedy created by hunger. It is the constant theater of a merciless and ceaseless struggle. We don't have to wonder why this is so, and we are in no way responsible for it. We find this order of things established when we are born into life. This is our natural starting point, and we have nothing to do other than note the fact and convince ourselves that since the world existed it has always been this way and that, in all probability, it will never be otherwise in the animal world. Harmony is established there through struggle: through the triumph of some, through the defeat and death of others, through the suffering of all... We do not say with Christians that this earth is a valley of sorrows; there are pleasures too, otherwise living beings would not value life so much. But we must agree that Nature is not at all as tender a mother as people say and that to live, to preserve themselves within it, they need a singular energy. *For in this natural world the strong live and the weak succumb, and the former live only because the others succumb.* — Such is the supreme law of the animal world. Is it possible that this fatal law is that of the human and social world?”

Alas! Both the individual and social life of man is first of all nothing but the most immediate continuation of animal life. It is nothing other than this same animal life, but only complicated by a new element: *The faculty of thinking and speaking*.

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Man is not the only intelligent animal on earth. Far from it; Comparative psychology shows us that there is no animal that is absolutely devoid of intelligence, and that the closer a species, by its organization and especially by the development of its brain, is to man, the more its intelligence also develops and elevates. But in man alone it arrives at what we properly call the faculty of thinking, that is to say of comparing, separating and combining with each other the representations of objects, both exterior and interior, which are given to us by our senses, to form groups; then to compare and combine among themselves these groups which are no longer real beings, nor representations of objects perceived by our senses, but abstract notions, formed and classified by the work of our mind, and which, retained by our memory, another faculty of the brain, become the starting point or the basis of these conclusions which we call ideas. All these functionings of our brain would have been impossible, if man were not endowed with another faculty complementary and inseparable from that of thinking: the faculty of incorporating and fixing, so to speak, even in their variations and their finest and most complicated modifications, all these operations of the mind, all these material actions of the brain, by external signs: if man, in a word, were not endowed with *the faculty of speaking*. All other animals have a language too, who doubts it; but just as their intelligence never rises above material representations, or at most above a very first comparison and combination of these representations between them, likewise their language, devoid of organization and incapable of development, only expresses sensations or material notions, never ideas. I can therefore say, without fear of being refuted, that of all the animals on this earth, man alone thinks and speaks.

Only he is endowed with this power of abstraction which, undoubtedly fortified and developed in the human species by the work of centuries, by raising it successively *in himself*, that is to say in his thought and only by the abstractive action of his thought, above all the objects which surround him and even above himself as an individual and species, allows him to conceive or to create the idea of the Totality of Beings, of the Universe and of the Absolute Infinite: a completely abstract idea, void of all content and as such, identical to

Nothingness, no doubt, but which all the same is shown to be omnipotent in the historical development of man, because having been one of the main causes of all his conquests and at the same time of all his wanderings, of his misfortunes and his subsequent crimes, it tore him from the so-called beatitudes of the animal paradise, to throw him into the triumphs and infinite torments of a boundless development...

Thanks to this power of abstraction, man, by rising above the immediate pressure that external objects exert on the individual, can compare them with one another and observe their mutual relationships: this is the beginning of the analysis and experimental science. Thanks to this same faculty, man splits himself, so to speak, and, separating himself from himself within himself, he rises in some way above his own interior movements, above the sensations he experiences, the instincts, appetites and desires that awaken in him, as well as the affective tendencies which he feels; which gives him the possibility of comparing them with each other, just as he compares external objects and movements, and of taking sides with one against the other, according to the ideal of justice and good, or according to the dominant passion, which the influence of society and particular circumstances have developed and strengthened in him. This power to take sides in favor of one or more motors which act within him in a determined direction, against other equally interior and determined motors, is called *will*.

Thus explained and understood, the spirit of man and his will no longer present themselves as absolutely autonomous powers, independent of the material world and capable, in creating, one thoughts, the other spontaneous acts, to break the fatal chain of effects of causes which constitutes the universal solidarity of worlds. Both appear on the contrary as forces whose *independence is excessively relative*, because just as much as the muscular force of man, these forces or these nervous capacities are formed in each individual by a combination of circumstances, influences and external actions, material and social, absolutely independent of his thought and will. And just as we must reject the possibility of what metaphysicians call spontaneous ideas, we must also reject the spontaneous acts of the will, the *free will* and the moral responsibility of man, *in the theological, metaphysical and legal meaning of this word*.

Each man has his birth and throughout the duration of his development, of his life, being nothing other than the result of an innumerable quantity of actions, circumstances and innumerable conditions, material and social, which continue to produce him as long as he lives, from where would come to him, a passing and barely perceptible link in the universal chain of all beings past,

present and future, the power to break by a voluntary act this eternal and omnipotent solidarity, the only universal and absolute being that really exists, but that no human imagination can embrace? Let us therefore recognize, once and for all, that with respect to this universal nature, our mother, who forms us, elevates us, envelops us, penetrates us down to the marrow of our bones and to the most intimate depths of our intellectual being. and moral, and which always ends up suffocating us in its maternal embrace, there is for us neither independence nor revolt possible.

It is true that through knowledge and the thoughtful application of the laws of nature, man gradually emancipates himself, but not from this universal yoke that all living beings and all things that exist, that occur and disappear in the world carry with them; he only frees himself from the brutal pressure exerted on him by his external, material and social world, including all the things and all the men who surround him. He dominates things through science and labor; as for the arbitrary yoke of men, he overthrows it through revolutions. This is therefore the only rational meaning of this word *liberty*: it is domination over external things, *based on respectful observation of the laws of nature*; it is independence from the pretensions and despotic acts of men; it is science, labor, political revolt, it is finally the organization that is both thoughtful and free of the social environment, in accordance with the natural laws which are inherent to all human society. The first and last condition of this liberty therefore always remains the most absolute submission to the omnipotence of nature, our mother, and the observation, the most rigorous application of its laws.

Nobody talks about the free will of animals. All agree in this, that animals, at each moment of their life and in each of their actions, are determined by causes independent of their thought and their will; that they inevitably follow the impulse that they receive both of the external world and from their own interior nature; that they have no possibility, in a word, of interrupting with their ideas and by the spontaneous acts of their will the universal flow of life, and that

consequently there exists for them no responsibility either legal or moral.<sup>5</sup> However, all animals are incontestably gifted with both intelligence and will. Between these animal faculties and the corresponding faculties of man, there is only a quantitative difference, a difference of degree. Why then do we declare man *absolutely* responsible and the animal absolutely irresponsible?

I think that the error does not consist in this idea of responsibility which exists in a very real way not only for man, but for all animals too, without excluding any, although to different degrees for each; it consists in the absolute meaning that our human vanity, supported by a theological and metaphysical aberration, gives to human responsibility. The whole error is in this word: *absolute*. Man is not *absolutely* responsible and animals are not *absolutely* irresponsible. The responsibility of both is *relative* to the degree of reflection of which they are capable.

We can accept as a general axiom, that what does not exist in the animal world, at least in the germ state, does not exist and will never produce in the human world, humanity being nothing but the latest development of animality on this earth. Therefore, if there were no animal responsibility, there could be no human responsibility, man being moreover subject to the absolute omnipotence of nature, just as well as the most imperfect animal on this earth; so that from an absolute point of view, animals and man are equally irresponsible.

But relative responsibility certainly exists at all stages of animal life; imperceptible in lower species, it is already very pronounced in animals endowed with a higher organization. The beasts raise their children, they develop in their own way their intelligence, that is to say the understanding or knowledge of things, and the will, that is to say this faculty, this inner force which allows us to contain our instinctive movements; they even punish the disobedience of their young with paternal tenderness. So there is a beginning of moral responsibility among animals themselves.

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<sup>5</sup> This idea of the moral irresponsibility of animals is accepted by everyone. But it does not conform in every way to the truth. We can assure ourselves of this by daily experience, in our relationships with tamed and trained animals. We raise them not with a view to their usefulness and their own morality, but in accordance with our interests and our goals; we accustom them to dominate, to contain their instincts, their desires, that is to say we develop in them an interior force which is nothing other than will. And when they act contrary to the habits we wanted to give them, we punish them; therefore we consider them, we treat them as responsible beings, capable of understanding that they have broken the law that we have imposed on them, and we subject them to a sort of domestic jurisdiction. — Let us treat them in a word as the good God of Christians treats men — with this difference that we do it for our usefulness, he for his glory... us to satisfy our selfishness, he to satisfy and nourish his infinite vanity.

Will, as well as intelligence, is therefore not a mystical, immortal and divine spark that fell miraculously from heaven to earth, to animate pieces of flesh, corpses. It is the product of organized and living flesh, the product of the animal organism. The most perfect organism is that of man; and consequently it is in man that the relatively most perfect intelligence and will are found, and above all the most capable of improvement and progress.

The will, like intelligence, is a nervous faculty of the animal organism, and has as its special organ mainly the brain; just as physical force or specifically animal force is a muscular faculty of this same organism, and although widespread throughout the body, its principally active organs are the feet and the arms. The nervous functioning which properly constitutes intelligence and will and which is materially different, both by its special organization and by its object, from the muscular functioning of the animal organism, and yet just as material as the latter. Muscular or physical strength and nervous strength, or strength of intelligence and strength of will, have this in common, that, *firstly*, each of them depends above all on the organization of the animal, an organization that it bears in being born and which is therefore the product of a host of circumstances and causes which are not even only external to it, but anterior to it; and that, *secondly*, all are capable of being developed by gymnastics or by education, which again presents them to us as products of external influences and actions.

It is clear that being, both in terms of their nature and in terms of their intensity, nothing but products of causes entirely independent of them, all these forces have themselves only a completely relative independence, in the midst of this universal causality which constitutes and embraces the worlds... What is muscular force? It is a material power of any intensity formed in the animal by a combination of influences or previous causes, which allows it in a given moment to oppose the pressure external forces a resistance that is not absolute, but relative.

It is absolutely the same with this moral force, which we call the force of will. All species of animals are endowed with it to different degrees and this difference is determined first of all by the particular nature of their organism. Among all the animals on this earth, the human species is gifted to a higher degree. But in this species itself not all individuals bring at birth an equal volitional disposition, the greater or lesser capacity to want being previously determined in each by health and the normal development of the body and above all by the more or less happy conformation of the brain. Here then, from the beginning, is a difference for which man is in no way responsible. Am I guilty if nature has gifted me with an inferior capacity to will? The most rabid

theologians and metaphysicians will not dare to say that what they call souls, that is to say that all the affective, intelligent and volitional faculties that each person brings at birth, are equal.

It is true that the faculty of will, as well as all the other faculties of man, can be developed by education, by a gymnastics specific to it. This gymnastics gradually accustoms children, first of all not to immediately manifest the slightest of their impressions, or to contain more or less the reactive movements of their muscles, when they are irritated by sensations, both external and internal, which are transmitted to them by the nerves; later, when a certain degree of reflection, developed by an education which is also specific to him, has formed in the child, this same gymnastics, in turn taking on an increasingly reflective character, calling for his help the nascent intelligence of the child and based on a certain degree of volitional force which has developed in him, accustoms him to repress the immediate expression of his feelings and his desires, and finally to subdue all movements volunteers of his body as well as of what we call his soul, his very thoughts, his words and his actions, for a dominant purpose, *good or bad*.

The will of man thus developed, exercised, is obviously again nothing but the product of influences which are external to it and which are exerted on it, which determine and form it, independently of its own resolutions. Can a man be made responsible for the education, good or bad, sufficient or insufficient, that he has been given?

It is true that when in the adolescent or the young man, *the habit of thinking and wanting* has achieved, thanks to this education that he received from outside, a certain degree of development, to the point of constituting in some way an interior force, henceforth identified with his being, he can continue his instruction and even his moral education himself, through what we might call a *spontaneous* gymnastics of his thought and even his will, as well as his muscular strength; spontaneous in this sense, that it will no longer be solely directed and determined by external wills and actions, but also by this internal force of thinking and wanting which, after having been formed and consolidated in him by the past action of these external causes, in turn becomes a more or less active and powerful motor, a producer in some way independent of the things, ideas, wills and actions that immediately surround it.

Man can thus become, to a certain point, his own educator, his own instructor and like the Creator of himself. But we see that in this way he only acquires a completely relative independence, which in no way removes him from fatal dependence, or if you like from the absolute solidarity by which, as an existing and living being, he is irrevocably chained to the natural and social



world of which he is the product, and in which like everything that exists, after having been an effect, and always continuing to be so, he in turn becomes a relative cause of products relatively new.

Later, I will have the opportunity to show that the most developed man in terms of intelligence and will still finds himself, in relation to all his feelings, his ideas and his wills, in an almost absolute dependence with respect to the natural and *social* world that surrounds him, which at each moment of his existence determines the conditions of his life. But even at the point where we have arrived, it is obvious that there is no reason for human responsibility, as theologians, metaphysicians and jurists conceive it.

We have seen that man is in no way responsible either for the degree of intellectual and moral capacities that he was born with or for the type of good or bad education that these faculties received before the age of his virility or at least his puberty. But here we have arrived at a point where man, conscious of himself, and armed with already seasoned intellectual and moral faculties, thanks to the education he has received from outside, becomes in some way the producer of himself, obviously being able to develop, extend and strengthen his intelligence and his will. He who finds this possibility in himself and does not take advantage of it, is he not guilty?

And how could that be? It is obvious that at the moment when he must and can make this resolution to labor upon himself, he has not yet begun this spontaneous, interior work, which will make he in some way the Creator of himself and the product of his own action on himself; at this moment he is still nothing but the product of the action of others or of the external influences which have brought him to this point; therefore the resolution he takes will depend not on the strength of thought and will that he will have given to himself, since his own work has not yet begun, but on that which will have been given to him, as much by his nature as by education, independently of his own resolution; and the good or bad resolution that he takes will still be nothing but the immediate effect or product of this education and of this nature for which he is in no way responsible; from which it follows that this resolution can in no way imply the responsibility of the individual who takes it.

It is obvious that the idea of human responsibility, a completely relative idea, is inapplicable to man taken in isolation and considered as a natural individual, outside development collective of society. Considered as such in the presence of this universal causality within which everything that exists is at the same time effect and cause, producer and product, each man appears to us at every moment of his life as an absolutely determined being, incapable of breaking or even interrupting the universal flow of life and therefore placed outside of all

legal responsibility. With all this consciousness of himself which produces in him this mirage of an alleged spontaneity, despite this intelligence and this will which are the essential conditions for the establishment of his liberty with regard to the outside world, including the men who surround him, man, as well as all the animals of this earth, nonetheless remains subject to an absolute manner to the universal fatality which reigns in nature.

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The power to think and the power to will, I said, are ENTIRELY FORMAL powers, which do not necessarily and always imply: one, the truth, and the other, the good. History shows us the example of many very powerful thinkers who rambled on and on. Of this number were and still are today all theologians, metaphysicians, jurists, economists, spiritualists and idealists of all kinds, past and present. Whenever a thinker, however powerful he may be, reasons on false bases, he will necessarily arrive at false conclusions, and these conclusions will be all the more monstrous, the more power he has put into developing them.

What is truth? It is the right appreciation of things and facts, of their development or of the natural logic that manifests itself in them. It is the conformation, as severe as possible, of the movement of thought with that of the real world, which is the sole object of thought. Therefore, whenever man reasons about things and facts without worrying about their real relations and the real conditions of their development and their existence; or, when he builds his theoretical speculations on things that have never existed, on facts that could never have happened and which only have an entirely imaginary, entirely fictitious existence, in the ignorance and historical stupidity of past generations, he will necessarily remain in his own little world, however powerful a thinker he may be.

It is the same with will. Experience shows us that the power of the will is far from always being the power of good: the greatest criminals, evil men of the highest degrees, are sometimes endowed with the greatest power of will; and on the other hand, we see quite often unfortunately! excellent, good, just men, full of benevolent feelings, to be deprived of this faculty. Which proves that the faculty of will is a completely formal power which does not in itself imply either good or evil. — What is Good? And what is Evil?

At the point we have reached, by continuing to consider man, outside of society, as an animal just as natural, but more perfectly organized than animals of other species and capable of dominating them thanks to the incontestable superiority of his intelligence and his will, the most general and at the same time the most general definition of Good and Evil seems to me to be this:

*Everything that is consistent with the needs of man and the conditions of his development and his full existence, for man, but for man alone, undoubtedly not for the animal that he devours,<sup>6</sup> it is the Good. Everything that is contrary to them is Evil.*

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Having proven that the animal will, including that of man, is a completely formal power, capable, as we will see later, through the knowledge that man acquires of the laws of nature, and only by strictly submitting to them in his actions, to modify, up to a certain point, both the relationships of man with the things that surround him, and those of these things among themselves, but not to produce them, nor to create the very basis of animal life; being proven that the completely relative power relative fact of this will, once we put it in the presence of the only absolute power that exists, that of universal causality, immediately appears as absolute impotence, or as a relative cause of effects new relations, determined and produced by this same causality; it is obvious that it is not in it, that it is not in the animal will, but in this universal and inevitable solidarity of things and beings that we must seek the powerful engine that creates the animal and human world.

We call this motor neither intelligence nor will; because really it has and cannot have any consciousness of itself, nor any determination, nor resolution of its own, not being even an indivisible, substantial and unique being as metaphysicians represent it, but a product itself and as I have already said, the eternally reproduced Resultant of all the transformations of beings and things in the Universe. In a word, it is not an idea, but a universal fact, beyond which it is impossible for us to conceive anything; and this fact is not at all an immutable Being, but on the contrary, it is the perpetual movement manifesting itself, forming itself by an infinity of relative actions and reactions: mechanical, physical, chemical, geological, vegetable, animal and from this combination of innumerable relative movements, this universal motor is as all-powerful as it is unconscious, fatal and blind.

