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THE
ELEMENTS

OF
UNIVERSAL ERUDITION.

CONTAINING AN
ANALYTICAL ABRIDGMENT
OF THE
SCIENCES, POLITE ARTS,
AND
BELLES LETTRES.

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AUTHOR OF THE POLITICAL INSTI-
TUTES, &c.

Indocili discant, & ament meminisse periti.

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BY W. HOOPER, M.D.

IN THREE VOLUMES.

VOL. I.

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and T. WALKER.

MDCCLXXI.



TO
HIS ROYAL HIGHNESS,
G E O R G E,
PRINCE OF WALES.
THESE
ELEMENTS
OF
UNIVERSAL ERUDITION
ARE
HUMBLY INSCRIBED.

T O T H E

STUDIOUS YOUTH.

*T*O oblige the world, is, they say, to oblige no one person in the world. Every author, though his pen be guided by interest, by party, or ambition, may make that pretension, and dedicate his book to Augustus or Mæcenas. With regard to myself, these sublime projects are now very far from engaging my attention. After labouring for many years amidst the great world, I am convinced that all is vanity; and that at a certain period of life, the greatest happiness which a rational man can aspire after, consists in living for himself, for a few real friends, for the muses, and for the comforts of retirement.

Deus nobis hæc otia fecit.

A charming retreat has provided me with this felicity upon earth: but, from my solitude, I do not rail at the human race. I have not learned in the society of the first of mankind to hate them, nor have I found that they consist of nothing but vices and imperfections: on the contrary, if I have any merit, it is to their virtues, their learning and politeness, that I owe it. In my rural abode I still admire, in respectful silence, sagacious

A 3 monarchs,

monarchs on the thrones: princes sprung from an illustrious race, signalizing themselves as well by a dignity of soul as by heroic deeds: statesmen endowed with penetration and integrity: generals accomplished in valour, in prudence and humanity. Notwithstanding the clamours of some gloomy theologians, and splenetic philosophers, the eighteenth century, more fruitful in events than all that have preceded, will be resplendent in history, by suavity of manners, by important discoveries, by the completion of former inventions, by the encouragement sovereigns have given to the arts and sciences, and by that most happy success with which they have been cultivated. Can I then be condemned, if, to render my enjoyments complete, I endeavour to promote their most useful labours, their glorious designs, by devoting to the like purposes some portions of my rural leisure? Can I be condemned, when placed between two periods, one of which has given me life, and the other will give me death, if I try to fill the interval by an occupation that will be useful to the rising generation, who are to appear upon the stage of the world after we have left it? If, not content with coming into the world, existing and dying, I seek to leave behind me some traces of my existence; to acquire a possession of intrinsic value, and one that to my last moments will never forsake me?

Ye Studious Youth! do not repay me with ingratitude; do not accuse me of presumption, nor imagine that I regard this work as a masterpiece of the human mind, that makes pretensions to immortality. No, my utmost ambition is to provide you with a useful work. If you shall interleave these sheets with blank paper; if you shall read them often, and mark down all the observations you will make on each subject during the course of your studies, you can scarce possibly avoid acquiring a valuable portion of erudition.

Ye Learned Veterans! sometimes vouchsafe to peruse this little work, which will recall the sciences to your remembrance.

remembrance. It is you alone that I allow, it is you that I entreat, to correct my errors and inadvertencies, and to supply what, through ignorance or forgetfulness, I have omitted. The plan I proposed to myself was too vast to be executed by one man, in a rural retreat, without the assistance of a very comprehensive library, or of some learned friends. When I first projected this abridgment, I could not conceive the number and variety of the materials to be so abundant. In the course of my labours I was like those who examine the several apartments of some grand magazine, and are astonished at the riches they contain. When I had finished my work, by ranging each article in its proper place, I found there was every where something still wanting: but in correcting or improving this work, do not discourage me by ungenerous censures. Remember that judicious reflection of the duke of Buckingham,

Humanum est nescire et errare,

and do not forget that a malignant, unlimited criticism is constantly mean, contemptible, and unworthy of an honest man.

I return to you, Young Men, whom the Muses still invite to their temple, and to whom it is my wish to point out the path that will lead you thither. It is proper that you should be acquainted with the whole system of universal erudition; but as nature does not often produce a Bacon or a Leibnitz, as an universal genius is but rarely found among men, follow my advice; make choice from among the sciences that here present themselves to you, of some one or more, and there exert every effort to excel; for the powers of the human mind are strengthened or debilitated in proportion as they are concentrated or extended.

May Providence further my intentions! for they are upright. We sow little to reap much. I here cast upon earth a single handful of the grain of science: may
you,

you, by the blessing of heaven, reap an abundant harvest! If my days and my leisure shall be prolonged, I shall employ the remainder of my life in correcting and augmenting this work: perhaps I may say, with Apelles,

Nulla dies sine linea.

But certainly I shall draw no line that will not center in you—for you are dear to my heart.

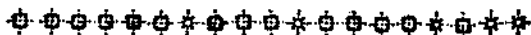


•• As the design of this work is instruction, not amusement, the Translator has every where followed the most common orthography. See Note, Vol. II. p. 87.

