

when we please : and if the impression were effaced, how could matter recollect that it formerly had that impression, on receiving it afresh ? And though it be very certain that the action of objects on the senses produces some change in the brain, this change is very different from the idea which is occasioned by it ; and the sentiment of pleasure or disgust, as well as the judgment respecting the object itself which caused this impression, equally require a being wholly different from matter, and endowed with qualities of quite a different nature.

Our advances in knowledge are not limited to ideas perceived : the same ideas recollected in the memory, form for us, by abstraction, general ideas of them, which contain at once a great number of individual ideas ; and how many abstract ideas do we form respecting the qualities and accidents of objects, which have no relation to any thing corporeal, such as the notions of virtue, of wisdom, &c. ?

This, after all, refers only to the *understanding*, which comprehends but a part of the faculties of the soul ; the other part is not less extensive, namely, *the will and liberty*, on which depend all our resolutions and actions. There is nothing in the body relative to this quality, by which the soul freely determines itself to certain actions, even after mature deliberation. It pays regard to motives, without being forced to submit to their influence ; and liberty is so essential to it, as well as to all spirits, that it would be as impossible to imagine a spirit without liberty, as a body without extension. God himself could not divest a spirit of this essential property.

It is by this, accordingly, that we are enabled to solve all the perplexing questions respecting the origin of evil, the permission of sin, and the exist-

ence of all the calamities by which the world is oppressed ;—their great and only source is human liberty.

10th March 1761.

LETTER CX.—OF THE ORIGIN AND PERMISSION OF EVIL ; AND OF SIN.

The origin and permission of evil in the world, is an article which has in all ages greatly perplexed theologians and philosophers. To believe that God, a Being supremely good, should have created this world, and to see it overwhelmed with such a variety of evil, appears so contradictory, that some found themselves reduced to the necessity of admitting two principles, the one supremely good, the other supremely evil. This was the opinion entertained by the ancient heretics, known in history by the name of *Manicheans* ; who, seeing no other way of accounting for the origin of evil, were reduced to this extremity. Though the question be extremely complicated, this single remark, that liberty is a quality essential to spirits, dispels at once a great part of the difficulties, which would otherwise be insurmountable.

In truth, when God had created man, it was too late to prevent sin, his liberty being susceptible of no constraint. But, I shall be told, it would have been better not to create such and such men, or spirits, who, as God must have foreseen, would abuse their liberty, and plunge into sin. I should deem it rather rash to enter upon this discussion, and to pretend to judge of the choice which God might have been able to make in creating spirits ; and, perhaps, the plan of the universe required the existence of spirits of every possible description. And,

in fact, when we reflect, that not only our earth, but all the planets, are the habitations of rational beings; and that even all the fixed stars are suns, each of which may have around it a system of planets, likewise habitable,—it is clear, that the number of all the beings endowed with reason, which have existed, which do exist, and which shall exist, in the whole universe, must be infinite.

It is therefore unpardonable presumption to insinuate, that God ought not to have granted existence to a great number of spirits; and the very persons who thus reproach their Maker would certainly not wish to be of the number of those to whom existence was denied. This first objection, then, is sufficiently done away; and it is no way inconsistent with the Divine perfections, that existence has been bestowed on all spirits, good and bad.

It is next alleged, that the mischievousness of spirits, or reasonable beings, ought to have been repressed by the Divine Omnipotence. On this I remark, that liberty is so essential to all spirits, as to be beyond all power of constraint; the only method of governing spirits consists in the use of motives to dispose them to what is good, and to dissuade them from evil; but in this respect we do not find the slightest ground of complaint. The most powerful motives have undoubtedly been proposed to all spirits, to incline them to good, these motives being founded on their own salvation; but they by no means employ constraint, for this would be contrary to their nature, and in all respects impossible.

However wicked men may be, it never can be in their power to excuse themselves, from ignorance of the motives which would have prompted them to good: the divine law, which constantly aims at their everlasting happiness, is engraven on their heart; and it must always be their own fault if they plunge

into evil. Religion discovers to us, likewise, so many other means which God employs to reclaim us from our wanderings, that, on this side, we may rest confidently assured, that God has omitted nothing which could have prevented the malignant dispositions of men, and of other reasonable beings.

But those who bewilder themselves in such doubts respecting the origin and the permission of evil in the world, perpetually confound the corporeal with the spiritual world; they imagine that spirits are, as bodies, susceptible of constraint. Severe discipline is frequently capable of preventing, among the children of a family, the soldiers of an army, or the inhabitants of a city, the open eruption of perverse dispositions; but it must be carefully remarked, that this constraint extends only to what is corporeal; it in no respect restrains the spirit from being as vicious, and as malignant, as if it enjoyed the most unbounded license.