It creates worlds, at the same time as it is always their product. In each kingdom of our earthly nature, it manifests itself by particular laws or ways of development. This is how in the inorganic world, in the geological formation of our globe it presents itself as the incessant action and reaction of mechanical, physical and chemical laws, which seem to be reduced to a fundamental law: that of gravity and movement, or that of material attraction, of which all the

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<sup>6</sup> We will see later and we already know now that this definition of Good and Evil is considered even today, as the only real one, as the only serious and valid one by all the privileged classes, vis-à-vis towards the proletariat that they exploit.

other laws then only appear as different manifestations or transformations. These laws, as I have already observed above, are general in the sense that they embrace all the phenomena which occur on earth, regulating both relationships and development of organic life: plant, animal and social, than those of the inorganic whole of things.

In the organic world, this same universal motor manifests itself by a new law, which is based on the whole of these general laws, and which is doubtless nothing but a new transformation, a transformation whose secret has escaped us until now, but which is a particular law in the sense that it manifests itself only in living beings: plants and animals, including man. It is the *law of nutrition*, consisting, to use Auguste Comte's own expressions: "1. in the interior *absorption* of nutritive materials drawn from the ambient system, and their gradual assimilation; 2. in the *exhalation* outside of the molecules, therefore foreign, which necessarily disassimilate as this nutrition is accomplished."<sup>7</sup>

This law is particular in the sense, I said, that it does not apply to things of the inorganic world, but *it is general and fundamental for all living beings*. It is the question of food, the great question of the *social economy* that constitutes the real basis of all the further developments of humanity.

In the strictly animal world, the same universal motor reproduces this generic law of nutrition which is specific to everything that is organized on this earth, in a particular and new form, by combining it with two properties which distinguish all animals from all plants: those of *sensitivity* and of *irritability*, obviously material faculties, but whose so-called ideal faculties themselves, that of the feeling called moral to distinguish it from physical sensation, as well as those of intelligence and will, are obviously only the highest expression or the last transformation. These two properties, sensitivity and irritability, are found only in animals; we do not find them in plants: combined with the law of nutrition which is common to both, being the fundamental law of all living organisms, constitute by this combination the particular generic law of the entire animal world. To clarify this subject, I will quote a few more words from Auguste Comte: "*We must never lose sight of the intimate double connection of animal life with organic (plant) life, which constantly provides it with an INDISPENSABLE PRELIMINARY BASIS, and which, at the same time, CONSTITUTES A NO LESS NECESSARY GENERAL GOAL.* We no longer need to insist today on the first point, which has been brought into full evidence by sound physiological analyses; it is now well recognized that, *in order to move and feel, the animal must first live, in the simplest sense of the word, that is to say vegetate; and that no complete suspension of this plant life could, in any case, be conceived, without involving, of all necessity, the*

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<sup>7</sup> Auguste Comte. Positive Philosophy course. Volume III — P. 464.

*simultaneous cessation of animal life.* As for the second aspect, so far much less clarified, everyone can easily recognize, *whether for the phenomena of IRRITABILITY or for those of SENSITIVITY, THAT THEY ARE ESSENTIALLY DIRECTED, TO ANY DEGREE FROM THE ANIMAL SCALE, BY THE GENERAL NEEDS OF ORGANIC LIFE, THE FUNDAMENTAL MODE OF WHICH THEY PERFECT, either by providing it with better materials, or by preventing or removing unfavorable influences:* THE INTELLECTUAL AND MORAL FUNCTIONS THEMSELVES ORDINARILY HAVE NO OTHER PRIMITIVE FUNCTION. *Without such a general destination, irritability would necessarily degenerate into disorderly agitation and sensitivity into vague contemplation:* from then on either one or the other would soon destroy the organism through immoderate exercise, or they would spontaneously atrophy, through lack of suitable stimulation. It is only in the human species, and even then only having reached a high degree of civilization, that it is possible to conceive a sort of inversion of this fundamental order, by representing, on the contrary, vegetative life as essentially subordinate to animal life, of which it is only intended to allow the development, which constitutes, it seems to me, the noblest notion that one can form of humanity properly so called, distinct from animality: *yet such a transformation only becomes possible, under penalty of falling into a very dangerous mysticism, as long as, through a happy fundamental abstraction, WE TRANSFER TO THE ENTIRE SPECIES, OR AT LEAST TO SOCIETY, the GOAL PRIMITIVE (that of nutrition and self-preservation) which, for animals, is limited to the individual, or extends at most momentarily to the family.*"<sup>8</sup>

And in a note which immediately follows this passage, Auguste Comte adds:

"A philosopher of the metaphysico-theological school has recently claimed to characterize man by this resounding formula: *An intelligence served by organs...* The opposite definition would obviously be much more true, especially for primitive man, not perfected by a very developed social state... *To whatever degree civilization may reach, it will only ever be among a small number of elite men that intelligence will be able to acquire, in the whole of the organism, a preponderance pronounced enough to really become the essential goal of all human existence, instead of being used only as a simple instrument, as a fundamental means of obtaining a more perfect satisfaction of the principal organic needs: which, apart from of all vain declamation, certainly characterizes the most ordinary case.*"

To this consideration is added another, which is very important. The different functions that we call animal faculties are not of such a nature that it is optional for the animal to exercise them or not to exercise them; all these faculties are essential properties, *necessities* inherent to animal organization. The different species, families and classes of animals are distinguished from each

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<sup>8</sup> Auguste Comte. Positive Philosophy Course. T.III p. 493-494.

other either by the total absence of a few faculties, or by the preponderant development of one or more faculties to the detriment of all the others. Even within each species, family and class of animals, not all individuals are equally successful. The perfect example is the one in which all the characteristic organs of the order to which the individual belongs are harmoniously developed. The absence or the weakness of one of these organs constitutes a defect, and when this an essential organ, the individual is a monster. Monstrosity or perfection, qualities or defects, all this is given to the individual by nature; he bears all this when he is born. But from the moment a faculty exists, *it must be exercised*, and as long as the animal has not reached the age of its natural decline, *it necessarily tends to develop*, and to strengthen itself by this repeated exercise, which creates habit, the basis of all animal development; and the more it develops and is exercised, the more it becomes in the animal an irresistible force, which it must obey.

It sometimes happens that illness, or external circumstances more powerful than this fatality of the individual, prevent the exercise and development of one or more of its faculties. Then the corresponding organs atrophy, and the whole animal organism finds itself stricken with suffering, more or less, depending on the importance of these faculties and their corresponding organs. The individual can die from it, but as long as he lives, as long as he still has faculties remaining, he must exercise them under penalty of death. Therefore he is not the master at all, he is on the contrary, the involuntary agent, the slave. It is the universal motor, or the combination of the determining and productive causes of the individual, including his faculties, which acts in him and through him. It is this same universal, unconscious, fatal and blind Causality, it is this set of mechanical, physical, chemical, organic, animal and social laws, which pushes all animals, including man, to action and is the true and sole creator of the animal and human world. Appearing in all organic and living beings as a set of faculties or properties of which some are inherent to all and others specific only to species, families or to particular classes, it in fact constitutes *the fundamental law of life* and imprints on each animal, including man, this fatal tendency *to realize for itself all the vital conditions of its own species, that is to say to satisfy all its needs*. As a living organism, endowed with this double property of sensitivity and irritability, and as such, sometimes experiencing suffering, sometimes pleasure, every animal, including man, *is forced*, by its own nature, *to eat and to drink* above all and *to put itself in motion*, both to seek food and to obey a pressing need of its muscles; it is *forced to preserve itself, to shelter itself, to defend itself* against everything that threatens it in its food, in its health, and in all the conditions of its life; *forced to love, mate and procreate; forced to reflect*, to the extent of its intellectual abilities, the conditions of its preservation and

existence; *forced to want* all these conditions for itself; and, directed by a sort of foresight, based on experience, of which no animal is absolutely deprived, *forced to labor*, in the measure of its intelligence and its muscular strength, in order to ensure them for a more or less distant tomorrow.

Fatal and irresistible in all animals, without excluding the most civilized man, this imperative and fundamental tendency of life constitutes the very basis of all animal and human passions: instinctive, one could almost say mechanical in the most inferior organizations; more intelligent in higher species, it only achieves a full conception of itself in man; because, endowed to a superior degree with the precious faculty of combining, grouping and expressing one's thoughts in their entirety, the only one capable of abstraction, in his thought, and from the external world and even from his own internal world, man alone is capable of rising to the universality of things and beings, and from the height of this abstraction, considering himself as an object of his own thought, he can compare, criticize, order and subordinate his own needs, without naturally ever being able to escape from the vital conditions of his own existence; which allows him, within these undoubtedly very restricted limits, and without being able to change anything in the universal and fatal current of effects and causes, to determine in an *abstractly reflective* manner his own acts, and gives him, with regard to nature, a false appearance of absolute spontaneity and independence. Enlightened by science and directed by the abstractly reflected will of man, animal labor, or else this activity inevitably imposed on all living beings, as an essential of their life, — an activity that tends to modify the external world according to the needs of each and which manifests itself in man with the same fatality as in the last animal on this earth — is transformed nevertheless for the conscience of man into a *learned and free labor*.

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What are the needs of man and what are the conditions of his existence?

Examining this question more closely, we will find that despite the infinite distance which seems to separate the human world from the animal world, ultimately the cardinal points of the most refined human existence and the least developed animal existence are identical: to be born, to develop and grow, to labor in order to eat, to shelter and to defend oneself, to maintain one's individual existence in the social environment of the species, to love, to reproduce, then to die... At these points it only adds a new one for man: it is thinking and knowing, faculties and needs which are undoubtedly encountered at a lower degree, although already very perceptible, in animals which by their organization are closer to man, but which in man alone achieve a power so

imperative and perseveringly dominant that they transform, in the long run, his whole life. As one of the boldest and most sympathetic thinkers of our day, Ludwig Feuerbach, has very well observed, *man does everything that animals do, only he is called to do it, and thanks to this very extensive faculty of thinking, thanks to this power of abstraction that distinguishes him from animals of all other species, he is forced to do so — in a more and more HUMAN manner.* That is the whole difference, but it is huge. It contains the germ of our entire civilization, with all the marvels of industry, science and the arts; with all its religious, philosophical, aesthetic, political, economic and social developments — in a word the whole world of history.

Everything that lives, I said, driven by a fatality which is inherent to it and which manifests itself in each being as a set of faculties or properties, tends to realize itself in the fullness of its being. Man, a thinking being as well as a living being, in order to realize himself in this fullness, must know himself. This is the cause of the immense delay that we find in his development, which determined that, in order to arrive at the current state of civilization in the most advanced countries, a state still so little in conformity with the ideal towards which we tend today, it took him I don't know how many tens or hundreds of centuries... It would seem that in his search for himself, through all his peregrinations and historical transformations, he had first to exhaust all the brutalities, all the iniquities and all the possible misfortunes, to achieve only that little reason and justice which reigns today in the world.

Always driven by this same fatality which constitutes the fundamental law of life, man creates his human world, his historical world, by conquering step by step over the external world and over his own bestiality, his liberty and his human dignity. He conquers them through science and through labor.

All animals are forced to work to live; all, without paying attention and without having the slightest awareness of it, participate to the extent of their needs, their intelligence and their strength in the very slow work of *transforming the surface of our globe into a place favorable to animal life.* But this work only becomes properly *human* work when it begins to serve the satisfaction, not only of the fixed and inevitably circumscribed needs of animal life, but also of those of the social, thinking and speaking being which tends to conquer and fully realize their freedom.

The accomplishment of this immense task and which the particular nature of man imposes on him as a necessity inherent to his being, — man is forced to win his own liberty — the accomplishment of this task is not only an intellectual and moral labor; it is above all, in the order of time as well as from the point of view of our rational development, a labor of *material emancipation.* Man only truly



becomes man, he only conquers the possibility of his inner emancipation, to the extent that he has succeeded in breaking the chains of slavery that external nature places on all living beings. These chains, starting with the grossest and most apparent, are privations of all kinds, the incessant action of seasons and climates, hunger, cold, heat, humidity, drought and so many other material influences which act directly on animal life and which keep the living being in almost absolute dependence on the outside world; the permanent dangers which in the form of natural phenomena of all kinds threaten and oppress him from all sides, especially since he himself is a natural being and nothing but a product of this same nature which embraces him, and envelops him, penetrates him, he carries, so to speak, the enemy within himself and has no means of escaping him. From there arises this perpetual fear that he feels and which constitutes the basis of all animal existence, a fear which, as I will show later, constitutes the primary basis of all religion... From there also results for the animal the necessity to fight throughout its life against the dangers that threaten him from outside; to support its own existence, as an individual, and its social existence, as a species, to the detriment of everything that surrounds it: things, organic and living beings. Hence for animals of all species *the necessity of labor*.

All animality works and lives only by working. Man, a living being, is not exempt from this necessity which is the supreme law of life. To maintain his existence, to develop into the fullness of his being, he must work. There is however an enormous difference between the work of man and that of animals of all other species: the the work of animals is stagnant, because their intelligence is stagnant; that of man, on the contrary, is essentially progressive, because his intelligence is to the highest degree progressive.

Nothing better proves the decisive inferiority of all other species of animals, in relation to man, than this incontestable and undisputed fact, than the methods as well as the products of the collective as well as individual labor of all other animals, methods and products often so ingenious that one would believe them to be directed and created by a scientifically developed intelligence, hardly vary and are never perfected. The ants, the bees, the beavers, and other animals which live in the republic, do today precisely what they did three thousand years ago, which proves that in their intelligence there is no progress. They are as learned and as stupid at this time as they were thirty or forty centuries ago. There is indeed a progressive movement taking place in the animal world. But it is the species themselves, the families and classes which are slowly transformed, pushed by the struggle for life, this supreme law of the animal world, and as a result of which the most intelligent and most energetic organizations successively replace inferior organizations, incapable of sustaining this struggle against them in the long run. In this respect, but only in

this respect, there is undeniably movement and progress in the animal world. But even within species, families and classes of animals, as invariable and fixed, there are none or almost none.

Man's work, considered both from the point of view of methods and that of products, is as perfectible and progressive as his mind. By the combination of his cerebral or nervous activity with his muscular activity, of his scientifically developed intelligence with his physical strength, by the application of his progressive thought to his labor, which, from being exclusively animal, instinctive and quasi-mechanical and blind as he was at first, becomes more and more intelligent, man creates his human world. To get an idea of the immense career he has covered and the enormous progress of his industry, let us only compare the savage's hut with these luxurious palaces of Paris which the Prussian savages believe themselves providentially destined to destroy; and the poor weapons of primitive populations with these terrible machines of destruction which seem to have become the last of Germanic civilization.

What all the other species of animals, taken together, could not do, man alone has done. He has truly transformed a large part of the surface of the globe; he made it a favorable place for existence, for human civilization. He overpowered and conquered and conquered nature. He transformed this enemy, this despot who was initially so terrible, into a useful servant, or at least into an ally as powerful as it was faithful.

However, we must realize the true meaning of these expressions: *conquer nature, master nature!* at the risk of falling into a very unfortunate misunderstanding, and all the more easy, since theologians, metaphysicians and idealists of all kinds never fail to use it to demonstrate the superiority of man-spirit over nature-matter. They claim that there is a spirit outside of matter and they naturally subordinate matter to spirit. Not content with this subordination, they make matter proceed from spirit, presenting the latter as the Creator of the former. We have done justice to this nonsense which we no longer have to deal with here. We know and do not recognize any other spirit than the animal spirit considered in its highest expression, as human spirit. And we know that this spirit is not a separate being outside the material world, but that it is nothing other than the proper functioning of this organized and living matter, of the animalized matter; and especially that of the brain.

To master nature in the sense of the metaphysicians, the spirit would indeed have to exist completely outside of matter. But no idealist has yet been able to answer this question: Matter having no limits, either in its length or in its width, nor in its depth, and the spirit being supposed to reside outside of this matter, which occupies in all possible directions the entire infinity of space, what then

can be the place of the spirit? Either it must occupy the same place as matter, be exactly spread everywhere like it, with it, be inseparable from matter, or else it cannot exist. But if pure spirit is inseparable from matter, then it is lost in matter and it exists only as matter; which would amount to saying that matter alone exists. Or else it would be necessary to suppose that while being inseparable from matter, it remains outside of it. But where, since matter occupies all space? If spirit is outside matter, it must be limited by it. But how could the immaterial be either limited or contained by the material, the infinite by the finite? Spirit being absolutely foreign to matter and independent of it, is it not obvious that it must not, that it cannot exercise the slightest action on it, nor have any hold against it, because only what is material can act on material things.

We see clearly that whichever way we ask this question we necessarily arrive at a monstrous absurdity. By persisting in making two things as incompatible as pure spirit and matter live together, we end up with the negation of both, with nothingness. For the existence of matter to be possible, it must be, it which is the Being par excellence, the unique Being, in a word everything that is, I say it must be the unique basis of all existing things, the foundation of the spirit. And for the spirit to have a real consistency, it must proceed from matter, it must be a manifestation, the functioning, the product. Pure spirit, as I will demonstrate later, is nothing other than absolute abstraction, Nothingness.