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INTRODUCTION,

CONTAINING

REFLEXIONS ON ERUDITION IN GENERAL.

I. **I**N the most extensive sense, we understand by the word ERUDITION, the knowledge of every thing within the comprehension of our faculties. This definition, though vague, is nevertheless strictly just; for the more a man's knowledge is enlarged, the more erudition he has: the Holy Scripture itself, to give us an idea of the knowledge of Solomon, says, that he understood all things, from the cedar to the hyssop: all useful arts, all trades, all sciences, even those of a less important nature, are therefore comprised under the general idea of Erudition.

II. It is not our intention, however, to range in so vast a field: by the term Erudition, in the course of this work, we understand, *an assemblage of all the sciences and liberal arts; of which we propose*

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to give a concise, and distinct analysis. The multitude of subjects that here present themselves, will afford us, however, the more ample employment, as it is necessary, in order to give a just abridgment of any science, to consider it in its utmost latitude.

III. The respectable names of those who have preceded us in this race, are not unknown to us; but far from being discouraged thereby, we find a strong emulation to reach that goal, to which these illustrious rivals press. It is the part of the public to crown our common efforts by its approbation: we aspire to its preference, only by our zeal and the utility of our enterprise. We well remember to have read excellent treatises, that point out the path which leads to the attainment of the belles lettres, or of some particular sciences; but we know of no system that comprehends the whole, and that presents them in a natural order, from one point of view.

IV. It is easy to conceive that the analysis of each science must be very short; it has cost us some pains, however, thus to center our ideas; the diffusion of them would have been attended with less difficulty, and more brilliancy: but it is not our intention to shine, but instruct; and in order to instruct to good purpose, brevity appears to be quite necessary. Our memory has its bounds, and is far from being capable of containing a very voluminous quantity of matter; and for this reason we have not presumed to intersperse a great number of reflections in this work; nor to decorate it with the allurements of style; it requires a hand more dextrous than ours, to direct Venus of her zone, and with it to adorn Minerva. We shall think ourselves very happy, if we are able to present our readers with some of the roses of science, especially of abstract science, from amidst those thorns with which they are surrounded.

V. The

V. The first difficulty that we encountered was, in the arrangement of our system. To reduce the chaos of universal erudition, it was indispensably necessary to follow some determinate order in the delineation, and to dispose each branch of human knowledge in that class to which it naturally belongs: this method has been attended with some difficulty among the learned: some of them divide the sciences into *necessary, useful, agreeable, and frivolous*; under the idea of necessary they comprise, for example, divinity, physic, and law: under that of useful, history, the several parts of philosophy, and the mathematics: by the agreeable sciences they mean, poetry, eloquence, and the polite arts in general: and lastly by the frivolous, astrology, alchymy, chiromancy, &c. Now though this division appears natural enough, yet we cannot determine to follow it, as we are not fully satisfied with it: for a science that appears frivolous to one, may be agreeable, or useful, or even necessary to another: the degrees of utility in human knowledge are not to all men equally distinguishable; they are a sort of shades that run into, and are confounded with each other. Moreover, every one esteems his favourite science as the most agreeable and most useful; and it is not our intention to set ourselves up as dictators of Parnassus, to decide among the contending parties; nor would we give occasion to disputes about precedence.

VI. Others have divided general erudition into three parts, comprehending, in the first, the languages and the liberal arts; in the second, the preparatory sciences, such as philosophy, history, &c. and in the third, what they call the superior sciences, those which are taught by public professors in universities, as divinity, law, and physic. This arrangement we find still less eligible, as its divisions are by no means clear and determinate.

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VII. Others again have divided the sciences according to the different degrees of certainty of which they imagine them capable. They suppose that in sciences in general, there are three degrees of certainty; and the first they call *mathematic* or demonstrative certainty; the second, *philosophic* certainty, whose evidence is confined by the limits of the human understanding; and the third *historic* certainty, which is founded on authentic testimonies, and reports of known veracity. These three degrees of certitude are very just, and ought to be carefully attended to in the examen that we make of each science: notwithstanding we have not thought it expedient to observe this division in the arrangement of our system, because it might overthrow that order already established in the republic of letters. It is worthy of observation, that the preparatory sciences are capable of a greater degree of evidence, than even those which they call the superior sciences; for example, the mathematics, natural philosophy, and anatomy, are founded on demonstration: these lead to the study of physic, which is surrounded by obscurity, and of which, consequently, the certainty is very problematical. Morality, the law of nature, and some other sciences, are preparatory to jurisprudence: the former are founded on proofs drawn from philosophical reasoning, and acquire thereby a great degree of evidence; the principles of the latter are founded merely on the caprice of legislators, whose decrees are at continual contradiction with each other, and consequently we can scarce allow these an historic certitude. It is the same with regard to theology, which is founded on revelation, and this on faith and the credibility of history. The doctrines or theories of divinity are at variance, moreover, among themselves, in the different religions or sects that divide, or have divided the world: and each of these pretends to possess alone the truth. In a word, the guides that

that conduct to the sanctuary of truth, are more to be depended on than the sanctuary itself: if therefore, we should follow this division, we should be obliged to divest certain branches of learning of that rank which they have hitherto held, and we are unwilling to degrade any one of the sciences, being convinced of the respect that is due to all of them, from their intrinsic merit, and utility to mankind.