Human governments must rest contented with this exterior or apparent tranquillity, and give themselves little trouble about the real dispositions of men's minds; but, before God, the thoughts all lie open, and perverse inclinations, however concealed from men, are as abominable in his sight, as if they had broken out into the most atrocious actions. Men suffer themselves to be dazzled by false appearances; but God has respect to the real dispositions of every spirit, according as they are virtuous or vicious, independently of the actions which flow from them.

The Holy Scriptures contain, to this purpose, the most pointed declarations, and inform us, that he who meditates only the destruction of his neighbour, suffering himself to be hurried away by a spirit of hatred, is as criminal in the sight of God as the actual murderer; and that he who indulges a covetous

desire of another's property is, in His estimation, as much a thief as he who really steals.

In this respect, therefore, the government of God over spirits, or rational beings, is infinitely different from that which men exercise over men like themselves; and we greatly err if we imagine that a government, which appears the best in the eyes of men, is really so in the judgment of God. This is a reflection of which we ought never to lose sight.

14th March 1761.

LETTER CXI.—OF MORAL AND PHYSICAL EVIL.

WHEN a complaint is made of the evils which prevail in the world, a distribution of them into two classes takes place: *moral evils* and *physical evils*. The class of moral evils contains the perverse or vicious inclinations, the dispositions of spirits to what is evil or criminal, which is undoubtedly the most grievous calamity and the greatest imperfection which can exist.

In truth, with regard to spirits, it is impossible to conceive a more deplorable irregularity, than when they deviate from the eternal laws of virtue, and abandon themselves to the commission of vice. Virtue is the only means of rendering a spirit happy; to bestow felicity on a vicious spirit is beyond the power of God himself. Every spirit addicted to vice is necessarily miserable, and unless it return to virtue, its misery cannot come to an end; such is the idea I form of demons, of wicked and infernal spirits—an idea which to me appears consonant to what Scripture suggests on the subject.

Infidels make a jest of this; but as men cannot pretend to be the best of all rational beings, neither

can they boast of being the most wicked; there are undoubtedly beings much more depraved than the most malignant of mankind, such as devils. But I have already made it appear, that the existence of so many corrupted men and spirits, ought not to form any objection against the perfection of this world, much less be considered as an imputation of the Supreme Being.

A spirit, the devil not excepted, is always a being, excellent, and infinitely superior to every thing that can be conceived in the corporeal world; and this world, as far as it contains an infinite number of spirits, of all orders, is always a work of the highest perfection. Now, all spirits being essentially free, criminality was possible from the commencement of their existence, and could not be prevented even by the Divine Omnipotence. Besides, spirits are the authors of the evils which necessarily result from sin, every free agent being always the only author of the evil which he commits; and, consequently, these evils cannot be imputed to the Creator; as, among men, the workman who makes the sword is not responsible for the mischief that is done with it. Thus, with respect to the moral evils which prevail in the world, the sovereign goodness of God is sufficiently justified.

The other class, that of *physical evils*, contains all the calamities and miseries to which men are exposed in this world. It is admitted, that most of these are a necessary consequence of the malice, and other vicious propensities, with which men as well as other spirits are infected; but as these consequences are communicated by means of bodies, it is asked, Why God should permit to wicked spirits the power of acting so efficaciously on bodies, and of employing them as instruments to execute their pernicious pun-

poses? A father, who saw his son on the point of committing a murder, would snatch the sword out of his hand, and prevent the perpetration of a crime so heinous. I have already observed, that this abandoned son is equally guilty before God, whether he has actually accomplished his design, or only made ineffectual efforts to execute it; and the father, who prevented him, does not thereby render him better.

We may nevertheless confidently maintain, that God does not permit a free course to the wickedness of man. Did nothing resist the execution of all the pernicious purposes of the human heart, how miserable should we be! We frequently see that the wicked have great difficulties to encounter; and though they should succeed, they have no power over the consequences of their actions, which always depend on so many other circumstances, that, in the issue, they produce the directly opposite effect from what was intended. It cannot be denied, at the same time, that there may result from these, calamities and miseries to torment mankind; and it is imagined, that the world would be infinitely better governed, were God to interpose an effectual restraint to the wickedness and audacity of men.

It would undoubtedly be very easy for God to crush to death a tyrant, before he could realize his cruel and oppressive designs; or to strike dumb an unjust judge, who was going to pronounce an iniquitous sentence. We might then live quietly, and enjoy all the comforts of life, supposing God were to grant us the blessings of health, and all the good things we could wish for: our happiness would thus be perfect. On this plan they would have the world governed, in order to render us all happy: the wicked disabled to perpetrate their criminal purposes, and the good in possession of the peaceful enjoyment of all the blessings which they can desire.