But since spirit is the product of matter, how can it modify matter? Since the human mind is nothing other than the functioning of the human organism, and this organism is the entirely material product of this indefinite set of effects and causes, of this universal causality that we call nature, where does take the power to transform nature? Let us be clear: man cannot stop or change this universal current of effects and causes; he is incapable of modifying any law of nature, since he only exists himself and only acts, either consciously or unconsciously, by virtue of its laws. Here is a hurricane that blows and shatters everything in its path, pushed by a force that seems inherent to it. If it could have been conscious of himself, it could have said: it is I who, by my action and my spontaneous will, break what nature has created; and it would be wrong. It is a cause of destruction, no doubt, but a relative cause, the effect of a number of other causes; it is only a phenomenon fatally determined by universal causality, by this set of continuous actions and reactions which constitutes nature. It is the same for all acts that can be accomplished by all organized, animated and intelligent beings. At the moment when they are born, they are first of all nothing but products; but barely born, while continuing to be produced and reproduced until their death by the same nature which created them, they in turn become relatively active causes, some with the consciousness and the feeling of what they make, like all animals, including man, others

unconsciously, like all plants. But whatever they do, both are nothing but relative causes, acting within and according to the laws of nature, never against it. Each person acts according to the faculties or properties or laws that are temporarily inherent to them, which constitute their entire being, but which are not irrevocably attached to their existence; the proof is that, when they die, these faculties, these properties, these laws do not die; they survive them, adhering to new beings and *having no existence outside of this contemporaneity and this succession of real beings*, so that they themselves do not constitute any immaterial or separate being, being eternally adhering to the transformations of inorganic, organic and animal matter, or rather being themselves nothing other than these regular transformations of the unique being, of matter, of which each being, even the most intelligent, and apparently the most voluntary, the most free, at each moment of its life, whatever it thinks, whatever it undertakes, whatever it does, is nothing but a representative, a functionary, an involuntary organ fatally determined by the universal current of effects and causes.

The action of men on nature, as fatally determined by the laws of nature as is any other action in the world, is the continuation, very indirect no doubt, the mechanical, physical and chemical action of all inorganic compound and elementary beings; the more direct continuation of the action of plants on their natural environment; and the immediate continuation of the increasingly developed and self-conscious action of all species of animals. It is in fact nothing other than animal action, but directed by a progressive intelligence, by science, this progressive intelligence and this science being itself only a new transformation of matter in the man; from which it results that when man acts on nature, it is still nature which reacts on itself. We see that no revolt of man against nature is possible.

Man can therefore never fight against nature; consequently he can neither defeat it, nor master it; even when, I say, he undertakes and accomplishes acts that are apparently the most contrary to nature, he still obeys the laws of nature. Nothing can save him from it, he is its absolute slave. But this slavery is not one, because all slavery supposes two beings existing one outside the other and one of which is subject to the other. Man is not outside of nature, being himself nothing but nature; therefore he cannot be a slave to it.

What then is the meaning of these words: to fight, to master nature? There is an eternal misunderstanding here which is explained by the double meaning that we usually attach to this word, *nature*. Once we consider it as the universal set of things and beings as well as natural laws; against nature thus understood, I said, there is no possible struggle; since it embraces and contains everything, it is absolute omnipotence, the unique being. Another time we understand by this

word nature the more or less restricted set of phenomena, things and beings which surround man, in a word: *his external world*. Against this external nature, the struggle is not only possible, it is fatally necessary, fatally imposed by universal nature on everything that lives, on everything that exists; because every existing and living being, as I have already observed, carries within itself this double natural law: 1. not to be able to live outside its natural environment or its external world; and 2. to be able to maintain itself only by existing, by living to its detriment, by constantly fighting against it. It is therefore this world or this external nature that man, armed with the faculties and properties with which universal nature has endowed him, can and must overcome, can and must master; born in first almost absolute dependence on this external nature, he must enslave it in turn and conquer on it his own freedom and humanity.

Prior to all civilization and all history, at an extremely remote time and during a period of time which could have lasted who knows how many thousands of years, man was nothing at first, just one wild beast among many other wild beasts – a gorilla perhaps, or a very close relative of the gorilla. A carnivorous or rather omnivorous animal, he was undoubtedly more voracious, more ferocious, more cruel than its cousins of other species. He was waging a war of destruction like them and he was working like them. Such was his state of innocence recommended by all possible religions, the ideal state so praised by J. Jacques Rousseau. What took him from this animal paradise? His progressive intelligence applied naturally, necessarily and successively to his animal labor. But what does the progress of human intelligence consist of? From the *formal* point of view, it consists above all of the greater habit of thinking, which is acquired through the exercise of thought, and in the more precise and clearer awareness of one's own activity. But everything that is formal only acquires any reality in relation to its object: and what is the object of this formal activity that we call thought? This is the real world. Human intelligence only develops and progresses through knowledge of real things and facts; by thoughtful observation and by the increasingly accurate and detailed observation of the relationships that exist between them and of the regular succession of natural phenomena, of the different orders of their development, or, in a word, of all the laws specific to them. Once man has acquired knowledge of these laws, to which all real existences are subject, including his own, he first learns to predict certain phenomena, which allows him to prevent them or guarantee against their consequences that could be unfortunate and harmful for him. In addition, this knowledge of the laws that govern the development of natural phenomena, applied to his muscular labor, at first purely instinctive or animal, allows him in the long run to take advantage of these same natural phenomena and to all the things which together constitute his external world, which were initially so

hostile to him, but which, thanks to this scientific theft, end up contributing powerfully to the achievement of his goals.

To give a very simple example, this is how the wind which first crushed him under the fall of the trees uprooted by its force, or which overturned his wild hut, was forced later to grind his wheat. This is how one of the most destructive elements, fire, when properly arranged, has given man beneficial warmth and less wild, more human food. It has been observed that the most intelligent monkeys, once the fire has been lit, know how to come and warm themselves in it; but that no knew how to light one himself, nor even maintain it by throwing new wood into it. It is also indubitable that many centuries passed before wild man, as little intelligent as the apes, learned this art, which today is so rudimentary, so trivial and at the same time so precious, of stirring up and handling the fire for his own use. So the ancient mythologies did not fail to deify the man or rather the men who were the first to take advantage of it. And in general, we must assume that the simplest arts, which at this time constitute the bases of the domestic economy of the least civilized populations, cost the first human generations immense efforts of invention. This explains the frustratingly slow pace of human development during the first centuries of history, compared to the rapid development of today.

This is therefore the way in which man has transformed and continues to transform, conquer and master his environment, external nature. Is it by a revolt against the laws of this universal nature which, embracing all that is, also constitutes its own nature? On the contrary, *it is through knowledge and the most respectful and scrupulous observation of these laws* that he succeeds not only in successively emancipating himself from the yoke of external nature, but also in enslaving it, at least in part, in turn.

But man is not content with this action on purely external nature. As an intelligence, capable of abstracting his own body and his entire person, and of considering it as an external object, man, always driven by a necessity inherent in his being, applies the same process, the same method, to modify, to correct, to perfect his own nature. There is a natural yoke within that man must also shake off. This yoke presents itself to him first in the form of his imperfections and weaknesses or even his individual illnesses, as much bodily as intellectual and moral; then in the more general form of his brutality or his animality compared to his humanity, the latter being realized in him in a progressive manner, through the collective development of his social environment.

To combat this internal slavery, man also has no other means than the *science of the natural laws* that govern his individual development and his collective development, and the application of this science both to his individual

education (by hygiene, by the gymnastics of his body, his affections, of his mind and his will, and by rational instruction), as to the successive transformation of the social order. For, not only is he himself, considered as an individual, but also his social environment, this human society, of which he is the immediate product, in turn nothing but a product of universal and omnipotent nature, in the same way and in the same way as are anthills, beehives, republics of beavers and all other species of animal associations; and just as these associations were incontestably formed and still live today in accordance with natural laws which are specific to them; in the same way human society, in all phases of its historical development, obeys, without it itself suspecting it for the majority of the time, laws that are just as natural as the laws that govern animal associations, but at least part of which are exclusively inherent to it. Man by all his nature, both exterior and interior, being nothing other than an animal which, thanks to the comparatively more perfect organization of its brain, is the only one endowed with a greater dose of intelligence and emotional powers than animals of other species. The basis of man, considered as an individual, being therefore completely animal, that of human society cannot be other than animal. Only as the intelligence of the individual man is progressive, the organization of this society must also be progressive. *Progress* is precisely the fundamental natural law exclusively inherent to human society.

By reacting on himself and on the social environment of which he is, as I have just said, the immediate product, man, let us never forget, therefore does nothing other than still obey natural laws that are specific to him, which act in him with an implacable and irresistible fatality. The last product of nature, on earth, man continues, so to speak, through his individual and social development, work, creation, movement and life. His most intelligent, most abstract thoughts and acts, and as such, those furthest from what we commonly call nature, are nothing but new creations or manifestations. With regard to this universal nature, man cannot therefore have any external relationship, either of slavery or of struggle, because he carries this nature within himself and is nothing outside of it. But by studying its laws, by identifying in some way with them, transforming them by a psychological process, specific to his brain, into human ideas and convictions, he emancipates himself from the triple yoke imposed on him first by external nature, then by his own inner individual nature and the society of which he is the product.

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After all that has just been said, it seems obvious to me that no revolt against what I call causality or universal nature is possible: it envelops man, it

penetrates him, it is as much outside of him as within him, and it constitutes his whole being. In rebelling against it, he would be rebelling against himself. It is obvious that it is impossible for man to conceive even the inclination and the need for such a revolt, since, not existing outside of universal nature and carrying it within himself, being in full identity with it, finding himself at every moment of his life in full identity with it, he cannot consider himself or feel himself a slave in relation to it. On the contrary, it is by studying and appropriating, so to speak, through thought, the eternal laws of this nature, laws that manifest themselves equally in everything that constitutes his external world and in his own individual development, bodily, intellectual and moral, that he succeeds in successively shaking off the yoke of external nature, that of his own natural imperfections and, as we shall see later, that of an authoritatively constituted social organization.

But then how could this historical thought of the separation of spirit and matter arise in the mind of man? How could he have conceived the impotent, ridiculous, but also historic attempt at a revolt against nature? This thought and this attempt are contemporary with the historical creation of the idea of God; they were its necessary consequence. Man initially understood under this word *nature* only what we call external nature, including his own body; and what we call universal nature he called God; from then on the laws of nature became, not inherent laws, but manifestations of the divine will, commandments of God, imposed from above as much on nature as on nature. man. After which, the man taking the part of this God created by himself, against nature and against himself, declared himself in revolt against it and founded his own political and social slavery.

Such was the historical work of all religious dogmas and cults.

## 2. RELIGION

No great political and social transformation has taken place in the world, without it having been accompanied and often preceded by a similar movement in the religious and philosophical ideas which direct the consciousness of both individuals and society.

[All religions, with their Gods and their saints, having never been anything but the creation of the believing and credulous fantasy of man, not yet arrived at the full possession of his intellectual faculties, the religious heaven is nothing other than a mirage where man, exalted by ignorance and faith, finds his own image, but enlarged and reversed, that is to say divinized. The history of religions, that of the birth, the grandeur and the decadence of the Gods who succeeded one another in human



belief, is therefore nothing but the development of the intelligence and the collective conscience of men. As, in their historically progressive march, they discovered either within themselves or outside themselves some strength, capacity, quality, or even great defect, they attributed it to their gods, after having exaggerated them, enlarged them beyond all measure, as children usually do, by an act of religious fantasy. Thanks to this modesty or generosity of men, the sky was enriched with the spoils of the earth and, by a natural consequence, the richer the sky became, the more miserable humanity became. Once the divinity was installed, it was naturally proclaimed the mistress, the source, the absolute dispenser of all things: the real world was nothing more.

Unless we want slavery, we cannot, nor must we make the slightest concession to theology, nor even to metaphysics; for in this mystical and rigorously consistent alphabet, whoever begins with A must inevitably arrive at Z, and whoever wants to worship God must renounce his liberty and his human dignity:

God exists; – therefore man is a slave.

Man is intelligent, just, free; – therefore God does not exist. We challenge anyone to step out of this circle; and now let them choose.]<sup>9</sup>

Besides, does not history demonstrate to us that the priests of all religions, except those of persecuted cults, have always been the allies of tyranny. And even these latter, while fighting and cursing the powers that were opposed to them, did they not discipline their own believers, with a view to a new tyranny? Intellectual slavery, of whatever nature it may be, will always have as its corollary political and social slavery. Today Christianity in all its different forms, and with it this doctrinaire, deist or pantheist metaphysics, which is nothing other than a poorly disguised theology, together form the most formidable obstacle to the emancipation of society; and the proof is that all governments, all statesmen, all men who consider themselves, either officially or unofficially, as the pastors of the people, and the immense majority of whom are today undoubtedly neither Christian, nor even deist, but strong-minded, believing, like Bismarck, the late Count de Cavour, the late executioner Mouravieff and Napoleon III, the fallen Emperor, neither in God nor in the Devil, nevertheless protect with a visible interest all religions, provided that these religions teach, as all do, resignation, patience and submission.

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<sup>9</sup> I have included some significant portions of the manuscript that were crossed out by Bakunin, but seem to add to our understanding of the text. I will use a different font to highlight the nature of the inclusions. — TRANSLATOR.

This unanimous interest of the rulers of all countries in the maintenance of religious worship proves how necessary it is in the interest of the people that it be fought and overthrown.

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Is there any need to recall to what extent religions stupefy and corrupt people? They kill in them reason, this principal instrument of human emancipation, and reduce them to imbecility, the principal foundation of all slavery, by filling their minds with divine absurdities. They found human servitude on labor; they kill justice, always tipping the scales in favor of the fortunate and powerful rogues, privileged objects of divine solicitude, grace and blessing. They kill human pride and human dignity, protecting only the groveling and the humble; They stifle in the hearts of peoples all feeling of humanity and fraternal benevolence by replacing it with divine cruelty...

Every religion is founded on blood, for all, as we know, rest essentially on the idea of sacrifice, that is to say, on the perpetual immolation of humanity to the inextinguishable vengeance of the Divinity. In this bloody mystery, man is always the victim, and the priest, also a man, but a man privileged by grace, is the divine executioner. This explains to us why the priests of all religions, even the best, the most humane, the gentlest, almost always have in the depths of their hearts, and if not in their hearts, at least in their minds and in their imaginations – and we know the influence that both exert on the heart – something cruel and bloodthirsty; and why, when there was raised, a few years ago, everywhere, the question of the abolition of the death penalty, Roman Catholic priests, Muscovites and Greek Orthodox priests, priests of the most diverse Protestants sects – all unanimously or almost unanimously declared themselves in favor of its maintenance.<sup>10</sup>

Alongside the question, both positive and negative, of emancipation and the organization of labor on the basis of economic equality; alongside the exclusively negative question of the abolition of political power and the liquidation of the State, that of the destruction of religious ideas and cults is one of the most urgent. For as long as religious ideas are not radically eradicated from the imagination of the people, complete popular emancipation will remain impossible.

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For men whose intelligence has risen to the present height of science, the unity of the universe or of real Being is now an established fact. But it is impossible to deny that this fact, which for us is so obvious that we can hardly

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<sup>10</sup> Struck through in the manuscript. — TRANSLATOR

understand how it is possible to ignore it, is in flagrant contradiction with the universal consciousness of humanity which, abstracting from the difference in the forms under which it has manifested itself in history, has always unanimously declared itself in favor of the existence of two distinct worlds: *the spiritual world and the material world, the divine world and the real world*. From the crude fetishists who worship in the environment around them the action of a supernatural power, embodied in some material object, to the most subtle and transcendent metaphysicians, the immense majority of men, all peoples have believed and still believe today in the existence of some extra-worldly divinity.

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This imposing unanimity, according to the opinion of many illustrious men and writers, and to cite only the most renowned among them, according to the eloquently expressed opinion of Joseph de Maistre and of the greatest character of our time, the Italian patriot Giuseppe Mazzini, is worth more than all the demonstrations of science; and if the logic of a small number of consistent but isolated thinkers is contrary to it, so much the worse, they say, for this logic, because universal consent, the universal adoption of an idea has always been considered the most victorious proof of its truth; the feeling of everyone, a conviction that is maintained always and everywhere, cannot be mistaken. It must have its root in a necessity essentially inherent in the very nature of man. But if it is true that, in accordance with this necessity, man absolutely needs to believe in the existence of a God, surprised the secret, and given the natural weakness of the individual against the social environment which surrounds him, we always run the risk of falling back sooner or later, and in one way or another, into the abyss of religious absurdity. Examples of these shameful conversions are frequent in contemporary society.<sup>11</sup>

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It therefore seems to me urgent to completely resolve the following question:

*Since man forms with universal nature a single whole and is only the material product of an indefinite concurrence of material causes, how could the idea of this duality, the supposition of the existence of two opposite worlds, of which one is spiritual, the other material, one divine, the other natural, have been born, established and rooted so deeply in human consciousness?*

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<sup>11</sup> <sup>11</sup> Struck through in the manuscript. — TRANSLATOR

The incessant action and reaction of the Whole on each point and of each point on the Whole constitutes, I said, the generic, supreme law and the very reality of this unique Being that we call the Universe, which is always, at the same time, producer and product. Eternally active, all-powerful, source and eternal result of all that is, of all that is born, acts and reacts, and then dies within it, this universal solidarity, this mutual causality, this eternal process of real transformations, both universal and infinitely detailed and which occur in infinite space, NATURE has created among an infinite quantity of other worlds, our earth, with the whole scale of its beings, from the simplest chemical elements, from the first formations of matter with all its mechanical and physical properties, up to man. It always reproduces them, develops them, nourishes them, preserves them; then when their term arrives, and often even before it has arrived, it destroys them or rather transforms them into new beings. It is therefore the Omnipotence against which there is no possible independence or autonomy, the supreme being that embraces and penetrates with its irresistible action the whole existence of beings, and among living beings, there is not a single one who does not carry within itself, no doubt, more or less developed, the feeling or sensation of this supreme influence and *this absolute dependence*. — Well, *this sensation and this feeling constitute the very foundation of all religion*.

Religion, as we see, like all other human things, has its first source in animal life. It is impossible to say that any animal, except man, has a definite religion, because the crudest religion still presupposes a degree of reflection to which no animal, except man, has yet risen. But it is just as impossible to deny that in the existence of all animals, without exception, are found all the elements, so to speak, material or instinctive, constitutive of religion, minus doubtless its properly ideal side, the very one that must destroy it sooner or later, thought. Indeed, what is the real essence of all religion? It is precisely this feeling of absolute dependence of the transient individual on eternal and omnipotent nature.