VIII. The division of erudition into *sciences and belles lettres* is not intelligible in all languages; even the French authors themselves are not agreed on the sciences that are to be comprehended under the term of *belles lettres*: some of them thereby mean a knowledge of the poets and orators; others maintain that the true *belles lettres* are, geometry, natural philosophy, and the other essential parts of science. M. Rollin, in his method of studying them, has made a strange jumble; he there introduces every subject that the human mind can conceive or acquire: history, sacred and profane; with a long dissertation on a taste for solid glory and true grandeur; and many other matters of like nature, which seem quite foreign to the purpose; this, therefore, is not the system to be followed; we must present our readers with ideas more distinct, and opinions more evident, than any of these.

IX. When we reflect on the nature of the human mind, we think we perceive three distinct faculties, independent of sensation and the will, which have no concern in this business: these faculties are, *the understanding, the imagination, and the memory*: the understanding examines, compares, judges, and reflects; the imagination creates, improves, and produces; the memory retains and restores what it has retained. Every science, every art, seems to appertain to one or other of these three faculties: we have therefore ranged them into three classes, and divided this treatise into three books:

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The first of which treats of, *those sciences that employ the understanding;*

The second, *those that are derived from the imagination;*

And the third, *those that exercise the memory.*

X. We have assigned a chapter to each particular science: and the better to establish a due order in this work, and to render it more proper to make a strong impression on the memory, we have divided each chapter into paragraphs, allotting to the principal subject of each science, or doctrine, a particular paragraph: the marginal numbers will serve, moreover, to find and to retain the different articles with facility: such is the method that appears to us the most eligible in works of a scientific nature, and that treat of so great a diversity of subjects.

XI. The assemblage of divers particular sciences forms, sometimes, a superior or general science: theology, for example, is composed of several doctrines, of which some are derived from the understanding, some from the imagination, and others from the memory. As every particular science will be found ranged under that class to which it naturally belongs, we shall content ourselves with only pointing out, in the chapter on theology, those sciences of which it is composed; and they who are desirous of making it their study, will find each particular science in that division to which it properly appertains; natural religion among the sciences of philosophy; oratory among those of the imagination; sacred history in that part which treats of the sciences of memory; and so of the rest.

XII. It will not be imagined, we presume, that it is here supposed, each science, each art, does not employ, in some respects, all the three faculties of the mind; and that to be a good orator, for example, requires not the exercise of the understanding, and the memory, as well as of the imagination:

imagination: now, though we readily admit of the contrary, we may reasonably assert at the same time, that imagination is the first principle of eloquence, though the memory offers it images, in the choice of which the judgment determines: these two faculties do therefore, in fact, concur, but it is only as accessaries; and for this reason we have ranged eloquence, and its dependent sciences, under the class of imagination.

XIII. To succeed in any science whatever, a certain taste is requisite, without which, with all the learning in the world, we become dry, pedantic, and disagreeable: this taste is, in fact, the gift of nature, and consists in a happy discernment, in a sensation subtle and delicate, in relations that are exact, in proportions that are just, and attributes that are agreeable to each object. Every one has not received this gift from Heaven; but every one who cultivates the sciences, should act as if he had some portion of it, or as if he could obtain it by force of reflection and application; for it is very certain, that a taste may be formed, and that which we already possess, improved.

XIV. We shall say only a few words concerning the title of this work: it has occasioned us some hesitation. We would have given it the title of *The Universal science*, if that expression did not seem to savour of vanity: if we had made use of the word *Encyclopedia*, it might have been thought that we intended to encroach on the province of very respectable authors, or at least to tread in their footsteps: truth, however, has served us for our guide, and we think that by calling it, *The first draught of Universal Erudition*, we express its contents without ostentation, and at least, convey the idea of what is intended by this work. Whenever we have entered a library, and have beheld the shelves bending under the weight of so many thousands of volumes; when we consider the life of a man of letters, and reflect that he has read

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to the amount of many hundred folios, we have said to ourselves, what if some dozen men of true learning were to associate with a design to extend the idea of this little work, to carry it, for example, to the size of twelve volumes in quarto, and there to treat of all the sciences in a far greater detail, would not the study of such a work be sufficient to form a learned man? and would it not save the studious youth much anxiety, labour, fruitless study and expence? What we here offer is only the outlines, the simple idea, of such a work.