It is believed, and with good reason, that God wishes the happiness of men; and it is matter of surprise that this world should be so different from the plan which is imagined the most proper for the attainment of this end. We rather see the wicked frequently enjoying, not only all the advantages of this life, but put in a condition to execute their machinations, to the confusion and distress of persons of worth; while the good are oppressed and overwhelmed by the most sensible evils, pains, diseases, mortifications, loss of goods, and, in general, by every species of calamity; and that at last the good as well as the bad must infallibly die, which appears to be the greatest of all evils.

Looking on the world in this point of view, one is tempted to call in question the supreme wisdom and goodness of the Creator; but it is a hazard which we must take great care to avoid.

17th March 1761.

LETTER CXII.—REPLY TO COMPLAINTS OF THE EXISTENCE OF PHYSICAL EVIL.

Supposing our existence limited to the present life, the possession of the good things of this world, and the enjoyment of every delight, would be very far from filling up the measure of our happiness. All are agreed, that true felicity consists in mental tranquillity and satisfaction, which are seldom if ever accompanied with that brilliancy of condition, which is considered as such an inestimable blessing by those who judge only from appearances.

The insufficiency of temporal good things to render us happy, becomes still more manifest, when we come to reflect on our real destination. Death does

not put a period to our existence, it rather transmits us into another life, which is to endure forever. The faculties of our soul, and our attainments in knowledge, will then no doubt be carried to the highest perfection; and it is on this new state that our real happiness depends, and this state cannot be happy without virtue.

The infinite perfections of the Supreme Being, which we now perceive only as through a thick cloud, shall then shine in the brightest lustre, and shall become the principal object of our contemplation, admiration, and adoration. There, not only shall our understanding find the most inexhaustible stores of pure and perfect knowledge, but we shall be permitted to hope for admission into favour with the Supreme Being, and to aspire after the most endearing expressions of his love. How happy do we reckon the peculiar favourites of a great prince, especially if he is really great, though the favours which he bestows are marred by many infusions of bitterness? What will it then be, in the life to come, when God himself shall *shed abroad his love in our hearts*—a love, the effects of which shall never be interrupted nor destroyed? This shall thenceforward constitute a felicity infinitely surpassing all that we can conceive.

In order to participate in these inexpressible favours, flowing from the love of the Supreme Being, it is natural that, on our part, we should be penetrated with sentiments of the most lively affection to him. This blessed union absolutely requires in us a certain disposition, without which we should be incapable of participating in it; and this disposition consists in virtue, the basis of which is the love of God, and that of our neighbour. The attainment of virtue, then, should be our chief, our only object

in this life, where we exist but for this end, to prepare for, and to render ourselves worthy of partaking in supreme and eternal felicity.

In this point of view, we must form a judgment of the events which befall us in this life. It is not the possession of the good things of this world that renders us happy; it is rather a situation which most effectually conduces to virtue. If prosperity were the certain means of rendering us happy, we might be suffered to complain of adversity; but adversity may rather have the effect of confirming our virtue: and, in this view, all the complaints of men respecting the physical evils of life are likewise completely done away.

You have no difficulty, then, in comprehending, that God had the most solid reasons for admitting into the world so many calamities and miseries, as is unquestionably true, that these calamities are, for the most part, natural consequences of human corruption; but it is in this very thing that we must principally admire the wisdom of the Supreme Being, who knows how to over-rule the most vicious actions, for our final happiness.

Many good people would not have reached such a sublimity of virtue, had they not been oppressed and tormented by cruelty and injustice.

I have already remarked, that bad actions are such, only with regard to those who commit them: the determination of their soul alone is criminal, the action itself being a thing purely corporeal, inasmuch as, considered independently of the person who commits it, there is nothing either good or evil in the case. A mason falling from the roof of a house upon a man, as certainly kills him as the most determined assassin. The action is absolutely the same; but the mason is not guilty in the slightest degree;

whereas the assassin deserves the severest punishment. Thus, however criminal actions may be with regard to those who commit them, we must consider them in quite a different light, as they affect ourselves, or produce an influence on our situation.

We ought therefore to reflect, that nothing can befall us, but what is perfectly consonant to the sovereign wisdom of God. The wicked may be guilty of injustice towards us, but we cannot upon the whole suffer from it; no one can ever injure us, though he may greatly hurt himself; and in everything that comes to pass, we ought always to acknowledge God, as if it befell us immediately by his express appointment. We may, moreover, rest assured, that it is not from caprice, or merely to vex us, that God disposes the events in which we are concerned, but that they must infallibly terminate in our true happiness. Those who consider all events in this light, will soon have the satisfaction of being convinced, that God exercises a peculiar care over them.