It is difficult for us to observe this feeling and to analyze all its manifestations in the of lower animal species; yet we can say that the instinct of self-preservation, which is found even in the relatively poorest organizations, undoubtedly to a lesser degree than in the higher organizations, is nothing but a customary wisdom which is formed in each animal, under the influence of this feeling which is none other the first foundation of religious feeling. In animals endowed with a more complete organization, which are closer to man, it manifests itself, in a way much more perceptible to us, in the instinctive fear and panic, for example, which seizes them at the approach of some great natural catastrophe, such as an earthquake, a forest fire or a strong storm, or at the

approach of some ferocious carnivorous animal, a Prussian of the forests. And in general, we can say that fear is one of the predominant feelings in animal life. All animals living in freedom are wild, which proves that they live in an incessant instinctive fear, that they always have the sense of danger, that is to say, of an all-powerful influence that pursues them, penetrates them and envelops them always and everywhere. This fear, the fear of God, theologians would say, is the beginning of wisdom, that is to say, of religion. But in animals it does not become a religion, because they lack that power of reflection which fixes the feeling and determines its object and which transforms this feeling into an abstract notion capable of being translated into words. It has therefore been right to say that man is religious by nature, he is like all other animals; but he alone on this earth is conscious of his religion.

Religion, it has been said, is the first awakening<sup>12</sup> of reason. Yes, but in the form of unreason. Religion, I said earlier, begins with fear. And indeed, man, awakening at the first glimmers of that inner sun which is called self-consciousness, and emerging slowly, step by step, from the magnetic half-sleep, from that existence entirely of instinct which he led when he was still in the state of pure innocence, that is to say, in the state of an animal; being born, moreover, like every animal, in fear of this external world which produces and destroys him, — man must necessarily have had this very fear as the first object of his nascent reflection. We can even presume that in primitive man, upon the awakening of his intelligence, this instinctive terror must have been stronger than in other animals; firstly because he is born much less armed than others and his childhood lasts longer; and secondly, because this same reflection, barely hatched, and not yet having reached a sufficient degree of maturity and strength to recognize and use external objects, must have nevertheless torn man away from the union, from the instinctive harmony in which, as a cousin of the gorilla, before his thought had awakened, he must have found himself with all the rest of nature. The first reflection isolated him in some way in the middle of this external world, which, becoming foreign to him, must have appeared to him, through the prism of his childish imagination, excited and magnified by the very effect of this beginning reflection, as a dark and mysterious power, infinitely more hostile and more threatening than it is in reality.

It is exceedingly difficult, if not impossible, for us to give an exact account of the first religious sensations and imaginations of savage man. In their details they must have been doubtless as diverse as were the natures of the primitive peoples who experienced and conceived them, as well as the climates, the

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<sup>12</sup> [Here and on the following pages, Bakunin writes “réveil” and “se réveiller” instead of “éveil” and “s’éveiller”.]

nature of the places and the other determining circumstances in the midst of which they developed. But as, after all, they were human sensations and imaginations, they must, in spite of this great diversity of details, have been summed up in a few simple identical points of a general character, which it is not too difficult to establish. Whatever the origin of the different human groups, whatever the cause of the anatomical differences which exist between the human races, whether men had as ancestors only one Adam-gorilla or cousin of the gorilla, or, as is more probable, whether they are descended from several ancestors that nature would have formed, independently of each other, on different points of the globe and at different times, the fact remains that the faculty that constitutes and properly creates humanity in men, reflection, the power of abstraction, reason, in a word the faculty of combining ideas, remains, like the laws that determine their different manifestations, always and everywhere the same, so that no human development could take place contrary to these laws. This gives us the right to think that the principal phases, observed in the first religious development of a single people, must have been reproduced in that of all the other primitive populations of the earth.

Judging from the unanimous reports of travelers who, since the last century, have visited the islands of Oceania, as well as of those who in our own day have penetrated into the interior of Africa, *Fetishism* must be the first religion, that of all savage peoples who have strayed the least from the state of nature. But Fetichism is nothing other than *the religion of fear*. It is the first human expression of that sensation of absolute dependence, mixed with instinctive terror, which we find at the bottom of all animal life and which, as I have already observed, constitutes the religious relationship of belonging even to the most inferior species with the omnipotence of nature. Who does not know the influence exerted and the impression produced on all living beings by the great phenomena of nature, such as the rising and setting of the sun, moonlight, the return of the seasons, the succession of cold and heat, or even natural catastrophes, as well as the very varied and mutually destructive relationships of animal species with each other and with the different plant species? All this constitutes, for each animal, a set of conditions of existence, a character, a nature, and I would almost be tempted to say a particular cult; for among animals, in all living beings, you will find a sort of adoration of nature, mixed with fear and joy, hope and anxiety, — the joy of living and the fear of ceasing to live — and which, as a feeling, closely resembles human religion. Invocation and even prayer are not lacking in it. Consider the tame dog, begging for a caress, a look from its master; is this not the image of man kneeling before his God? Does not this dog, through his imagination and through a beginning of reflection, which experience has developed in him, convey the natural omnipotence which

obsesses him onto his master, just as the believing man conveys it onto his God? What then is the difference between the religious feeling of the dog and that of man? It is not even reflection, it is the degree of reflection, or rather, it is the capacity to fix it and to conceive it as an abstract thought, *to generalize it by naming it*; human speech having this particularity, that incapable of naming real things, those which act immediately on our senses, it expresses only the notion or the abstract generality; and as speech and thought are the two distinct but inseparable forms of one and the same act of human reflection, the latter, by fixing the object of animal terror and adoration or of the first cult of man, generalizes it, transforms it so to speak into an abstract being, by seeking to designate it by a name. The object truly adored by *this* or *that* individual always remains *this one*: *this* stone, *this* piece of wood, *this* rag, not another; but from the moment it has been by speech, it becomes, an abstract, general thing: *a* stone, *a* piece of wood, *a* rag. It is thus that, with the first awakening of thought, manifested by speech, the exclusively human world, the world of abstractions begins.

This faculty of abstraction, the source of all our knowledge and all our ideas, is undoubtedly the sole cause of all human emancipation. But the first awakening of this faculty in man does not immediately produce his freedom.

When it begins to form itself, slowly freeing itself from the swaddling clothes of animal instinct, it manifests itself at first, not in the form of a reasoned reflection conscious and knowledgeable of its own activity, but in that of an *imaginative reflection*, unconscious of what it does, and because of this very fact taking its OWN PRODUCTS for real beings, to which it naively attributes an independent existence, prior to all human knowledge, and attributing to itself no other merit than that of having discovered them outside of itself. By this process, man's imaginative reflection peoples his external world with phantoms that seem to him more dangerous, more powerful, more terrible than the real beings that surround him; it delivers man from the natural slavery that obsesses him only to throw him back immediately under the weight of a slavery, a thousand times harder and more frightening again, — under that of religion.

It is the imaginative reflection of man that transforms the natural cult, the elements and traces of which we have found in all animals, into a human cult, in the elementary form of Fetishism. We have seen animals instinctively worshipping the great phenomena of nature which really exert an immediate and powerful action on their existence; but we have never heard of animals worshipping an inoffensive piece of wood, a cloth, a bone or a stone, while we find this cult in the primitive religion of savages and even in Catholicism. How can we explain this anomaly, which is, in appearance at least, so strange and

which, in terms of common sense and the feeling of the reality of things, presents man to us as much inferior to the most modest animals?

This absurdity is the product of the imaginative reflection of savage man. He not only feels, like other animals, the omnipotence of nature, he makes it the object of his constant reflection, he fixes it, he seeks to localize it and, at the same time, he generalizes it, by giving it some name; he makes it the center around which all his childish imaginations are grouped. Still incapable of embracing the universe with his poor thought, even the terrestrial globe, even the very restricted environment in which he was born and lives, he searches everywhere, asking himself where this omnipotent power resides, the feeling of which, henceforth reflected and fixed, obsesses him? and, by a game, by an aberration of his ignorant fantasy that it would be difficult for us to explain today, he attaches it to this piece of wood, to this rag, to this stone... This is pure fetishism, the most religious, that is to say the most absurd of religions.

After and often with fetishism, comes the *cult of sorcerers*. It is a cult, if not much more rational, at least more natural, which will surprise us less than fetishism. We are more accustomed to it, still being today, within this very civilization of which we are so proud, surrounded by sorcerers: the spiritists, the mediums, the clairvoyants with their magnetizers, the priests of the Catholic Church, Greek and Roman, who claim to have the power to force the Good Lord, with the help of some mysterious formulas, to descend onto the water, or even to transform themselves into bread and wine, all these *forcers* of the Divinity subjected to their enchantments, are they not so many sorcerers. It is true that the Divinity worshipped and invoked by our modern sorcerers, enriched by several thousand years of human extravagance, is much more complicated than the God of primitive witchcraft, the latter having at first as its object only the representation, already fixed, although still undetermined, absolutely undetermined, no doubt already fixed, but still very little determined, of omnipotence, without any other attribute, material, without any other attribute, intellectual, or moral. The distinction between good and evil, between just and unjust, is still unknown. We do not know what it loves, what it hates, what it wants, what it does not want; it is neither good nor bad, it is nothing but Omnipotence. Yet the divine character is already beginning to take shape: it is egotistical and vain; it loves compliments, genuflections, the humiliation and immolation of men, their adoration and their sacrifices, and persecutes and punishes cruelly those who do not want to submit: the rebels, the proud, the impious. This is, as we know, the principal basis of the divine nature in all the ancient and present Gods, created by human unreason. Was there ever in the world a being more atrociously jealous, vain, selfish, vindictive, bloodthirsty,



than the Jehovah of the Jews, who later became the God-the-Father of the Christians?

In the cult of primitive witchcraft, the God or this indeterminate Omnipotence, in intellectual and moral terms, appears at first as inseparable from the person of the sorcerer: He himself is God, like the Fetish. But in the long run, the role of supernatural man, of God-man, for a real man, especially for a savage who, having no means of sheltering himself against the indiscreet curiosity of his believers, remains from morning until night subject to their investigations, becomes impossible. The common sense, the practical spirit of a savage tribe, which develops slowly, it is true, but always more, through the experience of life, and despite all religious digressions, ends up demonstrating to him the impossibility that a man, susceptible to all human weaknesses and infirmities, is a God. The sorcerer therefore remains for his savage believers a supernatural being, but only at times, when he is possessed.<sup>13</sup> But possessed by whom? By Omnipotence, by God. So the Divinity is ordinarily found outside the sorcerer. Where to look for it? The Fetish, the God-thing, is surpassed; the sorcerer, the God-man, is as well. All these transformations, in primitive times, undoubtedly occupied centuries. The savage man, already advanced, somewhat developed and rich in the the tradition of several centuries, then seeks the Divinity far from himself, but still still in actually existing beings: in the forest, on a mountain, in a river, and later still in the sun, in the moon, in the sky... Religious thought already begins to embrace the universe.

Man has only been able to reach this point, I have said, after a long series of centuries. His abstract faculty, his reason, has already been strengthened and developed by the practical knowledge of things and by the observation of their relationships or their mutual causality, while the regular recurrence of the same phenomena has given him the first notion of some natural laws. He begins to worry about the totality of facts and their causes. At the same time, he also begins to know himself and, thanks always to this power of abstraction which allows him to consider himself as an object, he separates his external and living being from his thinking being, his exterior from his interior, his body from his soul; and, as he has not the slightest idea of the natural sciences and as he is ignorant even of the name of these sciences, moreover all modern, which are called physiology and anthropology, he is completely dazzled by this discovery of his own spirit in himself, and imagines naturally, necessarily, that his soul, this product of his body, is on the contrary its principle and cause. But once he

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<sup>13</sup> Like the Catholic priest, who is truly sacred only when he fulfills his cabalistic mysteries; like the Pope, who is infallible only when, inspired by the Holy Spirit, he defines the dogmas of the faith.

has made this distinction of the Interior and the Exterior, of the spiritual and the Material in himself, he transports it just as necessarily into his God: he begins to seek the invisible soul of this apparent universe... This is how the religious pantheism of the Indians must have been born.

We must dwell on this point, for it is here that religion properly begins in the full meaning of the word, and with it theology and metaphysics as well. Until then, the religious imagination of man, obsessed by the fixed representation of an indeterminate and unfindable Omnipotence, had proceeded naturally, seeking it, by way of experimental investigation, first in the closest objects, in fetishes, then in sorcerers, later still in the great phenomena of nature, finally in the stars, but by always attaching it to some real and visible object, however distant it may be. Now there rises the idea of a *God-Universe*, an abstraction. Until now, all its Gods have been particular and restricted Beings, among many other non-divine, non-omnipotent, but no less truly existing beings. Now it posits for the first time a *universal Divinity: the Being of Beings*, the creative substance of all restricted and particular beings, the universal soul, *the Great All*. Here then is the true God who begins, and with him the true Religion.

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We must now examine the process by which man has arrived at this result, in order to recognize, by its historical origin, the true nature of the Divinity. And first, the first question that presents itself to us is this: *Is the Great All* of the Pantheistic religion not absolutely the same unique Being that we have called *universal nature*?

Yes and no. — Yes, because both systems, that of pantheistic religion, and the scientific or positivist system embrace the same Universe. No, because they embrace it in a completely different way.

What is the scientific method? It is the realistic method par excellence. It goes from details to the whole and from observation, from the study of facts, to their understanding, to ideas; its ideas being nothing but the faithful exposition of the relations of coordination, of succession and of mutual action or of mutual causality, which really exist between real things and phenomena; its logic, nothing but the logic of things. As in the historical development of the human mind, positive science always comes after theology and after metaphysics, man arrives at science already prepared and considerably corrupted by a kind of abstract education. He therefore brings to it many abstract ideas, elaborated as much by theology as by metaphysics, which for the former have been objects of blind faith, for the latter objects of transcendent speculations and more or less ingenious word games, of explanations and demonstrations which do not

explain and do not demonstrate absolutely anything, because they are done outside of any real experimentation, and because metaphysics has no other guarantee for the very existence of the objects on which it reasons than the assurances or the imperative mandate of theology.

Man, formerly a theologian and formerly a metaphysician, but tired of both theology and metaphysics, because of the sterility of their results in theory and also because of their so disastrous consequences in practice, naturally brings all these ideas into science; but he brings them, not as certain principles which must, as such, serve as a starting point; he brings them as questions which science must resolve. He arrived at science only because he himself began to question them. And he doubts them, because a long experience of theology and metaphysics, which created these ideas, has shown him that neither one nor the other offer any serious guarantee for the reality of their creations. What he doubts and what he rejects above all are not creations, these ideas, as the methods, ways and means, by which theology and metaphysics have created them. He rejects the system of revelations and the “*belief in the absurd because that is the absurd*”<sup>14</sup> of the theologians, and he no longer wants to allow anything to be imposed on him by the despotism of the priests and by the fires of the Inquisition. He rejects metaphysics, precisely and above all, because having accepted without any criticism or with an illusory criticism, too complacent and facile, the creations, the fundamental ideas of theology: those of the Universe, of God, and of the soul or of a spirit separated from matter, it has built these systems on these data, and taking the absurd as its starting point, it has necessarily and always ended in the absurd. Therefore what man, on leaving theology and metaphysics seeks above all is a truly scientific method, a method which gives him above all a complete certainty of the reality of the things regarding which he reasons.

But for man, there is no other way to ensure the certain reality of a thing, a phenomenon or a fact, than to have actually encountered them, observed them, recognized them in their own integrity, without any mixture of fantasies, suppositions and additions of his own mind, the human mind. Experience therefore becomes the basis of science. This is not a question of the experience of a single man. No man, however intelligent, however curious, however fortunately gifted and rewarded he may be, in all respects, can have seen everything, encountered everything, experienced everything in his own person. If the science of each were to be limited to his own personal experiences, there would be as many sciences as there are men and each science would die with each man. There would be no science.

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<sup>14</sup> *Credo quiam absurdum est.* — St. Tertullian.

Science is therefore based on the collective experience not only of all contemporary men, but also that of all past generations. But it does not admit any testimony without criticism. Before accepting the testimony of either a contemporary or of a man who is no longer, provided that I am careful not to be deceived, I must first inquire into the character and nature as well as the state of mind of this man, *his method*. I must assure myself above all that this man is or was an honest man, hating lies, seeking the truth with good faith, with zeal; that he was neither a fantasist, nor a poet, nor a metaphysician, nor a theologian, nor a jurist, nor what is called a politician and as such interested in political lies, and that he was considered as such by the great majority of his contemporaries. There are men, for example, who are very intelligent, very enlightened, free from all prejudice and all fanciful preoccupations, who have, in a word, a realistic mind, but who, too lazy to take the trouble to ascertain the existence and the real nature of the facts, suppose them, invent them. This is how statistics are done in Russia. The testimony of these men is naturally worthless. There are others, also very intelligent and moreover too honest to lie and to assert things of which they are not sure, but whose minds are under the yoke of metaphysics, or religion, or some idealistic preoccupation. The testimony of these men, at least insofar as it concerns subjects which closely touch on their monomania, must also be rejected, because they have the misfortune to always mistake shadows for lanterns. But if a man has a great realistic intelligence, developed and duly prepared by science, if he is at the same time a scrupulous and zealous researcher into the reality of things, his testimony becomes precious.

