

consistent with divine perfection, because a spirit could not be created destitute of that power.

God has, besides, done every thing to prevent crimes, by prescribing to spirits, precepts, the observance of which must always render them good and happy. There is no other method of treating spirits, which cannot be subject to any constraint; and if some of them have abused their liberty, and transgressed these commandments, they are responsible for it, and worthy of punishment, without any impeachment of the Deity.

There remains only one objection more to be considered—namely, that it would have been better not to create such spirits, as God foresaw they must sink into criminality. But this far surpasses human understanding; for we know not, whether the plan of the world could subsist without them. We know, on the contrary, by experience, that the wickedness of some men frequently contributes to the correction and amendment of others, and thereby conducts them to happiness. This consideration alone is sufficient to justify the existence of evil spirits. And, as God has all power over the consequences of human wickedness, every one may rest assured, that in conforming to the commandments of God, all events which come to pass, however calamitous they may appear to him, are always under the direction of Providence, and finally terminate in his true happiness.

This providence of God, which extends to every individual, in particular, thus furnishes the most satisfactory solution of the question respecting the permission and the origin of evil. This likewise is the foundation of all religion, the alone "object of which is to promote the salvation of mankind."

30th December 1760.

LETTER XC.—CONNECTION OF THE PRECEDING CONSIDERATIONS WITH RELIGION. REPLY TO THE OBJECTIONS OF THE PHILOSOPHICAL SYSTEMS AGAINST PRAYER.

BEFORE I proceed farther in my lessons on philosophy and physics, I think it my duty to point out to you their connexion with religion.

However extravagant and absurd the sentiments of certain philosophers may be, they are so obstinately prepossessed in favour of them, that they reject every religious opinion and doctrine, which is not conformable to their system of philosophy. From this source are derived most of the sects and heresies in religion. Several philosophical systems are really contradictory to religion; but in that case divine truth ought surely to be preferred to the revenues of men, if the pride of philosophers knew what it was to yield. Should sound philosophy sometimes seem in opposition to religion, that opposition is more apparent than real; and we must not suffer ourselves to be dazzled with the speciousness of objection.

I begin with considering an objection, which almost all the philosophical systems have started, against prayer. Religion prescribes this as our duty, with an assurance, that God will hear and answer our vows and prayers, provided they are conformable to the precepts which he has given us. Philosophy, on the other hand, instructs us, that all events take place in strict conformity to the course of nature, established from the beginning, and that our prayers gain effect no change whatever; unless we pretend to expect that God should be continually working miracles, in compliance with our prayers. This objection has the greater weight, that religion itself

teaches the doctrine of God's having established the course of all events, and that nothing can come to pass, but what God foresaw from all eternity. Is it credible, say the objectors, that God should think of altering this settled course, in compliance with any prayers which men might address to him?

But I remark, first, that when God established the course of the universe, and arranged all the events which must come to pass in it, he paid attention to all the circumstances which should accompany each event; and particularly to the dispositions, to the desires, and prayers of every intelligent being; and that the arrangement of all events was disposed in perfect harmony with all these circumstances. When, therefore, a man addresses to God a prayer worthy of being heard, it must not be imagined that such a prayer came not to the knowledge of God till the moment it was formed. That prayer was already heard from all eternity; and if the Father of Mercies deemed it worthy of being answered, He arranged the world expressly in favour of that prayer, so that the accomplishment should be a consequence of the natural course of events. It is thus that God answers the prayers of men, without working a miracle.

The establishment of the course of the universe, fixed once for all, far from rendering prayer unnecessary, rather increases our confidence, by conveying to us this consolatory truth, that all our prayers have been already, from the beginning, presented at the feet of the throne of the Almighty, and that they have been admitted into the plan of the universe, as motives conformably to which events were to be regulated, in subseverancy to the infinite wisdom of the Creator.

Can any one believe, that our condition would be better, if God had no knowledge of our prayers be-

fore we presented them, and that He should then be disposed to change, in our favour, the order of the course of nature? This might well be irreconcilable to his wisdom, and inconsistent with his adorable perfections. Would there not, then, be reason to say, that the world was a very imperfect work? that God was entirely disposed to be favourable to the wishes of men; but, not having foreseen them, was reduced to the necessity of every instant interrupting the course of nature, unless He were determined totally to disregard the wants of intelligent beings, which, nevertheless, constitute the principal part of the universe? For, to what purpose create this material world, replenished with so many great wonders, if there were no intelligent beings, capable of admiring it, and of being elevated by it, to the adoration of God, and to the most intimate union with their Creator, in which, undoubtedly, their highest felicity consists?

Hence, it must absolutely be concluded, that intelligent beings, and their salvation, must have been the principal object, in subordination to which God regulated the arrangement of this world; and we have every reason to rest assured, that all the events which take place in it are in the most delightful harmony with the wants of all intelligent beings, to conduct them to their true happiness; but without constraint, because of their liberty, which is as essential to spirits as extension is to body. There is therefore no ground for surprise that there should be intelligent beings which shall never reach felicity.

In this connexion of spirits with events, consists the Divine Providence, of which every individual has the consolation of being a partaker; so that every man may rest assured that, from all eternity, he entered into the plan of the universe. How ought this consideration to increase our confidence

and our joy in the providence of God, on which all religion is founded! You see, then, that on this side religion and philosophy are by no means at variance.

3d January 1761.

LETTER XCI.—THE LIBERTY OF INTELLIGENT BEINGS IN HARMONY WITH THE DOCTRINES OF THE CHRISTIAN RELIGION.

LIBERTY is a quality so essential to every spiritual being, that God himself cannot divest them of it, just as He cannot divest a body of its extension, or of its *inertia*, without entirely destroying or annihilating it: to divest a spirit of liberty, therefore, would be the same thing as to annihilate it. This must be understood of the spirit, or soul itself, and not of the actions of the body, which the soul directs, in conformity to its will. If you would prevent me from writing, you have but to bind my hands—to write is undoubtedly an exercise of liberty; but then, though you may say that you have deprived me of the liberty of writing, you have only deprived my body of the faculty of obeying the dictates of my soul. Bind me ever so hard, you cannot extinguish in my spirit an inclination to write; all you can do is to prevent the execution of it.