21st March 1761.

LETTER CXIII.—THE REAL DESTINATION OF MAN; USEFULNESS AND NECESSITY OF ADVERSITY.

I HOPE you have no doubts remaining with respect to this great question,—How the evils of this world can be reconciled to the supreme wisdom and goodness of the Creator? The solution of it is incontestably founded on the real destination of man, and of other intelligent beings, whose existence is not limited to this life. The moment that we lose sight of this important truth, we find ourselves involved in the greatest perplexity; and if man were

created only for this life, it would assuredly be impossible to establish a consistency between the perfections of God and the distresses and miseries with which this world is oppressed. Those miseries would be but too real; and it were absolutely impossible to explain, How the prosperity of the wicked, and the misery of so many good people, could consist with the divine justice.

But no sooner do we reflect that this life is but the commencement of our existence, and that it is a preparation for one that shall endure eternally, than the face of things is entirely changed, and we are obliged to form a very different judgment of the evils with which this life appears to be overspread. I have already remarked, that the prosperity which we enjoy in this world is the reverse of a suitable preparation for a future life, and for rendering us worthy of the felicity which there awaits us. However important to our happiness the possession of the good things of this world may appear, this quality pertains to them only in so far as they are impressed with the signatures of divine goodness, independent of which no earthly possessions could constitute our felicity.

Real happiness is to be found only in God himself; all other delights are but an empty shade, and are capable of yielding only a momentary satisfaction. Accordingly, we see that those who enjoy them in the greatest abundance, are quickly satiated; and this apparent felicity serves only to inflame their desires, and to disorder their passions, by estranging them from the Supreme Good, instead of bringing them nearer to Him. But true felicity consists in a perfect union with God, which cannot subsist without a love and a confidence in his goodness transcending all things; and this love requires a certain disposition of soul, for which we must be making preparation in this life.

This disposition is virtue, the foundation of which is contained in these two great precepts:

Thou shalt love the Lord thy God with all thy heart, with all thy soul, with all thy strength, and with all thy mind;

and the other, which is like unto it:

Thou shalt love thy neighbour as thyself.

Every other disposition of soul which deviates from these two precepts is vicious, and absolutely unworthy to partake of true happiness. It is as impossible for a vicious man to enjoy happiness in the life to come, as for a deaf man to relish the pleasure of an exquisite piece of music. He must be forever excluded from it, not by an arbitrary decree of God, but by the very nature of the thing; a vicious man not being, from his own nature, susceptible of supreme felicity.

If we consider the order and economy of the world in this point of view, nothing can be more perfectly disposed for the attainment of this great end. All events, the calamities themselves which we undergo, are the most suitable means for conducting us to true happiness; and in this respect it may be with truth affirmed, that this is indeed the best world possible, as every thing in it concurs to promote our eternal salvation. When I reflect, that nothing befalls me by chance; but that every event is directed by Providence, in the view of rendering me truly and everlastingly happy, how ought this consideration to raise my thoughts to God, and to replenish my soul with the purest affection.

But however efficacious these means may be in themselves, they exercise no force upon our minds, to which liberty is so essential, that no degree of constraint can possibly take place. Experience, accordingly, frequently demonstrates, that our attachment to the objects of sense renders us too vicious

to listen to these salutary admonitions. Abuse of the means which would have improved our virtue, plunges us deeper and deeper into vice, and buries us aside from the only path that leads us to happiness.

24th March 1761.

LETTER CXIV.—OF TRUE HAPPINESS. CONVERSION OF SINNERS. REPLY TO OBJECTIONS ON THE SUBJECT.

THE holy life of the apostles, and of the other primitive Christians, appears to me an irresistible proof of the truth of the Christian Religion. If true happiness consists in union with the Supreme Being; which it is impossible for a moment to doubt, the enjoyment of this happiness necessarily requires, on our part, a certain disposition, founded on supreme love to God, and the most perfect charity toward our neighbour; so that all those who are destitute of this disposition, destroy their own pretensions to celestial felicity; and wicked men are from their very nature necessarily excluded from it, it being impossible for God himself to render them happy. For the divine Omnipotence extends only to things which are in their nature possible, and liberty is so essential to spirits, that no degree of constraint can take place with respect to them.