XV. Permit us to make yet one more remark, as it appears essential. They who are endowed with a great genius, have scarce any need of a system, nor indeed of instruction, to attain the knowledge of the sciences; all that is necessary to them, is the knowledge of the languages, and a sight that can bear a great deal of reading. The rest they will digest in their own minds, and will constantly go before those, who, to use the expression, learn the sciences by heart: the former acquire their knowledge by the judgment, the latter by the memory; those accustom themselves to make their own reflections, these only think after their masters or professors: the sciences wait upon the one in their closets, the others go to seek them in the schools and universities, and do not always find them even there. But men of clear understanding are rare, and they of great genius much rarer. In the mean time, every one must live, and the men of letters make a large part of society. Several sciences are therefore become trades or professions: it is for the use of those who devote themselves to study, that theories and systems are wrote; it is to guide them in their course, that works like this are composed; they, at least, will have some obligation to their authors; and, perhaps, even the men of genius will find, that here and there, we have spared them some labour.

XVI. We

XVI. We have only one word to add, by way of conclusion: this work might have been much more extended, and have carried an air of much more learning, if it had been thought proper to garnish it with the names of the most celebrated authors only, who have wrote on each subject: but these sort of quotations make a work grow old before its time. The writing of books goes on perpetually, and according to Solomon, will to the end of the world. The authors of the day, that are most read and regarded, lose insensibly their vogue, and are succeeded by new writers, who following their footsteps, profiting by their discoveries, and improving on their ideas, approach still nearer to perfection. There are however, in most sciences, some classic authors, who, in all probability, will continue to hold a distinguished rank as long as their language shall last; and of these we have thought ourselves obliged to make mention in the chapter that treats of the knowledge of good books: but to strew a work over with quotations from modern authors, would be to make it liable to the same inconvenience that attends a portrait painted in the fashion of the day: the mode passeth away, the picture becomes antiquated in consequence of its dress; and, however valuable it may be in other respects, is thrown among the lumber. As we would not that this work should undergo a like fate, we have used our best endeavours, that it may not depend on a momentary merit, and a transient estimation.

XVII. It is yet necessary for me to ask, Have I omitted nothing? *Have I not committed frequent mistakes in the course of this work?* Yes, doubtless. Some omissions I have made by design, and some because the limits of the human understanding, and memory, are not extended by the Creator to infinity; and with regard to involuntary errors, you will please to observe, that all who have written from the beginning of the world to this day, except the sacred writers, have sometimes erred; even when
 they

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they have wrote but on one subject only. Alas! what wonder! that I, who have dared to explore the whole body of science, should also have sometimes erred. I am fallible, and have not the vanity to pretend to infallibility. Reader, if you are more perfect in these matters, I rejoice in your superior good fortune with all my heart; *acc mihi, si aliter sentias, celestum.*

BOOK

BOOK THE FIRST.

ON

THOSE SCIENCES WHICH RELATE TO THE
UNDERSTANDING.

CHAP. I.

ON THEOLOGY.

I. **T**O know God, and to render him a reasonable service, are the two objects of theology. We know but little of the nature of bodies; we discover some of their properties, as motion, figure, colours, &c. but of their essence we are ignorant: we know still much less of the soul; but of the essence or nature of God, we know nothing: it is the prerogative of the Supreme Being alone to comprehend his own essence: all the efforts that we can make to attain that knowledge, are arrogant and ineffectual; it is foreign to the nature of a limited spirit: but our destiny is that of a man, and our desires are those of a God. In a word, man appears to be formed to adore, but not to comprehend, the Supreme Being.

II. We may say, however, with Virgil, *Jovis omnia plena*; God manifests his existence, not only to the internal sensations of our minds, but in every object that surrounds us in the whole frame of nature; and if we cannot comprehend the Supreme Being by our senses, we may discover his attributes by our reason, almost as clearly as we distinguish the properties of matter, and many other objects: and this knowledge is sufficient for us
The

The end of every other science is some temporal happiness; theology alone proposes an eternal felicity; its object therefore differs from that of all other sciences, as the age of threescore and ten differs from eternity. We cannot wonder therefore, that all the inhabitants of the earth, from the time of the creation, have made it their principal study, and have exerted all their abilities in the cultivation of it; we ought much rather to be astonished that it does not yet more strongly engage the attention of mankind, and that while they labour so assiduously to acquire those sciences, whose utility extends to so short a space of time, they should so frequently neglect that object which can secure their felicity in a future, certain, and eternal existence.

III. From the first knowledge that we have of the world, that is to say, for about five thousand years past, men have blindly searched after the idea of the true God; and by the weakness of their discernment, they have fallen into a thousand errors. Paganism at first covered the whole earth, except that family alone which became the stock of the Jewish people: this paganism among different nations had different mixtures of idolatry. Moses first made known, to the Hebrews, the true God, and prescribed them his worship: his religion however, was not adopted by any other people, not even by their neighbours. Jesus Christ appeared upon the earth, abolished a part of the Judaic law, reformed the religion of Moses, taught his divine doctrines, and offered himself as a sacrifice for the salvation of mankind. His gospel made a happy progress over all Europe, that is, over the then known part of the earth. Sometime after, Mahomet arose in the East, and preached a religion that he had compounded of the Jewish and Christian, and of his own ideas. Lastly, came Luther and Calvin, who reformed the errors which, according to them, had been introduced into Christianity under the reigns of the popes; and gave

gave the idea of what is called the Protestant Religion. Confucius had taught the Chinese, and Zoroaster the Indians, religions drawn partly from philosophy, and partly from paganism; but the extent of these was very confined. All these religions, and their different sects, have had their theology, their priests, their ceremonies, their triumphs, and even their martyrs.