We must always carefully distinguish between inclination, or the act of willing, and execution, which is performed by the ministrations of the body. The act of willing cannot be restrained by any exterior power, not even by that of God; for liberty is independent of all exterior force. But there are means of acting on spirits, by motives which have a tendency, not to constrain, but to persuade. Let a man be firmly determined to engage in any enter-

prise, and let us suppose the execution of it prevented; without making any change in his intention, or will, it might be possible to suggest motives, which should engage him to abandon his purpose, without employing any manner of constraint: however powerful these motives may be, he is always master of his own will; it never can be said that he was forced or constrained to it, at least the expression would be improper; for the proper term is *persuade*, which is so suitable to the nature and the liberty of intelligent beings, that it cannot be applied to any other. It would be very ridiculous, for example, in playing at billiards, to say that I persuaded the ball to run into the hazard.

This sentiment respecting the liberty of spirits, appears, however, to some persons, contrary to the goodness or the power of the Supreme Being. Liberty, from its very nature, can submit to no degree of constraint, even on the part of God. But without exercising any constraint over spirits, God has an infinite variety of means of presenting them with persuasive motives; and, I believe, that all possible cases are adapted by Providence to our condition, in such a manner, that the most abandoned wretches might derive from them the most powerful motives to conversion, if they would but listen to them: and that a miracle would not produce a better effect on these vicious spirits; they might be affected by it for a season, but would not become better. It is thus that God co-operates in our conversion, by furnishing us with motives the most efficacious, and by the circumstances and opportunities which His providence supplies.

If, for example, a man who hears an awakening sermon, is affected by it, repents, and is converted, the act of his soul is evidently his own work; but the occasion of the sermon, which he was so happy

as to hear, precisely at the time when he was disposed to profit by it, was nothing less than His work; the Divine Providence over-ruled that circumstance, so salutary to him. In fact, without the opportunity, over which the man had no power, he would have persisted in a sinful course.

Hence you will easily comprehend the meaning of such expressions as these: "Man can do nothing of himself; all depends on divine grace; it is God that worketh to will and to do." The favourable circumstances which Providence supplies to men, are sufficient to elucidate these expressions, without having recourse to a secret force, which acts by constraint on human liberty; as these circumstances are directed of God, in conformity to the most consummate wisdom, in the view of conducting every intelligent being to happiness and salvation, unless he willfully rejects the means by which he might have attained true felicity.

6th January 1761.

LETTER XCII.—ELUCIDATION RESPECTING THE
NATURE OF SPIRITS.

In order more clearly to elucidate what I have just said respecting the difference between body and spirit—for it is impossible to be too attentive to what constitutes that difference, as it extends so far, that spirit has nothing in common with body, nor body with spirit—I think it necessary to subjoin the following reflections:

Extension, *inertia*, and impenetrability, are the properties of body: Spirit is without extension, without *inertia*, without impenetrability. All philosophers are agreed, that extension cannot have place in respect of spirit. It is a self-evident truth,

for every thing extended is divisible, and you can form the idea of its parts; but a spirit is susceptible of no division; you can have no conception of its half, or of its third part. Every spirit is a complete being, to the exclusion of all parts; it cannot then be affirmed, that a spirit has length, breadth, or thickness. In a word, all that we conceive of extension, must be excluded from the idea of a spirit.

It would appear, therefore, that as spirits have no magnitude, they must resemble geometrical points, the definition of which is, that they have neither length, breadth, nor depth. Would it be a very accurate idea to represent to ourselves a spirit by a mathematical point? The scholastic philosophers have professed this opinion, and considered spirits as beings infinitely small, similar to the most subtle particles of dust, but endowed with an inconceivable activity and agility, by which they are enabled to transport themselves, in an instant, to the greatest distances. They maintained, that in virtue of this extreme minuteness, millions of spirits might be inclosed in the smallest space; they even made it a question, How many spirits could dance on the point of a needle?

The disciples of *Wolf* are nearly of the same opinion. According to them, all bodies are composed of particles extremely minute, divested of all magnitude—and they give them the name of monads. A monad, then, is a substance destitute of all extension; and on dividing a body till you come to particles so minute, as to be susceptible of no farther division, you have got to the *Wolfian* monad, which differs, therefore, from the most subtle particle of dust only in this, that the minutest particles of dust are not perhaps sufficiently small, and that a farther division is still necessary to obtain real monads.

Now, according to *Mr. Wolff*, not only all bodies are composed of monads, but every spirit is merely a monad; and the Supreme Being, I tremble as I write it, is likewise a monad. This does not convey a very magnificent idea of God, of spirits, and of the souls of men. I cannot conceive that my soul is nothing more than a being similar to the last particles of a body, or that it is reduced almost to a point. It appears to me still less capable of being maintained, that several souls joined together, might form a body, a slip of paper; for example, to light a pipe of tobacco. But the supporters of this opinion go upon this ground, that as a spirit has no magnitude, it must, of necessity, resemble a geometrical point. Let us examine the solidity of their reasoning.

I remark, first, that as a spirit is a being of a nature totally different from that of body, it is absurd to apply to it standards, which suppose magnitude, and that, consequently, it would be folly to ask, how many feet or inches long a spirit is, or how many pounds or ounces it weighs? These questions are applicable only to things which have length or weight, and are as absurd as if, speaking of time, it were to be asked, how many feet long an hour was, or how many pounds it weighed? I can always confidently affirm, that an hour is not equal to a line of 100 feet, or of ten feet, or of one foot, or any other standard of measure; but it by no means follows, that an hour must be a geometrical point. An hour is of a nature entirely different, and it is impossible to apply to it any standard which supposes a length which may be expressed by feet or inches.