It is only by motives, therefore, that spirits can be determined to that which is good; now, what motives could be proposed to the apostles and other disciples of Jesus Christ, to embrace a virtuous life, more powerful than the instructions of their divine Master, his miracles, his sufferings, his death and resurrection, of which they were witnesses. All these striking events, united to a doctrine the most su-

blime, must have excited in their hearts the most fervent love and the most profound veneration for God, whom they could not but consider and adore as at once their heavenly Father, and the absolute Lord of the whole universe. These lively impressions must necessarily have stifled in their breasts every vicious propensity, and have confirmed them more and more in the practice of virtue.

This salutary effect on the minds of the apostles has nothing in it of itself miraculous, or which encroaches in the smallest degree on their liberty, though the events be supernatural. The great requisite was simply a heart docile and uncorrupted by vice and passion. The mission, then, of Jesus Christ into the world, produced in the minds of the apostles this disposition, so necessary to the attainment and the enjoyment of supreme happiness; and that mission still supplies the same motives to pursue the same end. We have only to read attentively, and without prejudice, the history of it, and seriously to meditate on all the events.

I confine myself to the salutary effects of our Saviour's mission, without presuming to dive into the mysteries of the work of our redemption, which infinitely transcend the powers of human understanding. I only remark, that these effects, of the truth of which we are convinced by experience, could not be produced by illusion, or human imposture; they are too salutary not to be divine. They are likewise perfectly in harmony with the incontestable principles which we have laid down, that spirits can be governed only by motives.

Theologians have maintained, and some still maintain, that conversion is the immediate operation of God, without any co-operation on the part of man. They imagine, that an act of the Divine Will is sufficient to transform in an instant the greatest mis-

creant into a virtuous man. These good men may mean extremely well, and consider themselves as thus exalting the divine Omnipotence; but this sentiment seems to me inconsistent with the justice and goodness of God, even though it were not subversive of human liberty. How it will with reason be said, if a simple exertion of the divine Omnipotence is sufficient for the instantaneous conversion of every sinner, can it be possible that the decree should not actually pass, rather than leave so many thousands to perish, or employ the work of redemption, by which a part only of mankind is saved? I acknowledge that this objection appears to me much more formidable than all those which infidelity raises against our holy religion, and which are founded entirely in ignorance of the true destination of man; but, blessed be God, it can have no place in the system which I have taken the liberty to propose.

Some divines will perhaps accuse me of heresy, as if I were maintaining that the power of man is sufficient for his conversion; but this reproach affects me not, as I am conscious of intending to place the goodness of God in its clearest light. In the work of conversion, man makes perfect use of his liberty, which is unsusceptible of constraint; but man is always determined by motives. Now these motives are suggested by the circumstances and conjunctures of his condition. They depend entirely on divine Providence, which regulates all events conformably to the laws of sovereign wisdom. It is God, therefore, who places men every instant in circumstances the most favourable, and from which they may derive motives the most powerful, to produce their conversion; so that men are always indebted to God for the means which promote their salvation.

I have already remarked, that however wicked the actions of men may be, they have no power over

their consequences, and that God, when he created the world, arranged the course of all events so that every man should be every instant placed in circumstances to him the most salutary. Happy the man who has wisdom to turn them to good account!

This conviction must operate in us the happiest effects; unbounded love to God, with a firm reliance on his providence, and the purest charity toward our neighbour. This idea of the Supreme Being, as exalted as it is consolatory, ought to replenish our hearts with virtue the most sublime, and effectually prepare us for the enjoyment of life eternal.

28th March 1761.

LETTER CXV.—THE TRUE FOUNDATION OF HUMAN KNOWLEDGE. SOURCES OF TRUTH, AND CLASSES OF INFORMATION DERIVED FROM IT.

HAVING taken the liberty to lay before you my opinion respecting the most important article of human knowledge, I flatter myself it will be sufficient to dissipate the doubts which naturally arise out of the subject, from want of exact ideas of the liberty of spirits.

I shall now have the honour of submitting to your consideration the true foundation of all our knowledge, and the means we have of being assured of the truth and certainty of what we know. We are very far from being always certain of the truth of all our sentiments; for we are but too frequently dazzled by appearances, sometimes exceedingly slight, and whose falsehood we afterwards discover. As we are, therefore, continually in danger of deceiving ourselves, a reasonable man is bound to use every effort to avoid error, though he may not always be so happy as to succeed.

The thing to be here chiefly considered is, the solidity of the proofs on which we found our persuasion of any truth whatever; and it is absolutely necessary that we should be in a condition to judge if they are sufficient to convince us or not. For this effect I remark, first, that all truths within our reach are referable to three classes, essentially distinguished from each other.

The first contains the truths of the senses; the second, those of the understanding; and the third, those of belief. Each of these classes requires peculiar proofs of the truths included in it, and in these three classes all human knowledge is comprehended.

Proofs of the first class are reducible to the senses, and are thus expressed:

This is true, for I saw it, or am convinced of it by the evidence of my senses.