IV. We shall not speak here of religions that are extinct, or that yet exist, but at a distance far from us; we shall treat only of the Christian theology, which teaches us to know God, by revelation and by the light of reason; so far as it is possible for the weakness of the human mind to comprehend that inscrutable Being. The knowledge of the true God is indeed of little utility to man, unless he can suppose that there is some connexion or relation between that supreme Being and himself. Now it is from these connexions or relations that are derived the necessity of the knowledge of the true God, and of the true manner in which he is to be worshipped: and this it is that forms the Christian theology, of which we shall now give the analysis.

V. To ascend by a chain of reasoning from things visible to things invisible, from palpable to impalpable, from terrestrial to celestial, from the creature even up to the Creator, is the business of theology: it is not surprising therefore, that the union of many doctrines is necessary, completely to form such a science. To understand, and properly to interpret the scriptures or revelation, demands not less sagacity than assiduity. The gift of persuasion is also essential to the ministers of the gospel: and lastly, the civil government has committed to their care certain functions of society, which relate, or seem to relate, either to the doctrines or morality of the gospel. They assemble, for example, in bodies to form consistories; they judge in matrimonial cases; they carry consolation and hope to the souls of the sick; they

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they prepare for death those criminals which justice sacrifices to public safety; they take upon themselves the charge of *Exhorti*, with the inspection of some pious foundations; they distribute alms, they administer the sacraments, &c.

VI. To discharge fully so many duties, the theologian has need, 1. Of several preparatory studies; 2. Of some theoretic sciences; and 3. Of many doctrines which have for their object his ministerial office. The first are,

1. The languages; and among these,

(a) His native language, in which he is to preach and exercise his ministry, and with which he ought to be perfectly acquainted.

(b) The Latin language, which is the language of the learned world in general.

(c) The Greek language, in order to understand the new Testament.

(d) The Hebrew language, of which the Talmudian and Rabbinical idioms are a part.

(e) The Arabic language.

(f) The Syriac language.

(g) The French language, And

(h) The English language. The two latter of which now appear necessary to every man of letters, and particularly to a theologian, on account of the excellent works which are wrote in those languages.

2. The principal parts of philosophy, as

(a) Logic.

(b) Metaphysics.

(c) Moral philosophy.

3. Rhetoric and eloquence, or the art of speaking correctly; of writing with elegance and of persuasion.

To which may be added,

4. The elements of Chronology, and universal History.

5. The study of the Jewish antiquities.

He

He who would devote himself to the important employment of a theologian, and has the noble ambition to excel in it, should early impress on his mind these truths: that the years which are passed at a university are few; that they run rapidly away; that they are entirely engrossed by the theoretic sciences; and that he who does not carry with him to the university a fund of knowledge in the preparatory parts of learning, commonly brings very little away, when his age or his parents oblige him to quit it. As those preparatory sciences which we have here mentioned, relate either to the understanding, the imagination, or the memory, the reader will find the analysis of each of them in that class, where, by the system we have adopted, they ought to be placed.

VII. The theoretic sciences of a theologian are,

1. The Dogmatic, or the theory of theology, which some Latin authors name also *thetica* or *systematica*.
2. The Exegesis, or the science of attaining the true sense of the holy scriptures.
3. The Hermeneutic, or the art of interpreting and explaining the scriptures to others; this differs in general but little from the exegesis, and in some respects is quite the same.
4. Polemic theology, or controversy.
5. Natural theology.
6. Moral theology.
7. Sacred criticism.
8. The history of the Church, under the Old and New Testament, which I place here among the theoretic sciences, because it is necessary that the student be acquainted with the fundamental principles of theology, before he can be able to form a sound judgment of the errors and heresies that have crept into the church, and which form part of the chain of its history.

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These are the doctrines which we shall here explain, one after the other, in their natural order; referring, always, natural theology to the philosophical sciences; and sacred history to those which relate to the memory.

VIII. The practical sciences of a theologian are,

1. Pastoral theology, which is divided into,
 - (a) Homiletic.
 - (b) Catechetical.
 - (c) Casuistic.
2. Consistorial theology, which comprehends
 - (d) The Canon law.
- 3 The prudential exercise of the different functions of the ministry.

We do not here particularly name the *patristic theology* (*theologia patrum seu patristica*) because all Christian communions are not agreed in their opinions concerning the degree of authenticity and infallibility that is to be attributed to these ancient fathers of the Church. The Protestants believe, that these primitive theologians were liable to error in their sentiments as well as those of our days; and in all probability, that they were less skilful, less learned, less clear, and less accustomed to close reasoning, than the latter, as philosophy was then more imperfect. **B**● as we find, in the writings of these fathers, many elucidations of the doctrine of the primitive apostles, and many irrefragable testimonies of the authenticity of divers remarkable events, which serve to establish the truth of Christianity; and as we there see, moreover the origin of errors, of arbitrary ceremonies, and of many doctrines that have been introduced into the Christian Church, the reading, and the study of these fathers cannot but be of great utility to the theologian. To a virtuous citizen, who unites such various sciences, and employs them in pointing out, to his fellow citizens, the path that leads to temporal and eternal felicity; in a word, to a wise theologian, what veneration is not due?