The same thing holds good as to spirit. I can always boldly affirm, that a spirit is not ten feet, nor

100 feet, nor any other number of feet; but it does not hence follow, that a spirit is a point, any more than that an hour must be one, because it cannot be measured by feet or inches. A spirit, then, is not a monad, or in any respect similar to the ultimate particles into which bodies may be divided; and you are perfectly able to comprehend, that a spirit may have no extension, without being, on that account, a point or a monad. We must, therefore, separate every idea of extension from that of spirit.

To ask, in what place does a spirit reside? would be, for the same reason, likewise an absurd question; for to connect spirit with place, is to ascribe extension to it. No more can I say, in what place an hour is; though assuredly an hour is something; something, therefore, may exist, without being attached to a certain place. I can, in like manner, affirm, that my soul does not reside in my head, nor out of my head, nor in any particular place; without its being deduced, as a consequence, that my soul has therefore no existence; just as it may be with truth affirmed of the hour now passing, that it exists neither in my head nor out of my head. A spirit exists, then, though not in a certain place; but if our reflection turns on the power which a spirit has, of acting upon a body, the action is most undoubtedly performed in a certain place.

My soul, then, does not exist in a particular place, but it acts there; and as God possesses the power of acting upon all bodies, it is in this respect we say, He is every where, though his existence is attached to no place.

10th January 1761.

LETTER XCIII.—THE SUBJECT CONTINUED. REFLECTIONS ON THE STATE OF SOULS AFTER DEATH.

You will probably be surprised at the sentiment which I have just now ventured to advance, that spirits, in virtue of their nature, are in no place. In thus affirming, I shall perhaps be in danger of passing for a man who denies the existence of spirits, and consequently that of God. But I have already demonstrated, that something may exist, and have a reality, without being attached to any one place. The example drawn from an hour, though feeble, removes the greatest difficulties, though there is an infinite difference between an hour and a spirit.

The idea which I form of spirits appears to me incomparably more noble than that of those who consider them as geometrical points, and who reduce God himself to this class. What can be more shocking than to confound all spirits, and the Supreme Being among the rest, with the minutest particles into which a body is divisible, and to rank them in the same class with these particles, which it is not in the power of the learned term monad to ennoble?

To be in a certain place, is an attribute belonging only to corporeal things; and as spirits are of a totally different nature, it is not a matter of surprise to say, that they are not to be found in any place; and I am under no apprehension of reproach, for the elucidations which I have submitted to you on this subject. It is thus I exalt the nature of spirits infinitely above that of bodies.

Every spirit is a being that thinks, reflects, reasons, deliberates, acts freely, and, in one word, that lives; whereas body has no other qualities but that of being extended, susceptible of motion, and impenetrable;

from whence results this universal quality, that every body remains in the same state as long as there is no necessity of mutual penetration, or of their undergoing some change; and in case of the necessity of their penetrating each other, if they continued to remain in their state, their impenetrability itself supplies the powers requisite to change their state, as far as it is necessary to prevent all penetration.

In this consist all the changes which take place in bodies: all is passive, and necessarily befalls them in conformity to the laws of motion. There is, in body, neither intelligence, nor will, nor liberty: these are the supereminant qualities of spirits, while bodies are not even susceptible of them.

It is spirit likewise which produces, in the corporeal world, the principal events, the illustrious actions, of intelligent beings, which are all the effect of the influence which the souls of men exercise upon their bodies. This power, which every soul has over its body, cannot but be considered as a gift of God, who has established this wonderful union between soul and body. And as I find my soul in such a union with a certain particle of my body, concealed in the brain, it may be said, that the seat of my soul is in that spot, though, properly speaking, my soul resides no where, and is referable to that place of my body only in virtue of its action and of its power.

It is also the influence of the soul upon the body which constitutes its life, which continues as long as this union subsists, or as the organization of the body remains entire. Death, then, is nothing else but the dissolution of this union, and the soul has no need to be transported elsewhere; for, as it resides in no place, all places must be indifferent to it; and, consequently, if it should please God, after my death, to establish a new union between my soul and an organized body in the moon, I should instantly

be in the moon, without the trouble of a long journey. And if, even now, God were to grant to my soul a power over an organized body in the moon, I should be equally here and in the moon; and this involves no manner of contradiction. It is body only which cannot be in two places at once; but there is nothing to prevent spirit, which has no relation to place, in virtue of its nature, to act at the same time on several bodies, situated in places very remote from each other; and in this respect it might be said, with truth, that it was in all these places at once.

This supplies us with a clear elucidation of the omnipresence of God: it is, that His power extends to the whole universe, and to all the bodies which it contains. It appears to me, of consequence, an improper expression, to say, that God exists everywhere, as the existence of a spirit has no relation to place. It is more consonant with propriety to say, God is every where present.

Let us now compare this idea with that of the Wolffians, who, representing Deity under the idea of a point, attach Him to one fixed place, as, in fact, a point cannot be in several places at once; and how is it possible to reconcile the divine omnipotence with the idea of a point?

Death being a dissolution of the union subsisting between the soul and body during life, we are enabled to form some idea of the state of the soul after death. As the soul, during life, derives all its knowledge through the medium of the senses, being deprived by death of the information communicated through the senses, it no longer knows what is passing in the material world; this state might, in some respects, be compared to that of a man who should all at once become blind, deaf, dumb, and deprived of the use of all the other senses. Such a

man would retain the knowledge which he had acquired through the medium of sense, and might continue to reflect on ideas previously formed; his own actions especially might supply an ample store; and, finally, the faculty of reasoning might remain entire, as the body in no respect whatever contributes to its exercise.

Sleep likewise furnishes us with something like an example of this state, as the union between soul and body is then in a great measure interrupted; though the soul, even in sleep, ceases not from exerting its activity, being employed in the production of what we call dreams. These dreams are usually very much disturbed, by the remains of the influence which the senses still exercise over the soul; and we know by experience, that the more this influence is suspended, which is the case in very profound sleep, the more regular and connected likewise our dreams are. Thus, after death, we will find ourselves in a more perfect state of dreaming, which nothing shall be able to discompose; it shall consist of representations and reasonings perfectly well kept up. And this, in my opinion, is nearly all we can say of it, at least with any appearance of reason.