And yet I must never accept it without criticism. What does this criticism consist of? In the comparison of the things he affirms to me with the results of my own personal experience. If his testimony harmonizes with it, I have no reason to reject it and I accept it as a new confirmation of what I myself have recognized; but if it is contrary to it, must I reject it without inquiring which of us is right, him or me? Not at all. I know from experience that my experience of things can be faulty. I therefore compare his results with mine and I submit them to observation and new experiments. If necessary, I appeal to the arbitration and experiments of a third and many other observers, whose serious scientific character inspires me with confidence, and I arrive, not without great difficulty sometimes, by modifying either my results or his, at a common conviction. But what does the experience of each consist of? In the testimony of his senses, directed by his intelligence. I do not accept, for my part, anything that I have not materially encountered, seen, heard and, if necessary, felt with my fingers. This is for me personally the only way to assure myself of the reality of a thing. And I only have confidence in the testimony of those who proceed in absolutely the same way.

From all this it follows that science, first of all, is based on the coordination of a mass of contemporary and past personal experiences, constantly subjected to severe mutual criticism. One cannot imagine a more democratic basis than this. It is the constitutive and primary basis, and all human knowledge that is not ultimately based on it must be excluded as devoid of all certainty and all scientific value. Science, however, cannot stop at this basis, which initially gives it nothing but an innumerable quantity of facts of the most different natures and duly established by innumerable quantities of observations or personal experiences. Proper science begins only with the understanding of things, phenomena, and facts. To understand a thing, *the reality of which has first been duly established*, what theologians and metaphysicians always forget to do, is to discover, recognize and establish, in the same empirical manner that was used to first assure oneself of its real existence, all its properties, that is to say all its relations, both immediate and indirect, with all other existing things, which amounts to determining the different modes of its real action on everything that remains outside it. To understand a phenomenon or a fact is to discover and establish the successive phases of its real development, it is to recognize *its natural law*.

These findings of properties and these discoveries of new laws also have as their sole source, first, the observations and experiments actually made by such and such other person, or even by many people at the same time. But however considerable their number may be and even if they were all renowned scientists, science only accepts their testimony on this essential condition, that at the same time as they announce the results of their investigations, they also give an excessively detailed and exact account of the method they used, as well as the observations and experiments they made to arrive at them; to ensure that all men who are interested in science can renew for their own account, by following the same method, these same observations and these same experiments; it is only when the new results have been thus checked and obtained by many new observers and experimenters, that they are generally considered as definitively acquired by science. And yet it often happens that new observations and experiments, made according to a different method and from a different point of view, overturn or profoundly modify these first results. Nothing is as antipathetic to science as faith, and criticism has never had its last word on it. It alone, representing the great principle of revolt in science, is the severe and incorruptible guardian of truth.

Thus, through the work of centuries, a system of universally recognized truths or natural laws is gradually established in science. This system, once established and always accompanied by the most detailed exposition of the methods, observations, and experiments by which it was established, as well as

by the history of the investigations and developments by which it was established, so that it can always be subjected to new control and new criticism, now becomes the second basis of science. It serves as a starting point for new investigations, which necessarily develop it and enrich it with new methods.

The world, despite the infinite diversity of the beings that compose it, is one. The human mind that, having taken it as its object, strives to recognize and understand it, is one or identical also, despite the innumerable quantity of diverse human beings, present and past, by whom it is represented. This identity is proven by this incontestable fact, that provided that a man thinks, whatever his environment, his nature, his race, his social position and the degree of his intellectual and moral development, and even when he rambles and is unreasonable, his thought always develops according to the same laws; and this is precisely what, in the immense diversity of ages, climates, races, nations, social positions and individual natures, constitutes the great unity of the human race. Therefore science, which is nothing other than knowledge and the understanding of the world by the human mind, must also be one.

It is incontestably one. But immense as the world, it surpasses the intellectual faculties of a single man, even the most intelligent of all. No one is capable of embracing it both in its universality and in its equally, though differently, infinite details. Anyone who would want to stick to generality alone, neglecting details, would thereby fall back into metaphysics and theology, for *scientific generality is distinguished precisely from metaphysical and theological generalities by this, that it is not established, like the latter two, by the abstraction that one makes of all details, but on the contrary and solely by the coordination of details.* The great scientific Unity is concrete: it is unity in infinite diversity; the theological and metaphysical Unity is abstract: it is unity in the void. To embrace scientific unity in all its infinite reality, it would be necessary to be able to know in detail all the beings whose direct and indirect mutual relationships constitute the Universe, which obviously exceeds the faculties of a man, of a generation, of all humanity.

In seeking to embrace the universality of science, man stops, crushed by the infinitely large. But in throwing himself back on the details of science, he encounters another limit, the infinitely small. Moreover, he can only truly recognize that whose real existence is witnessed to him by his senses, and his senses can only reach an infinitely small part of the infinite Universe: the terrestrial globe, the solar system, at most that part of the firmament which can be seen from the earth. All this constitutes in the infinity of space only an imperceptible point.

The theologian and the metaphysician would immediately take advantage of this forced and necessarily eternal ignorance of man to recommend their digressions or their dreams. But science disdains this trivial consolation, it detests these illusions as ridiculous as they are dangerous. When it sees itself forced to stop its investigations, for lack of means to continue them, it prefers to say: I do not know, rather than to present as truths hypotheses whose verification is impossible. Science has done more than that: it has succeeded in demonstrating, with a certainty that leaves nothing to be desired, the absurdity and nullity of all theological and metaphysical conceptions; but it has not destroyed them to replace them with new absurdities. Having reached its end, it will honestly say: I do not know, but it will never deduce anything from what it does not know.

Universal science is therefore an ideal that man will never be able to realize. He will always be forced to be content with the science of his world, extending it at most to the stars he can see, and even then he will only ever know very little about it. Real science embraces only the solar system; above all our globe and everything that occurs and happens on this globe. But within these very limits, science is still too immense to be embraced by a single man, or even by a single generation, especially since, as I have already observed, the details of this world are lost in the infinitely small and its diversity has no commensurate limits.

This impossibility of embracing at one stroke the immense whole and the infinite details of the visible world has given rise to the division of the one and indivisible science or of general science into many particular sciences; a separation all the more natural and necessary, as it corresponds to the diverse orders which really exist in this world, as to the different points of view from which the human mind is, so to speak, forced to consider them: Mathematics, Mechanics, Astronomy, Physics, Chemistry, Geology, Biology and Sociology, including the history of the development of the human species, such are the principal divisions which have established themselves, so to speak, in science. Each of these particular sciences, through its historical development, has formed and brings with it a method of investigation and observation of things and facts, of deductions and conclusions which are, if not always exclusively, at least particularly proper to it. But all these different methods have one and the same primary basis, ultimately reducing to a personal and real observation of things and facts by the senses, and all within the limits of human faculties, have the same goal: the construction of universal science, the understanding of the unity, of the real universality of the worlds, the scientific reconstruction of the great Whole, of the Universe.

Is not this goal, which I have just stated, in flagrant contradiction with the obvious impossibility of ever being able to realize it? Yes, without doubt, and yet man cannot renounce it and he will never renounce it. Auguste Comte and his disciples may preach moderation and resignation to us in vain, man will never moderate himself or resign himself. This contradiction is in the nature of man and above all it is in the nature of our mind: armed with its formidable power of abstraction, it does not recognize and will never recognize any limits to its imperious, passionate curiosity, eager to know everything and to embrace everything. It is enough to tell him: you will not go beyond, so that with all the power of this curiosity irritated by the obstacle he tends to rush beyond. In this respect the Good Lord of the Bible showed himself to be much more clear-sighted than M. Auguste Comte and the positivists, his disciples; having doubtless wanted man to eat the forbidden fruit, he forbade him to eat it. This immoderation, this disobedience, this revolt of the human spirit against any limit imposed either in the name of the good Lord, or in the name of science, constitute its honor, the secret of its power and its liberty. It is by seeking the impossible that man has always realized and recognized the possible, and those who have wisely limited themselves to what seemed to them possible have never advanced a single step. Moreover, in the presence of the immense career traveled by the human spirit during the past three thousand years, known by history, who will dare to say what in three, five, ten thousand other years will be possible and impossible?

This tendency towards the eternally unknown is so irresistible in man, it is so fundamentally inherent in our mind that if you close the scientific path to him, a new mystical path will open up to satisfy it. And is it necessary to give any other proof than the example of the illustrious founder of Positive Philosophy, Auguste Comte himself, who ended his great philosophical career, as we know, by developing a very mystical system of socialist politics. I know very well that his disciples attribute this last creation of this eminent mind, who can be considered, after or rather with Hegel, as the greatest philosopher of our century, to a regrettable aberration caused by great misfortunes and especially by the silent and implacable persecution of licensed scientists and academics, the natural enemies of any new initiative and any great scientific discovery.<sup>15</sup> But leaving aside these accidental causes, from which, alas! the greatest

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<sup>15</sup> It seems that the scientists wanted to demonstrate to him *a posteriori*, how little the representatives of science are capable of governing the world, and that science alone, not the scientists, its priests, are called to govern it.



geniuses are not immune, one can prove that the system of Positive Philosophy of Auguste Comte opens the door to mysticism.

The Positive Philosophy has never yet frankly posed itself as atheistic. I know very well that atheism is in its entire system; that this system, that of real science, resting essentially on the immanence of natural laws, excludes the possibility of the existence of God, just as the existence of God would exclude the possibility of this science. But none of the recognized representatives of Positive Philosophy, beginning with its founder, Auguste Comte, has ever wanted to say it openly. Do they know it themselves, or are they still uncertain on this point? It seems to me very difficult to admit their ignorance on a point of such decisive importance for the entire position of science in the world; all the more so since in every line they write one feels the negation of God, atheism, transpire. I think, therefore, that it would be more accurate to accuse them of good faith, or to speak more politely, to attribute their silence to their instincts which are both political and conservative. On the one hand, they do not want to fall out with governments or with the hypocritical idealism of the ruling classes, which, with good reason, consider atheism and materialism as powerful instruments of revolutionary destruction, very dangerous for the current order of things. It is perhaps also only thanks to this prudent silence and this equivocal position taken by Positive Philosophy that it was able to introduce itself into England, a country where religious hypocrisy continues to be a social power, and where atheism is still considered today as a crime against society. It is known that in this country of political freedom, social despotism is immense. In the first half of this century, was not the great poet Shelley, Byron's friend, forced to emigrate and deprived of his child, only for this crime of atheism. Is it any wonder, then, that such eminent men as Buckle, Mr. Stuart Mill, and Mr. Herbert Spencer gladly took advantage of the opportunity afforded them by Positive Philosophy to reconcile the freedom of their scientific investigations with the religious *cant*, despotically imposed by English opinion on everyone who wishes to be part of society?

The French positivists, it is true, bear with much less resignation and patience this yoke that they have imposed on themselves, and they are not at all flattered to see themselves thus compromised by their fellow English positivists. Thus they do not fail to protest from time to time, and in a rather energetic manner, against the alliance that the latter propose they conclude, in the name of positive science, with *innocent* religious aspirations, not dogmatic, but indeterminate and very vague, as are ordinarily today all the theoretical aspirations of the privileged classes, tired and worn out by the too long enjoyment of their privileges. The French positivists protest energetically against any compromise with the theological spirit, which they reject as a

dishonor. But if they consider as an insult the suspicion that they might compromise with it, why do they continue to provoke it by their reticence. It would be so easy for them to put an end to all ambiguities by openly proclaiming themselves to be what they really are: materialists, atheists. Until now, they have disdained to do so, and as if they were afraid of outlining their true position too precisely and clearly, they have always preferred to explain their thoughts by circumlocutions, perhaps much more scientific, but also much less clear than these simple words. Well, it is this very clarity that frightens them and which they do not want at any price. And this for a double reason:

Certainly no one will suspect either the moral courage or the individual good faith of the eminent minds who represent positivism in France today. But positivism is not only a freely professed theory; it is at the same time a sect that is both political and priestly. If one reads carefully the *Cours de Philosophie Positive* by Auguste Comte, and especially the end of the third and last volumes and the last two and three, which M. Littré, in his preface, particularly recommends to workers,<sup>16</sup> we will find that the political concern of the illustrious founder of philosophical Positivism was the creation of a new priesthood, not religious this time, but scientific, called henceforth, according to him, to govern the world. The immense majority of men, claims Auguste Comte, is incapable of governing itself. “Almost all of them,” he says, “are unfit for intellectual work,” not because they are ignorant and their daily worries have prevented them from acquiring the habit of thinking, but because nature has created them thus; in the majority of individuals, the posterior region of the brain, corresponding, according to the Gall system, to the most universal, but also the crudest instincts of animal life, being much more developed than the frontal region which contains the properly intellectual organs. From which it follows, firstly, that the “*vile multitude*” is not called upon to enjoy liberty, this liberty necessarily always leading to a deplorable spiritual anarchy and and that, secondly, it always feels, very fortunately for society, the instinctive need to be commanded. Very fortunately also, there are always some men who have received from nature the mission to it command and to subject it to a salutary discipline, both spiritual and temporal. Formerly, before the necessary but deplorable revolution which has tormented human society for three centuries, office of high command had belonged to the clerical priesthood, to the Church of priests, for which Auguste Comte professes an admiration whose frankness at least seems to me excessively honorable. Tomorrow, after this same revolution, it will be up to the scientific priesthood, to the academy of scholars, who will

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<sup>16</sup> “Préface d'un disciple,” p. XLIX. *Cours de Philosophie Positive d'Auguste Comte* — 2nd edition.

establish a new discipline, a very strong power, for the greater good of humanity.

This is the political and social credo that Auguste Comte bequeathed to his disciples. There follows for them the necessity of preparing themselves to worthily fulfill such a high mission. As men who know they are called to govern sooner or later, they have the instinct of self-preservation, and respect for all established governments, which is all the easier for them, since, fatalists in their own way, they consider all governments, even the worst, as transitions that are not only necessary, but also *salutary*, in the historical development of humanity.<sup>17</sup> The Positivists, as we see, are decent men, not window-breakers. They hate revolutions and revolutionaries. They do not want to destroy anything, and certain that their time will come, they wait patiently for the things and men who are contrary to them to destroy themselves. In the meantime, they are carrying out persistent propaganda in *mezza voce*, attracting to them the more or less doctrinaire and anti-revolutionary natures that they encounter in the studious youth of the “Ecole Polytechnique” and the “Ecole de Médecine”, not disdaining either to descend sometimes as far as the “industrial workshops” to sow there hatred of “vague, metaphysical and revolutionary opinions” and faith, naturally more or less blind, in the political and social system advocated by Positive Philosophy. But they will be careful not to raise against them the conservative instincts of the governing classes and at the same time to awaken the subversive passions of the masses by a too frank propaganda of their atheism and their materialism. They say it well in all their writings, but in such a way that it can only be heard by the small number of their chosen ones.

Being myself neither a positivist nor a candidate for any government, but a frank socialist revolutionary, I have no need to stop before such considerations. I will therefore break the windows and try to dot the i's and cross the t's.

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The Positivists have never directly denied the possibility of the existence of God; they have never said with the materialists, whose dangerous and revolutionary solidarity they reject: *there is no God, and his existence is absolutely*

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<sup>17</sup> I also consider everything that has been done and everything that is being done in the real world, both natural and social, as a necessary product of natural causes. But I am far from thinking that everything that is necessary or fatal is good. A gust of wind has just uprooted a tree. It was necessary, but by no means good. Bismarck's policy seems likely to triumph for some time in Germany and Europe. This triumph is necessary, because it is the fatal product of many real causes, but it is in no way salutary either for Europe or for Germany.

*impossible because it is incompatible, from the moral point of view, with the immanence, or to speak even more clearly, with the very existence of justice, and from the material point of view, with the immanence or the existence of natural laws or of any order in the world, incompatible with the very existence of the world.*

This truth, so obvious, so simple, and which I believe I have sufficiently developed in the course of this writing, constitutes the starting point of scientific materialism. It is at first only a negative. It does not yet affirm anything; it is only the necessary, negation of that definitive and powerful fatal historical phantom that the imagination of the first men created, and which for four or five thousand years has weighed on science, on freedom, on humanity, on life. Armed with this irresistible and irrefutable negation, the materialists are assured against the return of all divine phantoms, old and new, and no English philosopher will come to propose to them an alliance with any *religious incognizable*.<sup>18</sup>

Are the French Positivists convinced of this negative truth, yes or no? No doubt they are, and just as energetically as the materialists themselves. If they were not, they would have had to renounce the very possibility of science, for they know better than anyone that between the natural and the supernatural there is no possible transaction and that this immanence of forces and laws on which they base their entire system, contains directly within itself the negation of God. Why then in none of their writings do we find the frank and simple expression of this truth, so that everyone can know what to expect from them? Ah! It is because they are political and prudent conservatives, philosophers who are preparing to take the government of the vile and ignorant multitude into their own hands. Here then is how they express this same truth:

God is not found in the domain of science; God being, according to the definition of theologians and metaphysicians, the absolute, and science having as its object only that which is relative, it has nothing to do with God, who can only be for it an *unverifiable hypothesis*. Laplace said the same thing with greater frankness of expression: To conceive my system of worlds, "I had no need of this hypothesis." They do not add that the admission of this hypothesis would necessarily entail the negation, the cancellation of science and the world. No, they are content to say that science is powerless to verify it, and that, consequently, they cannot accept it as a *scientific* truth.

Note that theologians, not metaphysicians, but true theologians, say absolutely the same thing: God being the infinite, all-powerful, absolute, eternal Being, the human spirit, the science of man is incapable of raising itself up to

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<sup>18</sup> Expression of Mr Herbert Spencer.

him. From this results the necessity of a special revelation determined by divine grace; and this revealed truth, which, as such, is impenetrable to the analysis of the profane mind, becomes the basis of theological science.

A hypothesis is only a hypothesis precisely because it has not yet been verified. But science distinguishes two kinds of hypotheses: those whose verification seems possible, probable, and those whose verification is forever impossible. The divine hypothesis, with all its different modifications: God the creator, God the soul of the world or what is called divine immanence, first and final causes, the innermost essence of things, the immortal soul, spontaneous will, etc., etc. All of this necessarily falls into the latter category. All of this, having an absolute character, is absolutely unverifiable from the point of view of science, which can only recognize the reality of things whose existence is manifested to us by our senses, consequently of determined and finite things, and which, without claiming to delve into the innermost essence, must limit itself to studying their external relations and laws.