It is thus I know that the magnet attracts iron, because I see it, and experience furnishes me with incontestable proofs of the fact. Truths of this class are called *sensible*, because they are founded on the senses, or on experience.

Proofs of the second class are founded on ratiocination:

This is true, for I am able to demonstrate, on principles of just reasoning, or by fair syllogisms.

To this class principally logic is to be referred, which prescribes rules for reasoning consequentially. It is thus we know that the three angles of a rectilinear triangle are together equal to two right angles. In this case I do not say I see it, or that my senses convince me of it; but I am assured of its truth by a process of reasoning. Truths of this class are called *intellectual*, and here we must rank all the truths of geometry, and of the other sciences, in as much as they are supported by demonstration. You

must be sensible that such truths are wholly different from those of the first class, in support of which we adduce no other proofs but the senses, or experience, which assure us that the fact is so, though we may not know the cause of it. In the example of the magnet, we do not know how the attraction of the iron is a necessary effect of the nature of the magnet and of iron; but we are not the less convinced of the truth of the fact. Truths of the first class are as certain as those of the second, though the proofs which we have of them are entirely different.

I proceed to the third class of truths, that of faith, which we believe, because persons worthy of credit relate them; or when we say:

This is true, for several creditable persons have assured us of it.

This class accordingly includes all *historical truths*. You believe, no doubt, that there was formerly a king of Macedon, called Alexander the Great, who made himself master of the kingdom of Persia, though you never saw him, and are unable to demonstrate geometrically that such a person ever existed. But we believe it on the authority of the authors who have written his history, and we entertain no doubt of their fidelity. But may it not be possible that these authors have concerted to deceive us? We have every reason to reject such an insinuation; and we are as much convinced of the truth of these facts, at least of a great part of them, as of truths of the first and second classes.

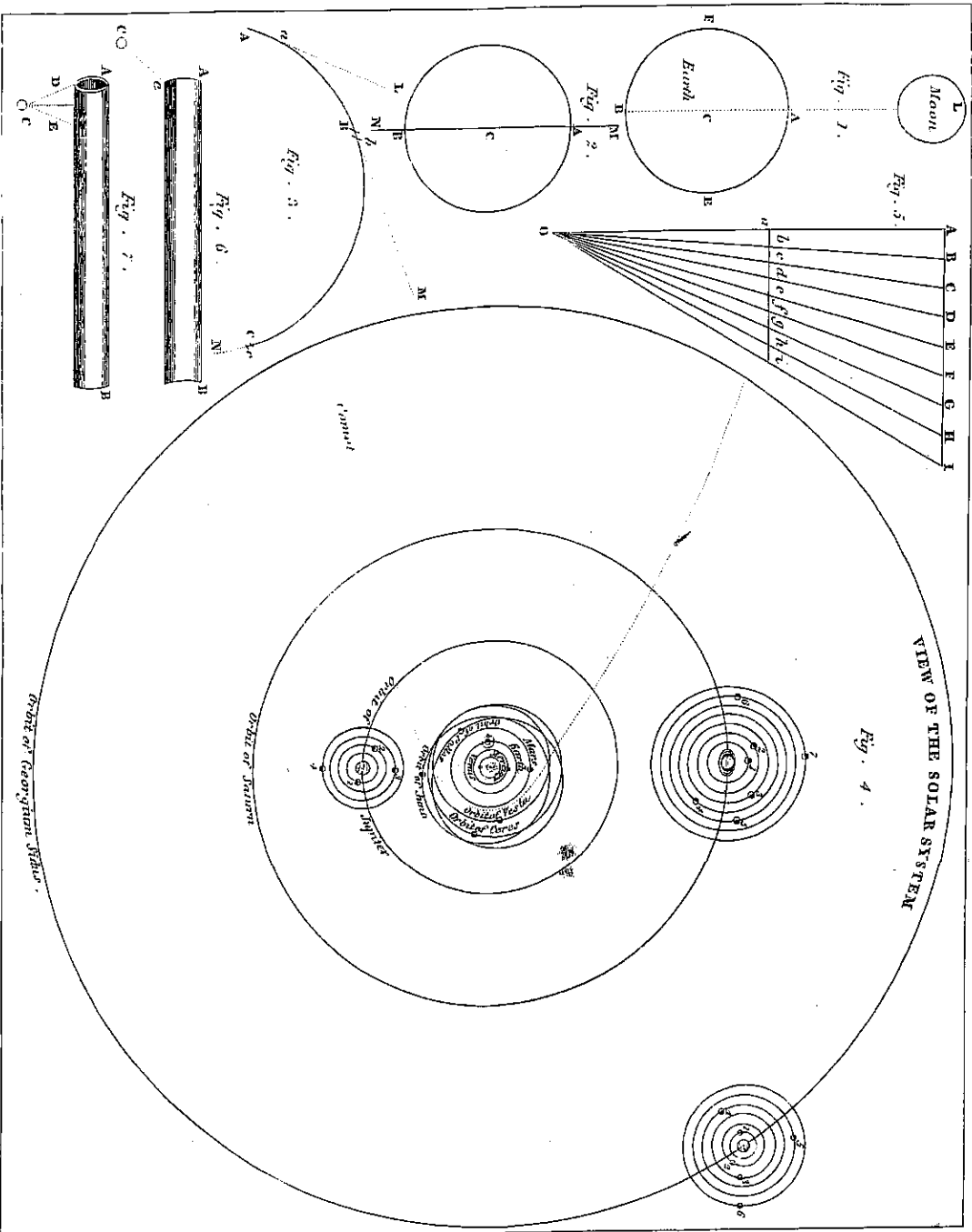
The proofs of these three classes of truths are extremely different; but if they are solid, each in its kind, they must equally produce conviction. You cannot possibly doubt that Russians and Austrians have been at Berlin, though you did not see them; this, then, is to you a truth of the third class, as you