13th January 1761.

LETTER XCIV.—CONSIDERATIONS ON THE ACTION OF THE SOUL UPON THE BODY, AND OF THE BODY UPON THE SOUL.

As the soul is the principal part of our being, it is of high importance thoroughly to investigate its operations. You will please to recollect, that the union between the soul and the body contains a two-fold influence; by the one, the soul perceives

and feels all that passes in a certain part of the brain; and by the other, it has the power of acting on that same portion of the brain, and of producing certain motions in it.

Anatomists have taken infinite pains to discover this part of the brain, which is justly called the seat of the soul; not that the soul actually resides there, for it is not confined to any place, but because the power of acting is attached to that spot. It may be said, that the soul is present there; but not that it exists there, or that its existence is limited to it. This part of the brain is undoubtedly that in which all the nerves terminate; now, anatomists tell us, that this termination is in a certain portion of the brain, which they term the *callous body*. This, therefore, we may consider as the seat of the soul; and the Creator has bestowed upon every soul such a power over this callous membrane of his body, that it not only perceives all that passes there, but is likewise able to produce a reciprocal impression. Here, then, we observe a two-fold action: the one, by which the body acts upon the soul—and the other, by which the soul acts upon the body; but these actions are infinitely different from those which bodies exercise upon other bodies.

The soul, from its union with the *corpus callosum*, finds itself intimately connected with the whole body, by means of the nerves, which are thence universally diffused. Now, the nerves are fibres so wonderfully constructed, and to all appearance filled with a fluid so subtle, that the slightest change which they undergo at one extremity, is instantly communicated to the other extremity in the brain, where the seat of the soul is. And, reciprocally, the slightest impression made by the soul, on the extremities of the nerve, in the *corpus callosum*, is immediately transmitted through the whole extent of every nerve;

and it is thus that the muscles and members of our bodies are put in motion, and obey the commands of the soul.

This wonderful structure of the body places it in a very close connexion with all exterior objects, whether near or remote, which may act upon it, either by immediate contact, as in feeling and tasting; or by their exhalations, as in smelling. Bodies at a great distance act on the sense of hearing, when they make a noise, and exert in the air vibrations which strike our ears; they act likewise upon the sight, when they are illumined, and transmit into our eyes the rays of light, which consist, in like manner, in a certain vibration caused in that medium, much more subtle than the air, which we call *Ether*. It is thus that bodies, both near and remote, may act upon the nerves of our body, and produce certain impressions in the *corpus callosum*, from which the soul derives its perceptions.

From every thing, therefore, which makes an impression on our nerves, there results a certain change in the brain, of which the soul has a perception, and thereby acquires the idea of the object which caused it. We have here, then, two things to be examined: the one is corporeal, or *material*, which is the impression, or the change produced in the *corpus callosum* of the brain; the other *spiritual*, namely, the perception, or the information, which the soul derives from it. It is, if I may so express myself, from the contemplation of what passes in the *corpus callosum*, that all our knowledge is derived.

You must permit me to enter into a more particular detail on this important article. Let us, first, consider one single sense, say that of smelling, which being the least complicated, seems the most proper to assist us in our researches. Suppose all

the other senses annihilated, and that a rose was applied to the nose; its exhalations would at once excite a certain agitation in the nerves of the nose, which thence transmitted to the *corpus callosum*, will occasion there likewise some change; and in this consists the *material* circumstance, which is the subject of our investigation. This slight change, produced in the *corpus callosum*, is then perceived by the soul, and it thence acquires the idea of the smell of a rose; and this is the *spiritual* operation which takes place: but we cannot explain in what manner this is done, as it depends on the incomprehensible union which the Creator has established between the body and the soul.

It is certain, however, that upon this change in the *corpus callosum*, there is excited in the soul the idea of the smell of a rose, or the contemplation of this change furnishes to the soul a certain idea, that of the smell of a rose, but nothing more; for as the other senses are suspended, the soul can form no judgment of the nature of the object itself which suggested this idea—the idea of the smell of a rose alone was excited in the soul. Hence we comprehend that the soul does not form this idea of itself, for it would have remained unknown but for the presence of a rose. But farther, the soul is not indifferent with respect to it; the perception of this idea is agreeable; the soul itself is somehow interested in it. Accordingly, we say that the soul feels the odour of the rose; and this perception we call *sensation*.

It is the same with all the other senses; every object by which they are struck excites in the *corpus callosum* a certain change, which the soul observes with a sensation agreeable or disagreeable, and from which it derives the idea of the object which caused it. This idea is accompanied with a sensation so

much the stronger and more intense, as the impression made on the *corpus callosum* is more lively. It is thus that the soul, by contemplating the changes produced in the *corpus callosum* of the brain, acquires ideas, and is affected by them; and this is what we understand by the term *sensation*.

17th January 1761.

LETTER XCV.—OF THE FACULTIES OF THE SOUL,
AND OF JUDGMENT.

HAD we no other sense but that of smellings, our knowledge would be very limited; we should then have no other sensation than that of odours, the diversity of which, were it ever so great, could not very much interest our soul; being restricted to this, that agreeable smells would procure some degree of pleasure, and such as are disagreeable would excite some disgust.

But this very circumstance carries us forward to a most important inquiry: Whence is it that one smell is agreeable, and another disgusting? It cannot be a matter of doubt, that agreeable smells excite in the *corpus callosum* a different agitation from that which is produced by the disagreeable; but how comes it, that one agitation in the *corpus callosum* can give pleasure to the soul, while another is offensive, and even frequently becomes insupportable? The cause of this difference resides no longer in body and matter; we must look for it in the nature of the soul itself, which enjoys a certain pleasure in feeling certain agitations, while others excite uneasiness; and the real cause of this effect we do not know.