But is everything that is unverifiable from a scientific point of view necessarily null from the point of view of reality? Not at all, and here is proof: The universe is not limited to our solar system, which is only an imperceptible point in infinite space and which we know, which we see, surrounded by millions of other solar systems. But our firmament itself with all its millions of systems, is in turn nothing but an imperceptible point in the infinity of space, and it is very *probable* that it is surrounded by billions and billions of billions of other solar systems. In a word, the nature of our mind *forces us* to imagine space *infinite* and filled with an *infinity* of unknown worlds. This is a *hypothesis* which presents itself imperiously to the human mind *today*, and which will nevertheless remain *eternally unverifiable* for us. Now we imagine, we are equally *forced* to think, that all this infinite immensity of eternally unknown worlds is governed by the same natural laws, and that 2 times 2 makes 4 as they do with us, when theology does not interfere. Here is another hypothesis that science will never be able to verify. Finally, the simplest law of analogy obliges us, so to speak, to think that many of these worlds, if not all, are populated by organic and intelligent beings, — living and thinking in conformity with the same real logic that manifests itself in our life and in our thought. Here is a *third hypothesis*, less pressing no doubt than the first two, but which, with the exception of those whom theology has filled with egotism and earthly vanity, necessarily presents itself to the mind of everyone. It is as unverifiable as the other two. Will the positivists say that all these hypotheses are null and that their objects are deprived of all reality?

To this, M. Littré, the current eminent and universally recognized leader of positivism in France, responds with words so eloquent and beautiful that I cannot resist the pleasure of quoting them:

“I too have tried to outline under the name of *immensity* the philosophical character of what Mr. Spencer calls the incognizable; that which is beyond positive knowledge, whether materially, the depths of boundless space, or intellectually, the endless chain of causes, is inaccessible to the human mind. *But inaccessible does not mean null or non-existent. Immensity, both material and intellectual, is closely linked to our knowledge and becomes, through this alliance, a positive idea* AND OF THE SAME ORDER; I mean that, by touching and approaching them, this immensity appears in its double character, reality and inaccessibility. It is an ocean that comes to beat against our shore, and for which we have neither boat nor sail, but whose clear vision is as salutary as it is formidable.”<sup>19</sup>

We must undoubtedly be pleased with this beautiful explanation, because we will understand it in our sense, which will certainly also be that of the illustrious leader of positivism. But what is unfortunate is that the theologians will also be delighted, to the point that to prove their gratitude to the illustrious academician for this magnificent declaration in favor of their own principle, they will be capable of offering him for free this sail and this boat which he lacks by his own admission and of which they are certain to have exclusive possession, to make a real exploration, a voyage of new discoveries on this unknown ocean, warning him all the same, that from the moment he has abandoned the limits of the visible world, he will have to change his method, the scientific method, as he himself knows very well, not being applicable to eternal and divine things.

And indeed, how could theologians be dissatisfied with M. Littré's statement? He declares that immensity is inaccessible to the human mind; they have never said anything else. Then he adds that its inaccessibility in no way excludes its reality. And that is all they ask. Immensity, God is a real Being, and he is inaccessible to science; which does not mean at all that he is inaccessible to faith. From the moment that he is at the same time immensity and a real Being, that is to say, omnipotence, he can well find a way, if he wishes, make himself known to man, outside and under the nose of science; and this means is known; it has always been called, in history: *immediate revelation*. You will say that it is an unscientific means. Without doubt, and that is why it is good. You will say that it is absurd; nothing better, it is for that very reason that it is divine:

“*Credo quiam absurdum est.*”

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<sup>19</sup> *Cours de Philosophie Positive d'Auguste Comte*, V. I, “Préface d'un disciple,” p. XLIV-XLV

You have completely reassured me by affirming to me, even by admitting to me from your scientific point of view, what my faith has always made me glimpse and sense; the real existence of God. Once certain of this fact, I no longer need your science. The real God reduces it to nothing. It had a reason to exist as long as it misunderstood it, denied it. From the moment it recognizes its existence, it must prostrate itself with us and annul itself before it.

There are, however, in M. Littré's statement, a few words which, duly understood, could disturb the feast of theologians and metaphysicians: "Immensity, both material and intellectual," he says, "is closely linked to our knowledge, and *becomes by this alliance a positive idea of the same order.*" These last words either mean nothing at all, or they mean this:

The immense, infinite region, which begins beyond our visible world, is inaccessible to us, not because it would be of a different nature or because it would be subject to laws contrary to those which govern our world natural and social, but solely because the phenomena and things which fill these unknown worlds and which constitute their reality, are beyond the reach of our senses. We cannot understand things whose real existence we cannot even determine, ascertain. Such is the unique characteristic of this inaccessibility. But without being able to form the slightest idea of the forms and conditions of existence of the things and beings which fill these worlds, we know perfectly well that there can be no place for an animal which calls itself the Absolute; were it not for this simple reason, that being excluded from our visible world, every imperceptible point that the latter forms in the immensity of spaces, it would be a limited absolute, that is to say a non-absolute, unless there exists there in the same way as with us: unless there is there, as with us, a Being completely invisible and ungraspable. But then, at least a piece of it comes back to us, and by this piece we can judge the rest. After having searched for it well, after having attentively considered it and studied it in its historical provenance, we have arrived at this conviction that the absolute is an absolutely null being, a pure phantom created by the childish imagination of primitive men and illuminated by theologians and by metaphysicians; nothing but a mirage of the human spirit that was searching for itself through its historical development. There is no absolute on earth, and there also *must be* no absolute in the immensity of space. In a word, the absolute, God, does not exist, and cannot exist.

But from the moment that the Divine phantom disappears and can no longer interpose itself between us and these unknown regions of the Immensity, unknown as they are to us and will remain to us forever, these regions offer us nothing more foreign; because without knowing the form of things, beings and phenomena that occur in the immensity, we know that they can be nothing but

material products of material causes, and that if there is intelligence, this intelligence, as with us, will always and everywhere be an effect, never the first cause. — Such is the only meaning that can be attached, in my opinion, to this affirmation of M. Littré: that immensity, by its alliance with our known world, becomes a *positive idea and of the same order*.

Yet, in this same statement, there is an expression that seems unfortunate to me and that could bring joy to theologians and metaphysicians: “That which is beyond knowledge,” he says, “whether *materially*, the depths of boundless space, or *intellectually*, the endless chain of causes, is inaccessible.” — Why does this endless chain of causes seem more intellectual to M. Littré than the depths of boundless space? All the causes acting in the known and unknown worlds, in the infinite regions of space as well as on our terrestrial globe, being material, why does M. Littré seem to say and think that their chain is not? Or, taking the question backwards, the intellectual being for us nothing other than the ideal reproduction by our brain of the objective and real order, or of the material succession of phenomena, why would the idea of the depth of limitless space not be as intellectual as that of the chain of causes without end?

This brings us to another objection that positivists usually oppose to the overly impatient need to know of both metaphysicians and materialists: I am speaking of these questions of the *first cause* and *final causes* as well as of the *intimate essence of things*, which are so many different ways of posing this same question of the existence or non-existence of God

Metaphysicians, as we know, are always searching for the first cause, that is, a God who created the world. Materialists say that this cause never existed. Positivists, always faithful to their system of reservations and equivocal assertions, are content to say that the first cause cannot be an object of science, that it is a hypothesis that science cannot verify. Who is right, the materialists or the positivists? Undoubtedly the former.

What is Positive Philosophy doing by refusing to pronounce on this question of the first cause? Does it deny its existence? Not at all. It merely excludes it from the scientific domain, declaring it scientifically unverifiable; which means, in simple human language, that this first cause *perhaps* exists, but that the human mind is incapable of conceiving it. Metaphysicians will doubtless be displeased with this statement, because, differing in this from theologians, they imagine that they have recognized it with the aid of the transcendent speculations of pure thought. But the theologians will be very pleased with it, for they have always proclaimed that pure thought can do nothing without the help of God, and that in order to recognize the first cause, the act of divine creation, one must have received divine grace.



This is how the Positivists open the door to the Theologians and can remain their friends in public life, while continuing to practice *scientific* atheism in their books. They act as political and prudent conservatives.

Materialists are revolutionaries. They deny God, they deny the first cause. They don't just deny it, they prove its absurdity and impossibility.

What is the first cause? It is a cause of a nature absolutely different from that innumerable quantity of real, relative, material causes, whose mutual action constitutes the very reality of the Universe. It breaks, at least in the past, this eternal chain of causes, without beginning or end, of which M. Littré himself speaks as a certain thing, which should force him, it seems to me, to also say that the first cause, which would necessarily be a negation of it, is an absurdity. But he does not say it. He says many excellent things, but he does not want to say these simple words, which would have made any misunderstanding impossible from now on: *The first cause has never existed, could never exist*. The first cause is a cause which itself has no cause or which is the cause of itself. It is the absolute creating the Universe, the pure Spirit creating matter, nonsense.

I will not repeat the arguments by which I believe I have sufficiently demonstrated that the supposition of a creator God implies the negation of the order and very existence of the Universe. But to prove that I am not slandering the positivists, I will quote M. Littré's own words. — Here is what he says in his preface of a disciple (*Cours de Philosophie Positive* by Auguste Comte, Second Edition. Vol. I):

“The world is constituted by matter and by the forces of matter: matter, whose origin and essence are inaccessible to us; the forces that are immanent in matter. Beyond these two terms, matter and force, positive science knows nothing.” (p. IX.)

That's a pretty frankly materialistic statement, isn't it? Well, there are a few words in it that seem to reopen the door to the most fiery spiritualism, not scientific, but religious.

What do these words mean, for example: “*the origin and essence of matter are inaccessible to us*”? You admit, then, the possibility that what you call matter could have had an origin, that is, a beginning in time, or at least in the idea, as the pantheists mystically say; that it could have been produced by something or someone who was not matter? You admit the possibility of a God?

For materialists, matter, or rather the universal ensemble of things past, present and future, has no origin in time, nor in a pantheistic idea, nor in any other kind of absolute. The universe, that is to say the ensemble of all these things, with all their properties which, being inherent in them, and properly forming their essence, determine the laws of their movement and development,

and are, in turn, the effects and the causes, of this infinite quantity of partial actions and reactions, the totality of which constitutes the universal action, solidarity and causality; this Universe, this eternal and universal transformation always reproduced by this infinity of partial transformations that occur within it, this absolute and unique Being, can have neither beginning nor end. All things currently existing, including the known and unknown worlds, with all that may have developed within them, are the products of the mutual and joint action of an infinite quantity of other things, an infinitely numerous part of which, without doubt, no longer exist in their primitive forms, their elements having been combined into new things, but which, during the whole time of their existence, have been produced and maintained in the same as present things are today, as things to come will be tomorrow.

In order not to fall again into metaphysical abstraction, we must be clear about what is meant by the word *causes* or acting and producing *forces*. We must understand that causes have no ideal, separate existence, that they are nothing outside of real things, *that they are nothing but these things*. Things do not obey general laws, as the positivists like to say, whose doctrinaire governmentalism seeking natural support in this false expression. Things, considered as a whole, do not *obey* these laws, because outside of them there is no one, nor anything that can dictate and impose them on them. Apart from them, these laws do not exist even as an abstraction, as an idea, because all ideas being nothing but the constation and the explanation of an existing fact, it is necessary, for there to be the idea of any law, that the law first existed. Besides, we know that all ideas, including those of natural laws, are produced and exist as ideas, on this earth, only in the human brain.

Therefore, if laws, like causes, like natural forces, have no existence outside of things, they must, if they exist at all, and we know by experience that they exist, — they must, I say, exist in the whole of things, constitute their own nature; not in each thing taken in isolation, but in their universal whole, embracing all things past, present and to come. But we have that this whole, which we call the Universe or universal Causality, is nothing other than the eternally reproduced Resultant of an infinity of actions and reactions naturally exercised by the infinite quantity of things which are born, which exist, and then which disappear within it. The universe being itself only a Resultant incessantly reproduced anew, cannot be considered as a dictator, nor as a legislator. It is itself nothing outside of the things that live and die within it; he it only through them, thanks to them. It cannot impose laws on them. From this it follows that each thing carries its law, that is to say, the mode of its development, of its existence and of its partial action in itself. The law, the partial action, this active force of a thing which makes it a cause of new things —

three different expressions to express the same idea — all this is determined by what we call the properties or the proper essence of this thing, all this properly constitutes its nature.

Nothing is more irrational, more anti-positivist, more metaphysical, — what am I saying, more mystical and more theological — than to say, for example, sentences like these: “*The origin and ESSENCE of matter are inaccessible to us*” (P. IX), or else, “*The physicist, wisely convinced henceforth that the INTIMACY of things is closed to him*” (p. XXV). It was good, or rather it was excusable on the part of the specialist physicists, who, in order to free themselves from all the trouble that the sometimes very pressing obsessions of metaphysicians and theologians could cause them, responded to them with this refusal, and had in some way the right to do so, all the questions of high philosophy in reality interested them very little and only prevented them fulfilling their very useful mission, which consisted in the exclusive study of real phenomena and facts. But from a Positivist philosopher who has set himself the mission of founding the entire system of human science on unshakeable foundations, and of determining once and for all its insurmountable limits, from such a declared enemy of all metaphysical theories, such a response, a declaration imbued to the highest degree with the metaphysical spirit, is unforgivable.

I do not want to speak of this *inaccessible substance* of matter, because matter itself, taken in this abstract generality, is a phantom created by the human mind, like so many other phantoms, for example that of the Universal Spirit, which is neither less real nor less rational than universal matter. If by matter in general, M. Littré means the totality of existing things, then I will tell him that the substance of this matter is precisely composed all these things, and contains nothing but these things, or if he wants to decompose them into simple bodies, known and unknown, I will tell him that the substance of matter is composed of the total ensemble of these primitive chemical elements and all their possible combinations. But we probably know only the smallest part of the simple bodies that constitute the matter or the material ensemble of our planet; it is also probable that many elements that we consider as simple bodies decompose into new elements that are still unknown to us. Finally, we will always be ignorant of an infinity of other simple elements which probably constitute the material whole of infinity of worlds, eternally unknown to us and which fill the immensity of space. This is the natural limit before which the investigations of human science stop. It is not a metaphysical limit, nor a theological one, but a real one and, as I say, entirely natural, which presents nothing revolting or absurd to our minds. We can only know what falls under at least one of our senses, that of which we can experience materially, and ascertain the real existence. — Give us just the smallest thing that has fallen from these invisible

worlds and by dint of patience and science we will reconstruct these worlds for you at least in part, as Cuvier, with the help of a few scattered bones of antediluvian animals, found underground, reconstructed their entire organism; as with the help of hieroglyphs found on Egyptian and Assyrian monuments languages that were thought to be lost forever are reconstructed; as I saw in Boston and Stockholm two individuals, born blind, deaf and dumb, and possessing no other senses than touch, smell and taste, brought, by a prodigy of ingenious patience and with the aid of the first of these senses alone, to understand what was said to them by signs traced on the hollow of their hand, and to express in writing their thoughts on a quantity of things that one could not understand without having an already fairly developed intelligence. But to understand what none of our senses can even touch upon, and what in fact does not exist for us as a real being. This is what is really impossible, and what it would be as ridiculous as it would be useless to rebel against.

And yet, can we say in such an absolute manner that these worlds do not exist in any way for us? Without speaking of the continual obsession that this immensity of unknown worlds exercises on our mind, an action recognized and so eloquently expressed by M. Littré himself, which certainly constitutes a real relationship since the mind of man, as a product, manifestation or functioning of the human body, is itself a real being, can we admit that our visible Universe, these thousands of stars that shine in our firmament, remain outside of any solidarity and of any relationship of mutual action with the immense Universe, infinite and for us invisible? In this case we should consider our restricted Universe as carrying its cause within itself, as the absolute; but absolute and limited at the same time is a contradiction, a nonsense too obvious for us to be able to dwell on it for a moment. It is obvious that our visible Universe, however immense it may appear to us, is only a very restricted material set of bodies alongside an infinite quantity of other similar Universes; that it is consequently a determined, finite, relative being, and as such, finding itself in a relationship of necessary actions and reactions with all these invisible universes; that, as a product of this solidarity or this infinitely universal causality, it carries within itself, in the form of its own natural laws and the properties which are particularly inherent in it, all its influence, character, nature, and essence. So that in recognizing the nature of *our* visible Universe, we implicitly, indirectly study that of the infinite Universe, and we know that in this invisible immensity there is undoubtedly an infinite quantity of worlds and things that we will never know, but that none of these worlds, none of these things can present anything that is contrary to what we call the laws of our Universe. In this respect there must exist in all the immensity a similarity and even an identity of absolute

nature. — For otherwise, our world could not exist. It can only exist in incessant conformity with the immensity comprising all the unknown Universes.