CHAP.

C H A P. II.

O F T H E D O G M A T I C.

I. **U**NDER the general term of dogmatic, we comprehend that part, which the different writers on theology have called, sometimes theoretic, sometimes systematic, and sometimes thetic theology, &c. The term dogmatic appears to us the most general, and the most just, to express the subject that we intend, as it comprehends *an entire system of all the dogmas or tenets that each religion professes*; whether it teach these dogmas by the way of thesis, as articles of faith; by public lecture; by catechising; or any other manner whatever.

II. Every positive religion must, naturally, have a system of certain points of doctrine to propose to its followers, otherwise each one would form a particular system according to his own fancy; there would be as many different religions, as there are individuals on the earth, and each society would consist of a confused mass of fantastic opinions; as the different modes of thinking, and the different degrees of discernment, are varied and compounded by mankind to infinity; but truth, on the contrary, is uniform and invariable. If therefore any doubt should arise in the mind of any one, concerning some tenet of the religion he professes; or, if he should entertain any particular opinion relative to it, he ought not to profess it publicly, and to lead other members of society into error; but he should inform himself, either by reading, or by consulting the able ministers of that religion, concerning the motives that induced the church to establish that doctrine of which he entertains scruples; and if he be not convinced by the proofs that are offered him, still to observe silence on that head.

III. The Christian religion is as compound in its dogmas, as it is simple in its moral principle. It includes, 1. The dogmas founded on the lights of reason:

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reason : 2. Those drawn from the old testament, and the law of Moses : 3. Those taken from the New Testament, and the doctrine of Jesus Christ : 4. Those that the fathers of the church have drawn from the holy scriptures : 5. Those that the church, under the New Testament, has prescribed to Christians, by oecumenical and other councils, assembled in different ages : 6. The dogmas that the popes, in quality of heads of the church, have established by their bulls : and to these must be added on the part of the protestants : 7. The dogmas that the reformers, especially Luther and Calvin, have taught : 8. The decisions of synods ; and lastly, the tenets that are maintained by the different sects, as Socinians, Anabaptists, Quakers, &c. Each of these particular religions, or sects, pretend to support their dogmas, both by reason and revelation : we do not here offer a work of controversy, and are very far from attempting to determine on which side truth and reason are to be found.

IV. Our zeal, however, for the Christian religion in general, which we regard as perfectly divine, and as the only religion adapted to promote the happiness of mankind in this world, and to secure it in the next, and the desire we have, that it may endure to the end of time, compels us to make, in this place, one important reflection ; which is, that simplicity is ever an essential attribute of perfection, as complexity is of imperfection. Now, it cannot be denied, without doing violence to truth, that among the different dogmas, of which we have been speaking, there are several that seem to be founded on speculations very abstruse, on subtilities very intricate, and on interpretations very ambiguous. God certainly never intended that all mankind should be theologians ; he has not given them his divine word to be the cause of discord among men, nor that they should pass their whole lives in a painful search after *objects of belief*, and *articles of faith*, and that they should forego in that pursuit, the necessary offices of life, and their du-
tica.

sies as citizens. The dogmas then, essentially necessary to the welfare of mankind, ought to consist of a small number, and to bear the marks of simplicity and perspicuity; without which they must be imperfect, and consequently the work of man. Our intention, in making this remark, is, to extend our voice, if it be possible, even to posterity, whom we would conjure, not to injure our religion, so holy and so admirable, by a multiplicity of dogmas. It is necessary, however, that the divine, who makes it his study and his profession, should be thoroughly acquainted with the theory of this science, in order that he may be able to instruct the sincere Christian, and to explain the nature of each particular dogma, as well as the solidity of its proofs: and to this it is, that the study of the dogmatic leads; of which we shall now continue the analysis.

V. The dogmatic is then nothing but a *succinct exposition of all the dogmas of the Christian religion in a natural and philosophical order*. By the word philosophical, we don't here precisely mean the method of mathematicians, in the manner the late M. Wolff has applied it to philosophy; every subject is not capable of a demonstration so exact and rigid; but a regular order is required in the arrangement of the general system, and a connexion is to be preserved in the several matters that forms it: the definitions should be just; the divisions exact; the arguments solid; the proofs clear; the citations conclusive; the examples striking; and, in a word, every thing should be adduced that appertains to so important a discipline.