Hence we comprehend, that the soul does more than simply perceive what passes in the brain, or

corpus callosum; it subjoints to sensation a judgment respecting what it finds agreeable or disgusting, and consequently exercises, beside the faculty of perceiving, another and a different faculty, that of judging; and this judgment is wholly different from the simple idea of a smell.

The same consideration, of the sense of smelling only, discovers to us still other acts of the soul. When the smells are changed, when you apply to the nose a carnation after a rose, the soul has not only a perception of both smells, but likewise remarks a difference between them. Hence we conclude, that the soul still retains the preceding idea to compare it with that which follows; in this consists *remembrance*, or memory, by which we have the power of recalling ideas, antecedent and past. Now the real source of memory is entirely concealed from us. We know well that the body has much to do in it; for experience assures us, that disease, and various accidents, which befall the body, weaken and frequently destroy the memory: it is equally certain, at the same time, that the recollection of ideas is the proper work of the soul. A recollected idea is essentially different from an idea excited by an object. I have a perfect recollection of the sun which I saw to-day; but this idea greatly differs from that which I had while I was looking at the sun.

Some authors pretend, that when we recall an idea, there happens in the brain an agitation similar to that which first produced it; but if this were the case, I should actually see the sun; it would no longer be a recollected idea. They admit, indeed, that the agitation which accompanies the recalled idea is much weaker than that from which the original idea proceeded: but still I am not satisfied with this; for it would thence follow, that when I recall the idea of the sun, it would be much the same as

when I see the moon, the light of which, you will please to remember, is about 200,000 times weaker than that of the sun. But actually to look at the moon, and simply to recollect the sun, are two things absolutely different.

We may say with truth, that the recollected ideas are the same with the actual ideas; but this identity respects only the soul; with regard to the body, the actual idea is accompanied with a certain agitation in the brain, whereas the recollected one is destitute of it. Accordingly we say, that the idea which I feel, or which an object acting on my senses excites in my soul, is a sensation; but it can with no propriety be said that a recollected idea is a sensation. To recollect and to feel always remain two things absolutely different.

When, therefore, the soul compares two different smells, when it has the idea of the one from the presence of an object acting on the sense of smelling, and that of the other from recollection, it has in fact two ideas at once, the actual idea, and the recollected idea; and in pronouncing whether of the two is more or less agreeable or disagreeable, it exerts a particular faculty, distinct from that by which it only contemplates what is presented to it.

But the soul performs still other operations, when a succession of several different smells is presented to it; for while it is struck with each of these in its turn, the preceding are recollected, and a notion is thereby acquired of past and present, and even of future, when new sensations are proposed, similar to those of which it has already had experience. It thence likewise derives the idea of succession, in as much as it undergoes several impressions successively; and hence results the idea of *duration*, and of *time*. Finally, on remarking the diversity of sen-

sations which succeed each other, it begins to reckon *one, two, three, &c.* though this should not go farther, from want of signs or names wherewith to mark numbers. For supposing a man has just begun to exist, and who has hitherto experienced no sensations but those of which I have been speaking, far from having created a language for himself, he only knows how to exert his first faculties on the simple ideas which the sense of smelling presents to him.

You see, then, that the man in question has already acquired the capacity of forming to himself ideas of diversity of the present, of the past, and even of the future; afterwards, of succession, of the duration of time, and of number, or at least of the elements of these ideas. Some authors pretend, that such a man could not acquire the idea of the duration of time, without a succession of different sensations; but it appears to me, that the same sensation, the smell of the rose, for example, being continued for a considerable time together, he would be differently affected by it than he would if it were presently withdrawn. A very long duration of the same sensation would at length become tiresome, which would necessarily excite in him the idea of duration. It must certainly be allowed, that his soul would be sensible of a very different effect if the sensation were continued long, than if it lasted only for a moment; and the soul will clearly perceive this difference: it will accordingly have some idea of duration and of time, without any variation of the sensations.

These reflections which the soul makes, occasioned by its sensations, are what properly belong to its *spirituality*, the body furnishing only simple sensations. The perception of these sensations is already

an act of the soul's spirituality; for a body can never acquire ideas.

20th January 1761.

LETTER XCVI.—CONVICTION OF THE EXISTENCE OF WHAT WE PERCEIVE BY THE SENSES. OF THE IDEALISTS, EGOTISTS, AND MATERIALISTS.

In all the sensations which we experience when one of our senses is struck by any object, it is a matter of high importance to remark, that the soul not only acquires an idea conformed to the impression made on the nerves, but that it judges, at the same time, there must exist an exterior object, which furnished this idea. Though habit makes us consider this judgment as extremely natural, yet we have reason to be astonished at it, when we examine more attentively what then passes in our brain.

An example will place this in a clear light. I shall suppose you looking at the full moon by night; the rays which enter into your eyes will at once paint on the retina an image similar to the moon, for the minute particles of the retina are by the rays put into a vibration similar to that which agitates those of the moon. Now, the retina being only a texture of nerves extremely subtle, you easily comprehend that these nerves must hence undergo a certain agitation, which will be transmitted to the origin of the nerves in the brain. There will be excited, therefore, likewise, in that portion of the brain a certain agitation, which is the real object that the soul contemplates, and from which it derives an article of knowledge, which is the idea of the moon. Consequently, the idea of the moon is nothing else but the contemplation of this slight agitation affecting the origin of the nerves.

The activity of the soul is so much attached to the spot in which the nerves terminate, that it absolutely knows nothing of the images painted on the bottom of the eye, and still less of the moon, whose rays have formed these images. The soul, however, does not satisfy itself with the mere speculation of the agitation in the brain, which supplies it immediately with the idea of the moon; it subjoins to this the judgment, that there really exists out of us an object which we call the moon. This judgment is reduced to the following reasoning:

There has taken place in my brain a certain agitation, a certain impression; I do not absolutely know by what cause it has been produced, as I know nothing even of the images which are the immediate cause of it upon the retina; nevertheless, I boldly pronounce that there is a body out of me, the moon, which supplied me with this sensation.