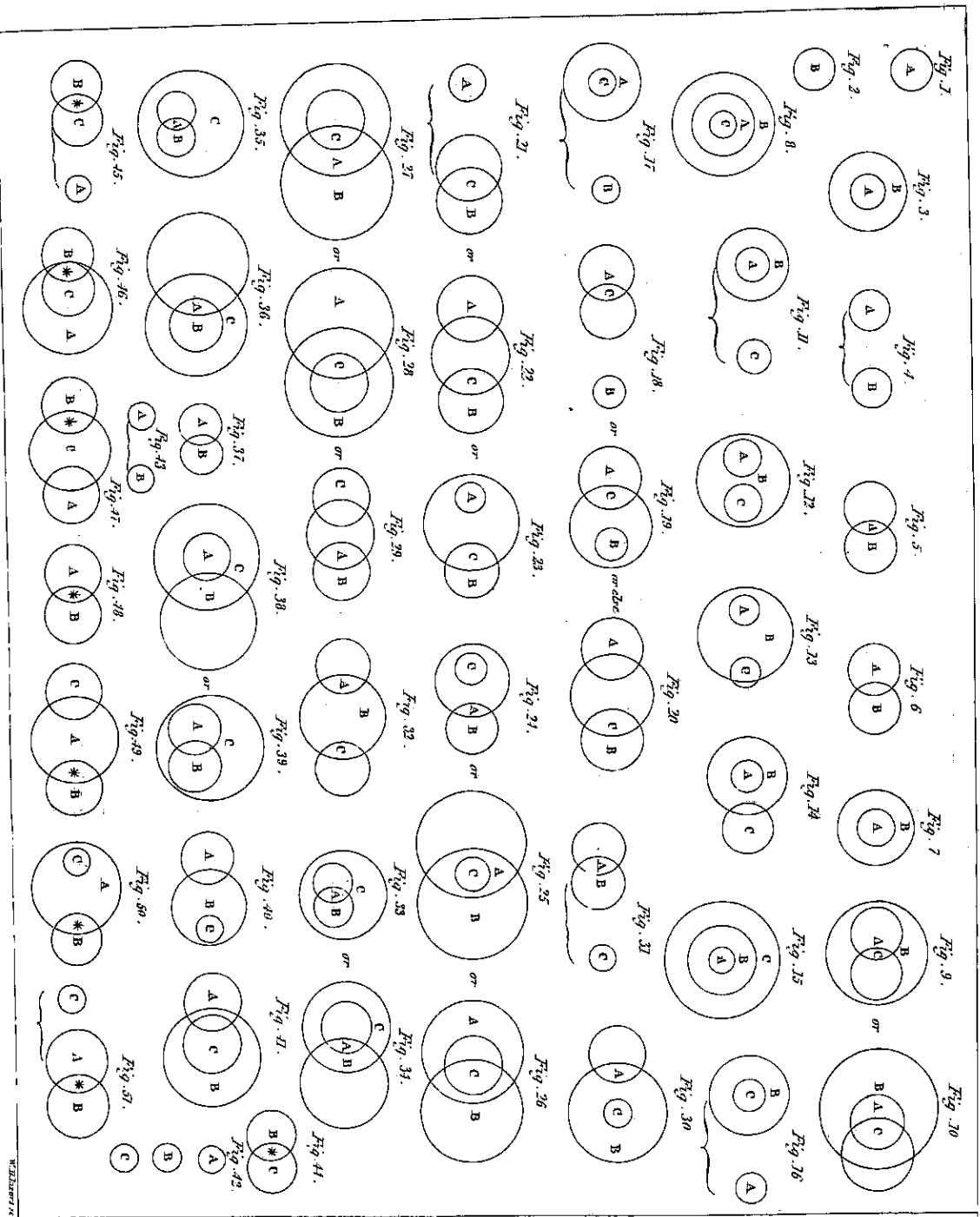
believe it on the report of others; but to me it is one of the first class, because I saw them, and conversed with them; and as many others were assured of their presence by means of other senses. You have, nevertheless, as complete conviction of the fact as we have.