It is very essential, moreover, in the dogmatic, at the beginning of each thesis, to explain the several terms that are peculiar to it, and that use has established in treating of theology; to draw from each definition certain axioms, and from thence to form propositions, and to illustrate them by scholia, and solid reasoning. Lastly, we should not neglect, in such a system, to make use of the expressions used
in

in the symbolic books that have been received by the whole Christian church, and which cannot be rejected or altered, without causing a confusion in our ideas, and in the general system of the Christian religion. But before we make the least advance in the study of Christian theology, it is indispensably necessary to examine the proofs by which the truth, the authenticity and the divinity of the sacred and canonical books are established; for this is the foundation of all the dogmas, and the axis on which its whole doctrine turns.

VI. The systematic part of the Christian religion, among the great number of its dogmas, or theses, has *three principal*, from which all the rest are derived, and which form the basis of its whole doctrine :

1. The existence of one God in three persons.
2. The necessity of a Mediator or Redeemer.
3. The real appearance of the Mediator or Messiah on the earth.

Whoever writes, professes, or teaches the dogmatic, should be, above all things, careful, well to establish these important truths; to evince them by the strongest and most evident proofs; drawn partly from the lights of reason, and partly from revelation: and then he will see, with what facility all other theses flow from, and how easy it will be to prove them by, these.

VII. The infinite variety that is found among mankind in their manner of thinking, and in their method of treating subjects: the frequent changes that have happened in the exterior form of philosophy, and in the method of treating it; the oppositions that have been raised at all times, against divers doctrines of the Christian religion; all these have produced, among theologians, different systems of the dogmatic. Sometimes they have combined positive theology with morality, and have formed a system that they call *theologia theoretico-practica*, or *theologia thetico-moralis*, &c. sometimes they have refuted the arguments that others oppose

to

to certain theses, and from thence has arose a system that they call *theologia thetico*, or *dogmatico*, or *positivo-polemica*; sometimes they have joined to natural theology, that of revelation; and have formed a dogmatic, called *philosophico theologica*; and so of the rest. But, beside that these distinctions and denominations are in themselves pedantic, it is at all times more eligible, in every science, to avoid confounding with each other the different branches of which it consists. The different dogmas, morality, philosophy, and controversy, are separate articles; and when each of these parts of theology are separately treated, they are disposed with more order in the mind, and a greater light is diffused over their several subjects.

VIII. It appears, moreover, from the simple enumeration that we have made, in the third section, of the different principles on which the dogmas of the Christian religion are founded, that to be thoroughly acquainted with its whole theory, the theologian should also apply himself to the study of the symbolic books of its communion, and especially should be well versed in the *Creed of the Apostles*; that of *Nice* and *St. Athanasius*; the book called *Formula Concordiae*; the *Theses of the council of Trent*; the *Catechisms of Luther*; the *Confession of Augsburg*; the *Articles of Smalcalden*; the *Catechism of Heidelberg*, &c. That he should be well acquainted with that part of Theology that is called *patristica*; that is to say, that he should be well read in the fathers of the church; that he should not be ignorant even of *scholastic theology*; that he should at least know the frivolous subtilities, and the complicated method of the ancient scholastic divines, which was derived from the philosophy of Aristotle and the schools; that he should make a serious study of the *sacred history* of all ages; the *councils and synods*; that he should, above all, never lose sight of *natural theology*; and lastly, that it is indispensably necessary, that he should procure a good bibliothèque or *treasure*

life of ecclesiastical writers*, which he may consult occasionally, and learn from thence to know the best guides. The more a theologian applies himself to all these subjects, the more ability he will acquire in this science, and the more perfect he will be in the theory of that religion which it is his duty to teach to others.

IX. Revealed religion being founded (at least in great part) on natural religion, and philosophy being the source from whence the principles and knowledge of the latter are derived, it is evident that philosophy is intimately connected with theology; nevertheless the aid of the former is to be employed with precaution, and is not to be regarded as the foundation of the theological dogmas, but only as a mean by which they may be explained and enforced. The holy scriptures constitute, perpetually, the true basis of revealed theology; philosophy effectually concurs, however, to prove the existence and the attributes of the Supreme Being; the necessity of the creation of the universe by Almighty God, in opposition to every other possible manner of its being produced: it furnishes, moreover, plausible conjectures concerning the intention of the Almighty in creating this world; it proves the necessity of a perpetual power to preserve it; it supposes, that, as God could not produce any thing that was not perfect in its kind, he could not have created man as he now is; it vindicates the conduct of the Supreme Being, in appointing chastisements for transgressions, by shewing that moral evil was not introduced into the world by absolute necessity, but by the abuse of liberty, the most noble prerogative of the human soul; it determines the necessity of a Mediator; it furnishes an infinity of arguments for the belief of the immortality of the soul, and of a future state that has a relation to the moral actions of this life; and lastly, it inspires a love of God, as a Being of sovereign

* Those of Du Pin and William Cave are most celebrated.

perfection,

perfection, a gratitude towards him as our creator and preserver, and a submission to his will as our supreme ruler and director, motives of all others the most powerfully conducive to a virtuous conduct.