What a consequence! May it not be more probable, that this agitation, or this impression, is produced in my brain by some internal cause, such as the motion of the blood, or perhaps merely by chance? What right have I, then, to conclude that the moon actually exists? If I conclude from it, that there is, at the bottom of my eye, a certain image, this might pass; as, in fact, this image is the immediate cause of the impression made on the brain; though it was sufficiently bold to hazard even this conclusion. But I go much farther, and because there is a certain agitation in my brain, I proceed to conclude, that there exists, out of my body, nay, in the heavens, a body, which is the first cause of such impression, and that this body is the moon.

In sleep, when we imagine we see the moon, the soul acquires the same idea; and perhaps a similar agitation is then produced in the brain, as the soul

imagines that it then really sees the moon. It is undoubtedly certain, that in this we deceive ourselves; but what assurance have we that our judgment is better founded when we are awake? Philosophers have lost their way more than once, in endeavouring to solve this difficulty.

What I have just said respecting the moon, takes place with regard to all the bodies which we see. The consequence is not apparent, that there must exist bodies out of us, because our brain undergoes certain agitations or impressions. This applies even to our own limbs, and to our whole body, of which we know nothing but by means of the senses, and of the impressions which they make in the brain; if, then, these impressions, and the ideas which the soul derives from them, prove nothing as to the existence of body, that of our own body becomes equally doubtful.

You will not therefore be surprised, that there should be philosophers, who have openly denied the existence of bodies; and in truth it is not easy to refute them. They derive a very strong argument from dreams, in which we imagine that we see so many bodies which have no existence. It is said with truth, that then it is pure illusion; but what assurance have we that we are not under the power of a similar illusion when awake? According to these philosophers, it is not an illusion: the soul, they admit, perceives a certain impression—an idea; but they boldly deny it to be a consequence, that bodies really exist, which correspond to those ideas. The supporters of this system are called *Idealists*, because they admit the *ideas* only of material things, and absolutely deny their existence. They may likewise be denominated *Spiritualists*, as they maintain that no beings exist, except spirits.

And as we do not know other spirits, but by means of the senses, or of ideas, there are philosophers who go so far as to deny the existence of all spirits, their own soul excepted, of the existence of which every one is completely convinced. These are called *Egotists*, because they pretend that nothing exists but their own soul.

To them are opposed the philosophers, whom we denominate *Materialists*, who deny the existence of spirits, and maintain that every thing which exists is matter, and that what we call our soul is only matter extremely subtle, and thereby rendered capable of thought.

24th January 1761.

LETTER XXVII.—REFUTATION OF THE IDEALISTS.

I wish it were in my power to furnish you with the arms necessary to combat the Idealists and the Egotists, by demonstrating, that there is a real connexion between our sensations and the objects themselves, which they represent; but the more I think of it, the more I feel my own incapacity.

It would be ridiculous to think of engaging with the Egotists; for a man who imagines he alone exists, and who does not believe in my existence, would act in contradiction to his own system, if he paid any attention to my reasoning, which, according to him, would be that of an imaginary being. It is likewise a hard task to confute the Idealists—nay, it is impossible to convince, of the existence of bodies, a man obstinately determined to deny it. Though no such philosophers existed, it would be highly interesting, to be able to convince ourselves, that as often as our soul experiences sensations, it may be with cer-

tainty concluded, that bodies likewise exist; and that, when my soul is affected by the sensation of the moon, I may thence boldly infer the existence of the moon.

But the union which the Creator has established between the soul and the brain, is a mystery so unfathomable, that all our knowledge of it amounts only to this: Certain impressions made in the brain, where the seat of the soul is, excite in it certain ideas, or sensations; but the cause of this influence is absolutely unknown to us. We ought to satisfy ourselves with knowing, that this influence subsists, which experience sufficiently confirms; and it is in vain to investigate *how* this is produced. Now, the same experience which proves it, informs us likewise, that every sensation always disposes the soul to believe that there exists, out of it, some object which excited such sensation; and that sensation discovers to us several properties of the object.

It is, then, a most undoubted fact, that the soul always concludes, from any sensation whatever, the existence of a real object out of us. This is so natural to us, from our earliest infancy, and so universally the case with all men, and even with animals, that it cannot, with any propriety, be called a prejudice. The dog that barks when he sees me, is certainly convinced that I exist; for my presence excites in him the idea of my person. The dog, then, is not an idealist. Even the meanest insects are assured that bodies exist out of them; and they could not have this conviction, but by the sensations excited in their souls.

I believe, therefore, that sensations include much more than those philosophers are disposed to admit. They are not only simple perceptions of certain impressions made in the brain; they supply the soul not with ideas only, but they effectively represent

to it objects externally existing, though we cannot comprehend how this is done.

In fact, what resemblance can there be between the luminous idea of the moon, and the slight impression which its rays may produce in the brain by means of nerves?

The idea, even in as far as the soul perceives it, has nothing material; it is an act of the soul, which is a spirit: it is not necessary, therefore, to look for a real relation between the impressions of the brain, and the ideas of the soul; it is enough for us to know, that certain impressions made in the brain excite certain ideas in the soul, and that these ideas are representations of objects externally existing, of whose existence they give us the assurance.

Thus, when my brain excites in my soul the sensation of a tree, or of a house, I pronounce without hesitation, that a tree, or a house, really exists out of me, of which I know the place, the size, and other properties. Accordingly, we find neither man nor beast who calls this truth in question. If a clown should take it into his head to conceive such a doubt, and should say, for example, he does not believe that his bailiff exists, though he stands in his presence, he would be taken for a madman, and with good reason; but when a philosopher advances such sentiments, he expects we should admire his knowledge and sagacity, which infinitely surpass the apprehensions of the vulgar.