But, it will be said, we do not know our visible Universe either and we will never be able to recognize it. Indeed, it is very unlikely that human science will ever arrive at a somewhat satisfactory knowledge of the phenomena which occur on one of these innumerable stars, the nearest of which is about two hundred thousand times further from the Earth than our sun. All that scientific observation has been able to establish so far is that all these stars are so many suns of different planetary systems, and that these suns, including our own, exert a mutual action on each other, the somewhat precise determination of which will probably still remain for a very long time, if not always, outside the scientific power of man. Here is what Auguste Comte says on this subject.<sup>20</sup>

“Philosophical minds, to whom the in-depth study of astronomy is foreign, and astronomers themselves, have not sufficiently distinguished until now, in the whole of our celestial research, the point of view that I can call solar, from that which truly deserves the name of universal. This distinction nevertheless seems to me indispensable, to clearly separate the part of science which involves complete perfection, from that which by its nature, without doubt being *purely conjectural*, nevertheless seems to always remain almost in its infancy, at least compared to the first. The consideration of the solar system of which we are a part obviously offers us a well-circumscribed subject of study, susceptible of complete exploration, and which should lead us to the most satisfactory knowledge. On the contrary, the thought of what we call the universe is by itself necessarily indefinite, so that, however extensive one wishes to suppose in the future our real knowledge of this kind, we could never rise to the true conception of the whole of the stars.<sup>21</sup> The difference is extremely striking today, since, alongside the high perfection acquired in the last two centuries by solar astronomy, we do not yet possess even, in sidereal astronomy, the first and simplest element of all positive research, the determination of stellar intervals. Without doubt, we have every reason to presume that these distances will soon be evaluated, at least between certain limits, with regard to several stars, and that consequently, we will know for these same stars, various other important elements, which the theory is quite ready to deduce from this first fundamental data, such as their masses etc. But

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<sup>20</sup> *Cours de Philosophie Positive* par Auguste Comte. Deuxième édition. Tome II P. 10-12 [13]

<sup>21</sup> This is a limitation against which it is impossible to protest, because it is not arbitrary, absolute and does not imply, for the mind, the prohibition of penetrating into these immense and unknown regions. It derives from the unlimited nature of the object itself, and contains this simple warning, that however far the mind may penetrate, it will never be able to exhaust this object, nor arrive at the term or, at the end of immensity, for the simple reason that this term or this end does not exist.

the important distinction established above will not be affected in any way. Even if we were to one day succeed in completely studying the relative movements of some multiple stars, this notion, which would be very valuable, especially if it could concern the group of which our sun is probably a part, would obviously not leave us much less distant from a true knowledge of the universe, *which must inevitably always escape us*.

“There exists in all classes of our research and in all major respects, a constant and necessary harmony between the extent of our true intellectual needs and the effective scope, current or future, of our real knowledge.<sup>22</sup> This harmony that I will take care to point out in all phenomena, is not, as vulgar philosophers are tempted to believe, the result and the indication of a final cause.<sup>23</sup> It derives simply from this obvious necessity: we only need to know what can act on us in a more or less direct manner;<sup>24</sup> ; and, on the other hand, by the very fact that such an influence exists, it becomes for us sooner or later a certain means of knowledge.<sup>25</sup> This relationship is verified in a remarkable manner in the present case. The most perfect study possible of the laws of the solar system of which we are a part, is of capital interest to us, and so we have succeeded in giving it an admirable precision. On the contrary, if the exact notion of the universe is necessarily forbidden to us, it is evident that it does not offer us, except for our *insatiable curiosity*, any real importance.<sup>26</sup> The daily application of astronomy shows that the internal phenomena of each solar system, the only ones that can affect its inhabitants, are essentially independent

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<sup>22</sup> But as the extent of the intellectual needs of man, considered not as an isolated individual nor even as a present generation, but as past, present and future humanity, is without limits, the effective scope of human knowledge in an indefinite future is as well.

<sup>23</sup> Here is one of those slaps to God with which Auguste Comte's book is full.

<sup>24</sup> Which amounts to saying that we need to know everything. The number of things that act on me immediately is always very small. But these things that are in relation to me immediately acting causes, exist and consequently also act on me only because they are themselves subject to the immediate action of other things that act directly on them, and, indirectly, through them on me. I need to know the things that exercise an immediate action on me; but to understand them, I need to know those that act on them, and so on ad infinitum. From which it follows that I must know everything.

<sup>25</sup> From which I logically conclude that no world, however distant and invisible it may be, is absolutely closed to human knowledge.

<sup>26</sup> Probably, Auguste Comte means by this that it does not offer us any immediately practical importance and that it can only very indirectly and very weakly influence the arrangement of our material existence on this earth; for this insatiable curiosity of human intelligence is a moral force by which man distinguishes himself perhaps more than by anything else from the rest of the animal world, and the satisfaction of which is consequently very important for the triumph of his humanity.

of the more general phenomena relating to the mutual action of the suns, *much like our meteorological phenomena with respect to planetary phenomena*.<sup>27</sup> Our tables of celestial events, drawn up long in advance, by not considering any other world in the universe than our own, agree rigorously so far with direct observations, whatever minute precisions we bring to them today. This very manifest independence is also fully explained by the immense disproportion that we certainly know exists between the mutual distances of the suns and the small intervals of our planets.<sup>28</sup> If, according to a great probability, the planets provided with atmospheres, like Mercury, Venus, Jupiter, etc., are actually inhabited, we can regard their inhabitants as being in some way our fellow citizens, since from this sort of common homeland there must necessarily result a certain community of thoughts and even of interests,<sup>29</sup> while the inhabitants of the other solar systems must be entirely foreign to us.<sup>30</sup> It is therefore necessary to separate more deeply than is customary the solar point of view and the universal point of view, the idea of the world (*including exclusively the first*) and that of the universe: the first is the highest to which we can really reach, and it is also the only one which truly interests us. — Thus, *without entirely giving up the hope of obtaining some sidereal knowledge, we must consider positive astronomy consisting essentially in the geometric and mechanical study of the small number of celestial bodies which make up the world of which we are a part.*”

But if positive science, that is to say, serious science and the only science worthy of the name, founded on the observation of real facts and not on the imagination of illusory facts, must renounce real or somewhat satisfactory knowledge of the Universe, from the astronomical point of view, all the more must it renounce it under the physical, chemical and organic reports: “Our art of observation,” says Auguste Comte below, “is composed, in general, of three different processes: 1. Observation properly speaking, that is to say, the direct examination of the phenomenon as it presents itself naturally; 2. Experiment,

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<sup>27</sup> in the margin: So this independence is far from being absolute; because it is enough for our planet to change its position somewhat with respect to our sun, for all the meteorological phenomena of the earth to be considerably modified; which would certainly also happen for our planetary system, if our sun took a new position with respect to the other suns.

<sup>28</sup> But this disproportion being not absolute, but only relative, it also follows that the independence of our solar system in relation to the other suns is also only relative. That is to say, if we take as a measure of time the life of a generation, or even a few centuries, the *sensible* effect of the certain dependence in which our system finds itself in relation to the universe, *appears absolutely nil*.

<sup>29</sup> in the margin: The community of thoughts always implies that of interests.

<sup>30</sup> in the margin: Still in a relative sense: More foreign, but not *absolutely*. Let us admit that both, if they exist at all, are almost equally foreign to us, since we do not know and will probably ever be able to assure ourselves with any certainty, if they exist.

that is to say, the contemplation of the phenomenon more or less modified by artificial circumstances, which we institute expressly with a view to a more perfect exploration; 3. *Comparison*, that is to say, the gradual consideration of a series of analogous cases, in which the phenomena become more and more simplified. The science of bodies organized, which studies the most difficult phenomena to access, is also the only one that truly allows the union of these three means. Astronomy, on the contrary, is necessarily limited to the first. Experience is obviously impossible there; and, as for comparison, it would only exist if we could directly observe several solar systems, which could not take place. So there remains simple observation, and even reduced to the least possible extension, since it can only concern one of our senses (*sight*). Measuring angles and counting elapsed times, such are the only means by which our intelligence can proceed to the discovery of the laws that govern celestial phenomena.” (T. II p. 13-14)

It is obvious that it will forever be impossible for us, not only to carry out experiments on the physical, chemical, geological and organic phenomena which occur on the different planets of our solar system, without already speaking of those of the other solar systems, and to establish comparisons on their respective developments, but still to observe them or to note their real existence, which amounts to saying that we must renounce acquiring a knowledge which only approaches somewhat that which we can and must arrive at in relation to the phenomena of our terrestrial globe. The inaccessibility of the Universe for us is not absolute, but its accessibility in comparison with that of our solar system, and even more with that of our terrestrial globe, is so small, so small, that it almost resembles absolute inaccessibility.

In practice, we seem to gain very little from the fact that it is not absolute. But from the point of view of theory, the gain is immense. And if it is immense for theory, it is also immense in turn for the social practice of humanity, because every theory translates sooner or later into institutions and human facts. What then is this interest and this theoretical advantage of the absolute non-inaccessibility of the Universe?

*This is because the good Lord, the absolute, is as well chased from the Universe as he is from our terrestrial globe.*

From the moment that the Universe is accessible to us at all, even if only to an infinitely small extent, it must have a nature similar to that of our known world. Its inaccessibility is not caused by a difference in nature, but by the extreme material remoteness of these worlds which makes the observation of their phenomena impossible. Materially distant from our terrestrial globe; they are also, as exclusively material as the latter. Material and materially limited by



our solar system, this infinity of unknown worlds necessarily find themselves among themselves and with it in incessant relations of mutual action and reaction. They are born, they exist and they perish or are transformed in turn within the infinitely universal Causality, as our solar world was born, as it exists and as it will certainly perish, sooner or later, and the fundamental laws of this genesis or this material transformation must be the same, modified without doubt according to the infinite circumstances which probably differentiate the development of each world taken separately. But the nature of these laws and their development must be the same, because of that incessant action and reaction which is exercised during eternity between them. So that without needing to cross impassable spaces, we can study the universal laws of the worlds in our solar system which, being their product, must carry them all within itself, and still more closely on our own planet, the terrestrial globe, which is the immediate product of our solar system. Therefore, by studying and recognizing the laws of the earth, we can have the certainty of studying at the same time and recognizing the laws of the Universe.

Here we can go straight to the details: observe them, experiment with them, and compare them. However limited it may be in comparison with the Universe, it is still an infinite world. In this respect, we can say that our world, in the most restricted sense of the word, our earth, is equally inaccessible, that is to say, inexhaustible. Science will never reach the final destination or say its last word. Should this cause us despair? On the contrary, if the task were limited, it would soon cool the spirit of man, who once and for all, whatever one says and whatever one does, never feels as happy as when he can break through and cross a limit. And very fortunately for him, the science of nature is such that the more limits the mind crosses, the more new ones arise that provoke his insatiable curiosity.

There is one that the scientific mind will never be able to cross in an absolute manner. This is precisely what M. Littré calls *the nature or the intimate being of things*, what the metaphysicians of the school of Kant call the *thing in itself* (*Das Ding an Sich*). This expression, I said, is as false as it is dangerous, because while appearing to exclude the absolute from the domain of science, it reconstitutes it, confirms it as a real being. For when I say that there is in all existing things, the most common, the most known, including myself, an intimate, inaccessible, eternally unknown, and which as such, necessarily remains outside and absolutely independent of their phenomenal existence and of these multiple relations of relative causes to relative effects which determine and connect all existing things, by establishing a sort of unity incessantly reproduced, I affirm by this very fact that this whole phenomenal world, the apparent, sensible, known world, is only a sort of external envelope, a bark at the bottom of which

is hidden like a kernel the being not determined by external relations, the non-relative, non-dependent being, the Absolute. We see that M. Littré, probably because of his deep contempt for metaphysics, has remained himself with Kant's metaphysics, which is lost, as we know, in these antinomies or contradictions that it claims to be irreconcilable and insoluble: of the finite and the infinite, of the exterior and the interior, of the relative and the absolute, etc. It is clear that by studying the world with the fixed idea of the insolubility of these categories which seem on the one hand absolutely opposed and on the other so closely, so absolutely linked that one cannot think of one without thinking immediately and at the same time of the other, it is clear, I say, that by approaching the existing world with this metaphysical prejudice in one's head, one will always be incapable of understanding anything about the nature of things. If the French positivists had wanted to take note of the valuable criticism that Hegel, in his *Logic*, which is certainly one of the most profound books ever written in our century, made of all these Kantian antinomies, they would have been reassured about this supposed impossibility of recognizing the intimate nature of things. They would have understood that *no thing can really have in its interior, which is not manifest in its exterior*; or, as Göthe said, in response to I don't know which German poet who claimed that no created spirit could penetrate into the interior of Nature ("In's Innre der Natur dringt kein erschafner Geist"):

"For twenty years I have been hearing this same thing repeated,  
And I curse her, but in secret:  
*Nature has neither core nor shell;  
She is all of these things in one go.*"

"Schon zwanzig Jahre höre' ich's>  
Schon zwanzig Jahre hör' ich's wiederholen  
Und fluche drauf, aber verstohlen:  
Natur hat weder Kern noch Schale;  
Alles ist sie auf einem Male!"

I beg the reader's pardon for this long dissertation on the nature of things. But it is a matter of supreme interest, that of the real and complete exclusion, of the final destruction of the absolute, which, this time, is no longer content to wander like a lamentable ghost on the confines of our visible world, in the infinite immensities of space, but which, encouraged by the entirely Kantian metaphysics of the Positivists, wants to insincerely insinuate itself into the very

depths of all known things, of ourselves, and plant its flag in the very heart of our earthly world.

The intimacy of things, say the Positivists, is inaccessible to us. What do they mean by these words: *the intimacy of things*? To enlighten us on this point, I will quote M. Littré's sentence in its entirety:

*"The physicist, wisely convinced henceforth that the intimacy of things is closed to him, does not allow himself to be distracted by anyone who asks him why bodies are hot and weighty; he would seek it in vain, and he seeks it no longer. Similarly, in the biological domain, there is no need to ask why living substance constitutes itself in forms where the apparatuses are, with more or less exactitude, adjusted to the purpose, to the function. To adjust itself in this way is one of the immanent properties of this substance, like nourishing itself, contracting, feeling, thinking. This view, extended to disturbances, embraces them without difficulty; and the mind, which ceases to be required to seek the impossible conciliation of fatalities with finalities, no longer finds anything unintelligible, that is to say contradictory, in what is devolved to it from the world."* (P. XXV-XXVI)

This is undoubtedly a very convenient way of philosophizing and a sure way of avoiding all possible contradictions; You are asked, in relation to a phenomenon, *why* it is so? And you answer: *Because* it is so. After which, there remains only one thing to do: to establish the reality of the phenomenon and its order of coexistence or succession with other phenomena more or less linked to it; to ensure by observation and experience that this coexistence and this succession are reproduced in the same circumstances everywhere and always, and, once this conviction is acquired, to convert them into a general law. I understand that scientific specialists can, must do so; for if they acted otherwise, if they intercalated their own ideas into the order of facts, positive philosophy would run the great risk of having as the basis of its reasoning more or less ingenious fantasies, not facts. But I cannot imagine that a philosopher who wants to understand the order of facts can be satisfied with so little. Understanding is very difficult, I know, but it is essential if one wants to do serious philosophy.

To a man who would ask me: what are the origin and substance of matter in general, or rather of the whole of material things, of the Universe, I would not be content to answer doctorally and in such an equivocal manner that he might suspect me of theologism: *"The origin and essence of matter are inaccessible to us."* I would first ask him what matter he means? Is it only the whole of material bodies, composite or simple, which constitute our globe, and, in its greatest extension, our solar system, or rather of all the known and unknown bodies whose infinite and indefinite whole forms the universe?

If it is the first, I would tell him that the matter of our terrestrial globe certainly has an origin, since there was a time, so remote that neither he nor I can form an idea of it, but a definite time, when our planet did not exist, that it was born in time, and that we must seek the origin of our planetary matter in the matter of our solar system. But that our solar system itself, not being an absolute world, nor infinite, but very restricted, circumscribed, and consequently existing only by its incessant and real relations of action and mutual reaction with an infinity of similar worlds, cannot be an eternal world. That it is certain that, sharing the fate of everything that enjoys a definite and real existence, it must disappear one day, in I don't know how many millions of millions of centuries, and that, like our planet, doubtless well before it, it must have had a beginning in time; from which it follows that the origin of solar matter must be sought in universal matter.

Now, if he asks me what was the origin of universal matter, of this infinite set of worlds which we call the infinite Universe? I will answer him that his question contains nonsense; that it suggests to me, so to speak, the absurd answer which he would like to hear from me. This question translates into this: Was there a time when universal matter, the infinite Universe, the absolute and unique *Being did not exist*? Where there was only the idea, and necessarily the Divine idea, God, who, by a singular whim, after having been for an eternity, infinite in the past, a lazy God or an impotent God, an unfinished God, suddenly imagined; who after having been for an eternity a Non-Creator God, became, by I know not what miracle of inner development, a Creator God?

All this is necessarily contained in this question about the origin of universal matter. By admitting even for a moment this absurdity of a Creator God, we will necessarily come to recognize the eternity of the Universe. For God is God only because he is supposed to be absolute perfection; but absolute perfection excludes all ideas, all possibility of development. God is God only because his nature is immutable. What he is today, he was yesterday and he always will be. He is a Creator God and all-powerful today, therefore he has been so for all eternity; therefore it is not at a specific time, but for all eternity that he created the worlds, the Universe. Therefore *the Universe is eternal*. But being eternal, it was not created and there has never been a Creator God.

In this idea of a Creator God, there is this contradiction, that every creation, idea and fact borrowed from human experience, supposes a definite epoch in time; while the idea of God implies Eternity — from which results an obvious absurdity. The same reasoning applies equally well to the absurdity of a God ordering and legislating the worlds. In a word, the idea of God does not bear the

slightest criticism. But God falling, what remains? *The Eternity of the infinite Universe.*

Here then is a truth concerning the absolute, which nevertheless bears the character of an absolute certainty: *The Universe is eternal and has never been created by anyone.* This truth is very important for us, because it reduces, once and for all, to nothing the question about the origin of universal matter, which M. Littré finds so difficult to resolve and at the same time destroys, at its root, the idea of an absolute spiritual being, pre-existing or co-existing, the idea of God.

In the knowledge of the absolute, we can take a step forward, while retaining the guarantee of absolute certainty.