31st March 1761.

END OF THE FIRST VOLUME.

J. Brewster, Printer,
Edinburgh.





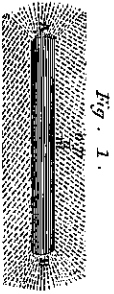


Fig. 1.

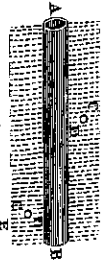


Fig. 2.

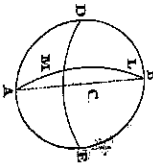


Fig. 9.

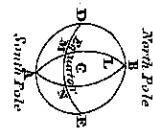


Fig. 16.

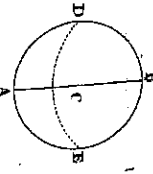


Fig. 15.

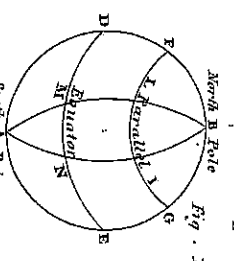


Fig. 12.

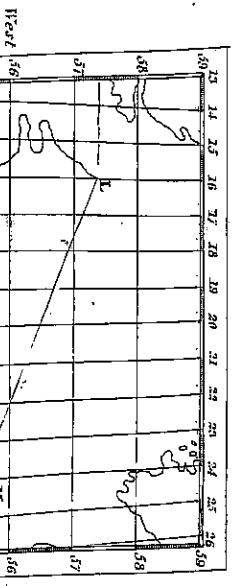


Fig. 14.

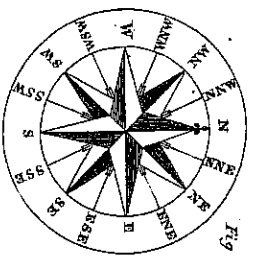


Fig. 13.

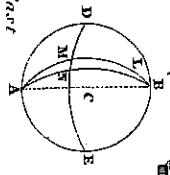


Fig. 10.

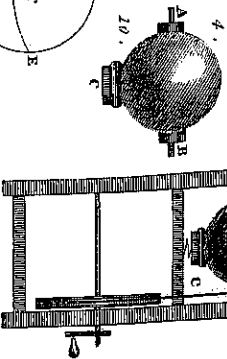


Fig. 3.

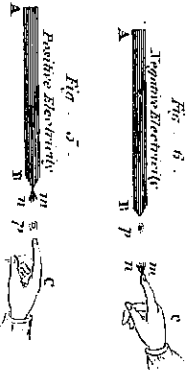


Fig. 5.



Fig. 6.

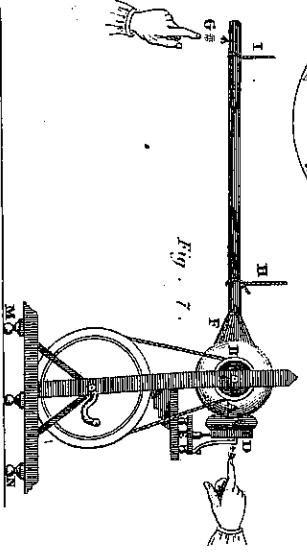


Fig. 7.

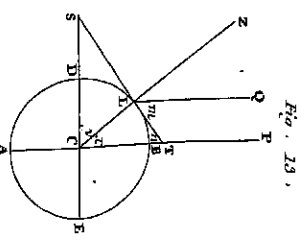


Fig. 8.

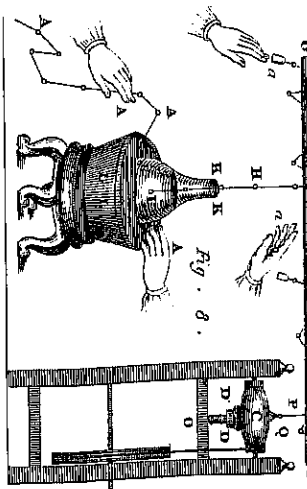


Fig. 9.