It appears to me, accordingly, abundantly certain, that such extravagant sentiments would never have been maintained, but from pride, and an affectation of singularity; and you will readily believe that the common people have, in this respect, much more good sense than those learned gentlemen, who derive no other advantage from their researches, but

that of bewildering themselves in a labyrinth of chimeras, unintelligible to the rest of mankind.

Let it be established, then, as a certain rule, that every sensation not only excites in the soul an idea, but shows it, if I may so express myself, an external object, of whose existence it gives full assurance, without practising a deception. A very formidable objection, however, is started against this, arising from dreams, and the reveries of sick persons, in which the soul experiences a great variety of sensations of objects which no where exist. The only reflection I shall suggest on this subject is, that it must be very natural for us to judge that the objects, the sensation of which the soul experiences, really exist, as we judge after this manner even in sleep, though then we deceive ourselves; but it does not thence follow, that we likewise deceive ourselves when we are awake. In order to remove this objection, it is necessary to know better the difference of the state of the man who is asleep, and of him who wakes; and none, perhaps, know this less than the learned, which must surely be a matter of some surprise to you.

27th January 1761.

LETTER XCVIII.—THE FACTORY OF PERCEIVING.
REMINSISCENCE, MEMORY, AND ATTENTION. SIM-
PLE AND COMPOUND IDEAS.

You are by this time sensible, that objects, by acting upon our senses, excite in the soul sensations, from which we judge that they really exist out of us. Though the impressions which occasion these sensations are made in the brain, they present, then, to the soul, a species of image similar to the object which the soul perceives, and which is called the *sensible idea*, because it is excited by the senses.

Thus, on seeing a dog, the soul acquires the idea of it; and it is by means of the senses that the soul comes to the knowledge of external objects, and acquires sensible ideas of them, which are the foundation of all our attainments in knowledge.

This faculty of the soul, by which it acquires the knowledge of external things, is denominated the *faculty of perception*, and depends, no doubt, on the wonderful union which the Creator has established between the soul and the brain. Now, the soul has still another faculty, that of recalling ideas already communicated by the senses; and this faculty is named *remembrance*, or *imagination*. Thus, having once seen an elephant, you will be able to recollect the idea of that animal, though it is no longer before you. There is, however, a mighty difference between actual and recollected ideas: the former make an impression much more lively and interesting than the latter; but the faculty of recalling ideas is the principal source of all our knowledge.

Did we lose the ideas of objects as soon as they cease to act upon our senses, we should never be able to make any reflection, any comparison; and our knowledge would be entirely confined to the things which we should feel at the moment, all preceding ideas being extinguished, as if we had never possessed them.

It is, therefore, a faculty essential to reasonable beings, and with which animals too are endowed, that of being able to recollect past ideas. You know the faculty of which I speak is *memory*. It by no means follows, however, that we have it always in our power to recall all our past ideas. How frequently do we exert ourselves in vain to recollect certain ideas which we formerly had? Sometimes we forget them entirely; but for the most part only partially.

If you should happen, for example, to forget the demonstration of the Pythagorean theorem, with all your efforts, perhaps, you should not be able to recollect it—but this would be only a partial forgetfulness; for as soon as I had again drawn the figure, and put you in the train of the demonstration, you will presently recollect it; and this second demonstration will make on your mind quite a different impression from the first. We see, then, that the remembrance of ideas is not always in our power, though they may not be wholly extinguished; and a slight circumstance is frequently capable of reproducing them.

We must therefore carefully distinguish between sensible and recollected ideas. Sensible ideas are represented to us by the senses; but we ourselves form recollected ideas on the model of the sensible, as far as we remember them.

The doctrine of ideas is of the last importance for the purpose of a thorough disquisition of the real sources of human knowledge. And, first, ideas are distinguished into *simple* and *complex*. A simple idea is that in which the soul finds nothing to distinguish, and remarks no parts different from each other. Such is, for example, the idea of a smell, or of a spot on a substance of one colour; such is likewise that of a star, in which we perceive only one luminous point. A complex idea is a representation in which the soul is able to distinguish several different things. When, for instance, we look attentively at the moon, we discover several dark spots, surrounded by contours more luminous; we remark also her round figure when she is full, and her horned figure when waxing or waning. On viewing her through the telescope, there are many other particulars distinguishable.

How many different things do we not perceive in beholding a noble palace, or a fine garden? When you do me the honour to read this letter, you will discover in it the different traits of the characters, which you can with ease distinguish from each other. This, then, is a complex idea, as it contains a variety of simple ideas. Not only this letter, taken in whole, presents a complex idea, from its consisting of a plurality of words; but every word, too, is a complex idea, being composed of several characters; nay, every character is one, from the singularity of the form which distinguishes it from others; but the elements or points which constitute every character may be considered as simple ideas, in as much as you no longer perceive in them any diversity. A greater degree of attention will likewise discover some variety in these elements, on viewing them through a microscope.

There is a great difference, therefore, even in the manner of contemplating objects. When we observe them only slightly and transiently, we perceive very little variety; but to an attentive consideration, every particular detail stands disclosed. A savage, on throwing his eyes over this letter, will take it for a piece of paper scribbled all over, and will distinguish only the black from the white, whereas an attentive reader observes in it the peculiar form of every character. Here, then, we have a new faculty of the soul, denominated *attention*, by which it acquires the simple ideas of the different things that meet in one object.

Attention requires address, the result of long and frequent exercise, to render it capable of distinguishing the different parts of an object. A clown and an architect, passing by a palace, will both receive the impression of the rays which enter into their

eyes; but the architect will discover a thousand minute particulars, of which the clown has no perception. Attention alone produces this difference.

31st January 1761.

LETTER XCIX.—DIVISION OF IDEAS INTO CLEAR AND OBSCURE, DISTINCT AND CONFUSED. OF DISTRACTION.

If we consider, in a slight manner only, a representation made to us by the senses, the idea which we acquire from it is very imperfect, and we say it is *obscure*; but the more attention that we employ to distinguish all its parts, the more *perfect* or *distinct* our idea will become. In order to acquire a perfect or distinct idea of an object, it is not then sufficient that it should be represented in the brain, by impressions made upon the senses—the soul, too, must apply its attention, which is properly an act of the soul, independent upon the body.