Let us remember that the world has existed for a *true* eternity. It is very difficult for us to imagine it, so difficult is it for even the most abstract idea of eternity to lodge in our poor, alas! so quickly transient, heads. Yet it is certain that it is an irrefutable truth and that it imposes itself with all the character of an absolute necessity on our minds. We are not permitted not to accept it. Here then, the good Lord once set aside, the second question that presents itself to us: *In this eternity that opens infinite and gaping behind the present moment, was there a definite epoch in time when the organization of universal matter or of Being into separate and organized worlds began for the first time? Was there a time when ALL universal matter could remain in the state of matter capable of organization but NOT YET organized?*

Let us suppose that before it could spontaneously organize itself into separate worlds, universal matter had to go through I know not what innumerable preliminary developments, of which we could never form even a shadow of a shadow of an idea. These developments could have taken a time which, by its relative immensity, exceeds anything we can imagine. But since this time we are dealing with material developments, not with an immutable absolute, this time, however immense it was, was necessarily a determinate time, and as such infinitely less than eternity. Let us call X all the time which has elapsed since the first supposed formation of the worlds in the Universe, up to the present moment; let us call Y all the time which these preliminary developments of universal matter lasted before it could organize itself into separate worlds.  $X + Y$  represent a period of time which, however relatively immense it may be, is nonetheless a determinate quantity and consequently *infinitely* less than eternity. Let us call Z their sum ( $X + Y = Z$ ); well, behind Z, there still remains eternity. Extend X and Y as much as you please, multiply them both by the most immense figures you can imagine, or write in your tightest handwriting on a line as long as the distance from the earth to the most distant visible star; you

will enlarge Z in the same proportion, but whatever you do to enlarge it, however immense it becomes, it will always be less than eternity, it will always have eternity behind it.

What is the conclusion to which you will be driven? That for an eternity, universal matter, whose spontaneous action alone could create and organize the worlds, since we have seen the phantom, the Creator and the divine organizer disappear; that this matter, for an eternity, remained inert, without movement, without prior development, without action; then, that at a given moment and determined without any reason, neither by anyone outside of it, nor by itself, in eternity, it suddenly began to move, to develop, to act, without any cause, either external or internal, having pushed it there. This is an absurdity as evident as that of a Creator God. But you are forced to accept this absurdity, when you suppose that the organization of the worlds in the Universe had any determinate beginning, however immensely distant this beginning was or is represented by you from the present moment. — From which it follows with absolute evidence that *the organization of the Universe or of universal matter into separate worlds is as eternal as its being.*

Here then is a second absolute truth presenting all the guarantees of a perfect certainty. *The Universe is eternal and so is its organization.* And in this infinite Universe, not the slightest little place for the good Lord!

The Universe is eternally organized into an infinity of separate worlds, remaining outside of each other, but by that very fact also preserving necessary and incessant relationships with each other. This is what Auguste Comte calls “*the mutual action of the suns,*” an action that no man has been able to experience or even observe, but of which the illustrious founder of Positive Philosophy, himself, he who is so severe with everything that bears the character of an unverifiable hypothesis, nevertheless speaks as a positive fact that cannot be the object of any doubt. And he speaks of it thus, because this fact imposes itself imperiously, of itself and with absolute necessity on the human spirit, from the moment that this spirit has freed itself from the stupefying yoke of the divine phantom.

The mutual action of the suns necessarily results from their separate existence. However immense they may be, even supposing that the real immensity of the largest surpasses anything we can imagine in fact of extent and magnitude, all are nevertheless determined, relative, finite beings, and as such, none can carry exclusively within themselves the cause and basis of their own existence, each exists and can only exist through its incessant relations or by its mutual action and reaction, whether immediate or direct, or indirect, with all the others. This infinite chain of perpetual actions and reactions constitutes

the real Unity of the infinite Universe. But this universal unity does not exist in its infinite plenitude, as concrete and real unity, comprising effectively all this unlimited quantity of worlds with the inexhaustible richness their developments it does not exist, I say, and is not manifest as such, for anyone. It cannot exist for the universe, which, being nothing itself but a *collective* unity, eternally resulting of the mutual action of the worlds scattered in the boundless immensity of space, possesses no organ to conceive it; and it cannot exist for anyone outside the universe, because outside the Universe there is not anything. It exists, as an idea both necessary and abstract, only in the consciousness of man.

This idea is the last degree of positive knowledge, the point where positivity and absolute abstraction meet. One more step in this direction and you fall into metaphysical and religious phantasmagoria. Therefore, it is forbidden, under penalty of absurdity, to base anything on this idea. As the last term of human knowledge, it cannot serve as its basis.

An important and final determination which results not from this idea, but from the fact of the existence of an infinite number of separate worlds, incessantly exerts upon one another a mutual action which properly constitutes the existence of each, is that none of these worlds is eternal; that all had a beginning and all will have an end, however distant one may have been and however the other may have been. Within this universal causality which constitutes the eternal and unique, the Universe, the worlds are born, are formed, exist, exert an action in conformity with their being, then disorganize themselves, die or transform themselves, as do the least of things on this earth. It is therefore everywhere the same law, the same order, the same nature. We can never know anything beyond that. An infinity of transformations that have taken place in the eternity of the past; an infinity of other transformations that will take place in an eternal future; an infinity of transformations that are taking place at this very hour, in the immensity of space, will remain eternally unknown to us. But we know that it is everywhere the same nature, the same Being. Let that suffice for us.

We will therefore no longer ask, what is the origin of universal matter, or rather of the Universe considered as the totality of an infinite number of worlds separated and more or less organized; because this question supposes a nonsense, creation, and because we know that the Universe is eternal. But we could well ask: *what is the origin of our solar world?* Because we know with certainty that it was born, that it was formed at a determined epoch, in time. Only, hardly will we have asked this question, that we will have to immediately recognize that it is for us without possible solution.

To recognize the origin of a thing is to recognize all the causes, or all the things whose simultaneous and successive, direct and indirect action, produced it. It is obvious that to determine the origin of our solar system, we would have to know down to the last one, not only all that infinity of worlds which existed at the time of its birth and whose direct or indirect collective action produced it, but also all the past worlds and all the world actions of which these worlds themselves were the products. This is enough to say that the origin of our solar system is lost in a chain of causes or actions, infinite in space, eternal in the past, and that consequently, however real or material it may be, we will never be able to determine it.

But if it is impossible for us to recognize, in an eternal past and in the infinite immensity of space, the origin of our solar system or the indefinite sum of the causes whose combined action produced it and will continue to reproduce it forever, as long as it has not disappeared in its turn, *we can seek this origin or these causes in their EFFECT, that is to say IN THE PRESENT REALITY of our solar system*, which occupies in the infinity of space a circumscribed and consequently determinable, if not yet determined, extent. For, note this well, a cause is only a cause insofar as it has realized itself in its effect. A cause which would not have translated itself into a real product would be only an imaginary cause, a non-being; from which it follows that everything, being necessarily produced by an indefinite sum of causes, carries the real combination of all these causes in itself, and is nothing in reality but *this real combination of all the causes which produced it*. This combination is its whole real being, its intimacy, its substance.

The question concerning the *substance* of universal matter or of the Universe therefore contains an absurd supposition: that of the origin, of the first cause of worlds, or of Creation. All substance being nothing but the effective realization of an indefinite number of causes combined in a common action, to explain the substance of the Universe, one would have to seek its origin or causes, and it has none, since it is eternal. The universal world is: it is the absolute, unique and supreme being, outside of which nothing could exist, how then can it be deduced from something? The thought of rising above or placing oneself outside the unique Being implies Nothingness, and one would have to be able to do this in order to deduce the substance from an origin which would not be in, which would not be itself. All we can do is to note first this unique and supreme Being who imposes himself on us with an absolute necessity, then to study its effects in the world which is really accessible to us: in our solar system, first, but then and above all on our terrestrial globe.

Since the substance of a thing is nothing but the real combination or realization of all the causes that produced it, it is evident that if we could



recognize the substance of our solar world, we would at the same time recognize all these causes, that is to say this whole infinity of worlds, whose combined action, directly and indirectly, was realized in its creation, — we would recognize the Universe.

So here we are in a vicious circle: To recognize the universal causes of the solar world, we must recognize its substance, but to recognize the latter, we should know all these causes. From this difficulty, which, at first sight, seems insoluble, there is nevertheless a way out, and here it is: *The intimate nature or substance of a thing* is not recognized only by the sum or the combination of all the causes that produced it; *it is also recognized by the sum of its different manifestations or of all the actions that it exercises externally.*

Everything is it does: its doing, its exterior manifestation, its incessant and multiple action on all things outside it, is the complete exposition of its nature, of its substance, or of what the metaphysicians, and M. Littré with them, call its intimate being. It can have nothing in its so-called interior that is not manifested in its exterior; in a word, *its action and its being are one.*

It may seem surprising that I speak of the *action* of all things, even the most apparently inert, since we are so accustomed to attaching the meaning of this word only to acts which are accompanied by a certain visible agitation, by apparent movements and above all by the animal or human consciousness of the one who acts. But strictly speaking, there is not a single point in nature which is ever at rest, each one being each moment, in the infinitesimal part of each second agitated by an incessant action and reaction. What we call immobility, rest, are only crude appearances, entirely relative notions. — In nature, everything is movement and action: to be does not mean anything other than to do. All that we call properties of things: mechanical, physical, chemical, organic, animal, human properties, are nothing but different modes of action. Every thing is a thing determined or real only by the properties it possesses; and it possesses them only insofar as it manifests them, its properties determining its relations with the external world, that is to say its different modes of action on the external world; from which it follows that each thing is real only insofar as it manifests itself, as it acts. — The sum of its different actions, <that is> its whole being.

What then do these words mean: “*The physicist, wisely convinced henceforth, that the intimacy of things is closed to him, etc.*”? Things do nothing other than show themselves naively, fully in all the integrity of their being to whoever only wants to look at them simply, without prejudice and without fixed, metaphysical, theological ideas; and the physicist of the positivist school, looking for noon at two o'clock as they say, and understanding nothing of this

naive simplicity of real things, of natural things, will gravely declare that there is in their bosom an intimate being that they slyly keep for themselves, and the metaphysicians, the theologians, delighted by this discovery, which they have moreover suggested to him, will seize this intimacy, this *in-itself* of things, to lodge their good God there!

Every thing, every being existing in the world, of whatever nature it may be, therefore has this general characteristic: to be the immediate result of the combination of all the causes that have contributed to producing it, either directly or indirectly; which implies, by a path of successive transmissions, the action, however remote or distant it may be, of all the past and present causes acting in the infinite universe; and as all the causes or actions which occur in the world are manifestations of things which really exist; and as every thing exists really only in the manifestation of its being, each transmits, so to speak its own being to the thing which its special action contributes to producing; from which it follows that each thing, considered as a determined being, born in space and time, or as a product, carries within itself the imprint, the trace, the nature of all the things that have existed and currently exist in the Universe, which necessarily implies the identity of matter or of universal Being.

Each thing in all the integrity of its being being nothing but a product, its properties or its different modes of action on the external world, which, as we have seen, constitute its whole being, are necessarily also products. As such, they are not autonomous properties, deriving only from the thing's own nature, independently of all external causality. In nature or in the real world, there is no independent being, nor independent properties. Everything, on the contrary, is mutually dependent. Deriving from this external causality, the properties of a thing are consequently imposed on it; they constitute, considered all together, its obligatory mode of action, *its law*. On the other hand, one cannot properly say that this law is imposed on the thing, because this expression would suppose an existence of the thing, prior to or separate from its law, whereas here, the law, the action, the property constitute the very being of the thing. The thing itself is nothing but this law. By following it, it manifests its inner being, its own nature, it is its own inner nature, it is. From which it follows that all real things in their development and in all their manifestations are *fatally* directed by their laws, but that these laws are on them so little imposed, that on the contrary they constitute their whole being.

To discover, coordinate and *understand* the properties, or modes of action or laws of all things existing in the real world, such is therefore the true and only object of science.

How feasible is this program for humans?

The Universe is indeed inaccessible to us. But we are now sure of finding *its nature everywhere identical and its fundamental laws* in our solar system which is its product. We cannot go back to the origin, that is to say to the productive causes of our solar system, because these causes are lost in the infinity of space and an eternal past... But we can study the nature of this system in its own manifestations. And here again we encounter a limit that we will never be able to cross. We will never be able to observe, nor consequently recognize the action of our solar world on the infinite quantity of worlds that fill the Universe. At most, if we will ever be able to recognize, in an excessively imperfect manner, some relationships existing between our sun and some of the innumerable suns that shine in our firmament. But this imperfect knowledge, necessarily mixed with barely verifiable hypotheses, will never be able to constitute a serious science. We will therefore always be forced to be more or less content with the increasingly sophisticated and detailed knowledge of the internal relationships of our solar system. And even here our science, which deserves this name only insofar as it is based on the observation of facts, first of all on the actual observation of their existence and then on the real modes of their manifestation and development, encounters a new limit which seems to remain forever insurmountable: it is the impossibility of noting and consequently also of observing the physical, chemical, organic, intelligent and social facts which take place on any of the planets forming part of our solar system, except our Earth which is completely open to our investigations.

Astronomy has succeeded in determining the lines traveled by each planet in our system around the sun, the speed of their double movement, their volume, their shape and their weight. This is immense. On the other hand, for the reasons mentioned above, it is indubitable for us that the substances which they constitute must have all the physical properties of our terrestrial substances. But we know almost nothing of their geological formation, still less of their plant and animal organization, which will probably remain forever inaccessible to human curiosity. Based on this truth, which is now incontestable for us, that *universal matter* is fundamentally identical everywhere and always, we must necessarily conclude that always and everywhere, in the most infinitely remote as well as the closest worlds of the Universe, all beings are heavy, hot, luminous, electric material bodies, and that everywhere they decompose into simple chemical bodies or elements — and that consequently wherever conditions of existence and development are found that are, if not identical, at least similar, similar phenomena must take place. This certainty is sufficient to convince us that nowhere can phenomena and facts occur that are contrary to what we know of the laws of nature; but it is incapable of giving us the slightest idea about the beings, necessarily material, that can exist in other worlds and

even on the planets of our own solar system. Under this condition, scientific knowledge of these worlds is impossible, and we must renounce it once and for all.

If it is true, as Laplace supposes, whose hypothesis is not yet sufficiently accepted, nor universally accepted, if it is true that all the planets of our system were formed from solar matter, it is evident that a much more considerable identity must exist between the phenomena of all the planets of this system and between those of our terrestrial globe. But this evidence could not yet constitute true science, For science is like St. Thomas: it must feel and see to accept a phenomenon or a fact and the *a priori* constructions, the most rational hypotheses have value for it only when they are later verified by *a posteriori* demonstrations. All these reasons send us, for full and concrete knowledge, back to the earth.

In studying the nature of our terrestrial globe, we study at the same time universal nature, not in the infinite multiplicity of its phenomena which will remain forever unknown to us, but in its substance and in its fundamental laws, always and everywhere identical. This is what must and what can console us for our enforced ignorance of the innumerable developments of innumerable worlds of which we will never have an idea, and reassure us at the same time against any danger of a divine phantom which, if it were otherwise, could return to us from another world.

On Earth alone can science set foot. Here it is at home and walks in full reality, having all the phenomena, so to speak, under its hand, before its eyes, being able to observe them, to feel them. Even the past developments of our globe, both material and intellectual, despite the disappearance of the phenomena that accompanied them, are open to our scientific investigations.<sup>31</sup> The succession of phenomena no longer exists there, but their visible and distinct traces remain; both those of the past developments of human societies, and those of the organic and geological developments of our terrestrial globe. By studying these traces, we can in some way reconstruct its past.

As for the first formation of our planet, I prefer to let the profound and scientifically developed genius of Auguste Comte speak<sup>32</sup> rather than my own

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<sup>31</sup> [on the back of this page:] Develop this idea that it is not only science, that it is life too, which acts abstractly with respect to real and transient individualities. I do not send to buy, the cook does not buy and kill this rabbit, but rabbits in general — animals likewise.

Life is an incessant transition from the individual to the abstract and from the abstract to the individual. — It is this second moment that science lacks. — Once in the abstract, it can no longer escape from it.

<sup>32</sup> *Cours de Philosophie Positive*, vol. II p. 219 [249]

inadequacy, alas! too keenly recognized by myself in everything related to the natural sciences:

“I must now proceed to a general examination of what involves a certain character of positivity in cosmogonic hypotheses. It would doubtless be superfluous to establish specifically in this regard this indispensable preliminary, that any idea of *Creation* properly speaking must be radically rejected here, as being by its nature entirely elusive,<sup>33</sup> and that the only reasonable research, if it is truly accessible, must concern only the successive transformations of the sky, even limiting itself, at least initially, to that which could have immediately produced its current state... — The real question therefore consists in deciding whether the present state of the sky offers some appreciable clues of a simpler previous state, the general character of which is capable of being determined. In this respect, the fundamental separation that I have been so busy establishing firmly between *the necessarily inaccessible study of the universe and the necessarily very positive study of our (solar) world*, naturally introduces a profound distinction, which greatly restricts the field of effective research. It is conceivable, in fact, that we can conjecture, with some hope of success, on the formation of the solar system of which we are a part <sup>34</sup>

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<sup>33</sup> Here is one of those equivocal, not to say hypocritical, expressions that I detest in positive philosophers. Was Auguste Comte unaware that the idea of Creation and of a Creator is not only elusive, that it is absurd, ridiculous, impossible? One could almost believe that he was not quite sure of it himself, as evidenced by the relapse into mysticism which signaled the end of his career and to which I have already alluded above. But his disciples at least, warned by this fall of their master, should finally understand all the danger there is in remaining or at least leaving the public in this uncertainty on a question whose solution, whether affirmative or negative, must exert such a great influence on the entire future of humanity.

<sup>34</sup> The manuscript ends here.

Working translation by Shawn P. Wilbur; last revised June 6, 2025

## **A CORVUS EDITION**