It is farther necessary that the representation in the brain should be well expressed, and contain the different parts and qualities which characterize the object. This takes place when the object is presented to the senses in a suitable manner. When, for example, I see a piece of writing, at the distance of ten feet, I am unable to read it, let me employ whatever degree of attention I may; the distance of the characters prevents their being accurately expressed on the bottom of the eye, and consequently also in the brain: but if the same writing is brought to a proper distance, I can read it, because then all the characters are distinctly represented on the bottom of the eye.

You know that we employ certain instruments in order to procure a more perfect representation in

the organs of sense, such as microscopes and telescopes; which are intended as supplements to the imperfection of vision. But, in employing their assistance, we are incapable of attaining a distinct idea, without attention; otherwise we acquire but an obscure idea, nearly such as we should have had by taking a glimpse of the object only.

I have already remarked, that sensations are by no means indifferent to the soul, but agreeable or disagreeable; and this agreeableness, or its opposite, excites our attention, unless the soul is pre-occupied by several other sensations which entirely engross it: this last state of the soul is termed *distraction*.

Exercise, likewise, greatly contributes to strengthen attention: and there cannot be a mode of exercise more suitable to children than teaching them to read; for they are thereby laid under the necessity of fixing their attention successively on every character, and of impressing on their minds a clear idea of the figure of each. It is easy to see that this exercise must be at first extremely painful; but such a habit is so speedily acquired, that even a child, after a little application, can read with astonishing quickness. In reading a piece of writing, we must have a very distinct idea of every character; thus attention is susceptible of a very high degree of perfection from exercise.

With what amazing rapidity will a proficient in music execute the most difficult piece, though he never saw it before. It is certain that his attention must have run over all the notes, one after another, and that he remarked the signification of each. This attention, however, is not confined only to these notes; it presides, likewise over the motion of the fingers, not one of which moves but by an express order of the soul; he remarks, likewise, at the same

time, how the other performers execute their parts. It is, upon the whole, altogether surprising to what a height the address of the human mind may be carried by application and exercise. Show the same piece of music to a beginner; how much time does it require to impress on his mind the signification of every note, and to give him a complete idea of it: while the master acquires it by almost a single glance.

This ability extends equally to all other kinds of objects, in which one man may infinitely surpass another. There are persons who, with one glance fixed on a person passing before them, acquire a distinct idea, not only of all the features of the face, but the particulars of his whole dress, down to the minutest trifles, while others are incapable of remarking the most striking circumstances.

We observe, in this respect, an infinite difference among men. Some promptly catch all the different marks of an object, and form to themselves a distinct idea of it, while that formed by others is extremely obscure. This difference depends, not only on mental penetration, but likewise on the nature of the objects. A musician catches at once the whole piece of music, and acquires a distinct idea of it; but present him with a piece of writing in Chinese characters, and he will have only very obscure ideas indeed of such writing: the Chinese, on the contrary, will know, at first sight, the real import of each character, but will, in his turn, understand nothing of musical notes. The botanist observes in a plant which he never saw before, a thousand particulars which escape the attention of another; and the architect discerns, by a single glance, in a building, many things which another, with a much greater degree of attention, could not have discovered.

It is always useful to form distinct ideas of the objects presented to our senses; in other words, to remark all the parts of which they are composed, and the marks which distinguish and characterise them. From these observations you will easily comprehend the division of ideas into obscure and clear, into confused and distinct. The more distinct they are, the more they contribute to the advancement of knowledge.

3d February 1761.

LETTER C.—OF THE ABSTRACTION OF NOTIONS.
NOTIONS GENERAL AND INDIVIDUAL. OF GENUS
AND SPECIES.

THE senses represent objects only which exist externally; and sensible ideas all refer to them: but of these sensible ideas the soul forms to itself a variety of other ideas, which are indeed derived from these, but which no longer represent objects really existing.

When, for example, I look at the full moon, and fix my attention only on its contour, I form the idea of roundness; but I cannot affirm that roundness exists of itself. The moon is round, but the round figure does not exist separately out of the moon. It is the same with respect to all other figures; and when I see a triangular, or square table, I may have the idea of a triangle, or of a square, though such a figure exists no where of itself, or separately from an object possessing that figure.

The ideas of numbers have the same origin. Having seen two or three persons, the soul forms the idea of two or three, without attaching it any longer to the persons. Having already acquired the idea

of *three*, the soul is able to proceed, and to form the ideas of greater numbers, of four, five, ten, a hundred, a thousand, and so on, without ever having precisely seen so many things together. A single instance, therefore, in which we have seen two or three objects, may carry the soul forward to the formation of the ideas of other numbers, be they ever so great.

The same thing holds as to figures; and you have the power of forming to yourself the idea of a polygon, with 1761 sides, for example, though you never have seen an object of that form, and though no one such, perhaps, ever existed.

Here the soul exerts a new faculty, which is called the power of *abstraction*; this takes place when the soul fixes its attention on only one quantity or quality of the object, and considers it separately, as if it were no longer attached to the object. When, for instance, I put my hand on a heated stone, and confine my attention to the heat only, I form from it the idea of heat, which is no longer attached to the stone. This idea of heat is formed by abstraction, as it is separated from the stone; and the soul might have derived the same idea from touching a piece of wood heated, or by plunging the hand into hot water.

Thus, by means of abstraction, the soul forms a thousand other ideas of the quantities and properties of objects, by separating them afterwards from the objects themselves: as, when I see a red coat, and fix my attention only on the colour, I form the idea of red, separate from the coat; and it is obvious that a red flower, or any other substance of that colour, would have enabled me to form the same idea.

These ideas, acquired by abstraction, are denominated *notions*, to distinguish them from sensible ideas, which represent to us objects really existing.

It is alleged that the power of abstraction is a prerogative of men, and of other rational beings, and