X. It is this use which theology makes of philosophy, that has given occasion to divide the theses of the dogmatic into pure and mixed; that is, into theses that are founded entirely upon revelation, and such as arise from an union of reason with revelation. Of the first sort are, 1. The article of the holy scripture itself, which treats of its divine origin, its authority and its efficacy. 2. The dogma of the Trinity. 3. That of the original of evil, or of original sin. 4. The whole article of Jesus Christ. 5. The dogma of the efficacy and operations of the Holy Ghost. 6. That of the sacraments. 7. That of Repentance. 8. That of the belief in Jesus Christ. 9. That of good and bad angels. 10. That of the end of the world, and the last judgment. 11. That of the church, &c. The mixed dogmes or theses are, 1. The doctrine of a Supreme Being, in general; his being, his attributes, and his works. 2. That of the creation. 3. That of providence, or the conservation of the world. 4. Of sin, as a transgression of the laws of God. 5. Of rewards and punishments after death, &c. He that attentively studies, thoroughly comprehends, and well digests all these theses, will have reason to rest content with his knowledge of the dogmatic.



C H A P. III.

OF THE EXEGESIS AND THE HERMENEUTIC.

THE term *Exegesis* is derived from the Greek verb *ἐξηγεῖται*, which signifies, to relate or explain; and that of *Hermeneutic* from *ἑρμηνεύω*, which means to search into, and in a figurative sense, *thoroughly*

thoroughly to examine, and interpret. The learned, but especially the theologians, make use of these words, sometimes as synonyma, to express the same thing, and sometimes (as there are scarce any terms that are perfectly synonymous) to denote a small difference between two parts of learning of the same nature. By the word Exegesis they mean, *that science which teaches clearly to investigate the true sense of the original text of the holy scriptures*; and by the Hermeneutic, *the art of interpreting and explaining the holy scripture to others* *. This distinction is so subtle, that it becomes almost frivolous. They are, in fact, the same science; the one is only an explanation of the other, and for that reason we think we are authorised to treat of them together in this place.

II. In order to the true understanding of the sacred text of all the books contained in the Holy Bible, whether of the Old or New Testament, it is absolutely necessary that the theologian be thoroughly acquainted, not only with the languages in which these books were originally wrote, but likewise with the history and antiquities of those remote times in which their authors lived. We shall speak of these languages more particularly in the six chapter of the third book, and only mention them here on account of the direct relation they have to the hermeneutic. With regard to researches into the history of the Jewish nation, their antiquities, their morals and their customs, it will be found advantageous to pursue it as far as the nature of the subject will admit, without, however, engaging in critical subtilities, that lead to a labyrinth, to which there is no end, and have spread more clouds over theology, than even the scholastic controversies have formerly done.

III. He who would successfully interpret any work whatever, should first consider the spirit in which it is wrote: he should attentively reflect on

* The exegesis is a kind of rational grammar. The hermeneutic is the art of interpreting entire passages.

the general design of that work, and the particular motives that induced the author to undertake it; his genius, his passions, his taste; the time, the place, and the people for whom it was written. These considerations are, above all, necessary, when we would undertake the explication of the holy scripture. Independent of those reflexions which the theologian will of himself naturally make on the subject, the excellent commentaries which we have on the bible, in which the greatest men of every age have exercised their genius, may serve him as a guide in this course. The critical histories, such as that of *Richard Simon*, and many others, will likewise afford great aid, and throw admirable lights on this matter. Clear ideas, an acute discernment, and a solid judgment, will complete the work.

IV. With regard to the languages necessary for understanding the sacred text, the Hebrew language holds the first place. The student should have early recourse to the *manner of accenting*, and the *Mafforet* of the Jews: to these he may add, with advantage, the reading of the Jewish interpreters or *Rabbins*. There are the grammars and dictionaries Rabbinic and Talmudic, of *Buxtorff*, *Cellarius*, and others, which will greatly facilitate his study. The Talmud, it is true, is stuffed with a thousand fables and ridiculous stories; it contains, notwithstanding, some things useful and curious, which the learned theologian should not entirely pass over. For the well understanding of the explications and applications of the best Rabbins, he should likewise have recourse to their *Cabbala*, which they divide into *real* and *liberal*.

V. The *Mafforet* is a kind of critique on the Hebrew text, that the ancient Jewish doctors invented, in order to prevent any alteration. They there count the verses, the words and the letters of the text, and have marked all their diversities. The text of the sacred books was formerly wrote in close continuation, without any distinction of chapters,

verses, or even words, after the manner of the ancients, as we still see in many manuscripts. As the sacred books have undergone an infinity of changes, which form various readings, and as the true original has been either lost or altered, the Jews have had recourse to this rule, which they have judged infallible, and which they call the *Massora*, to fix the reading of the Hebrew text.

VI. The ancient Rabbins or Doctors of the Jewish law, have wrote many superstitious traditions, which they observe as scrupulously as the law of Moses; and have also made many commentaries on the sacred text, among which there are some that are good and useful. The language they use is different from the common Hebrew, as is also the Rabbinic character. We have a Rabbinic grammar of *Andrew Sennert*, and dictionaries of *David de Pomis* and *Otton*.

VII. The *Talmud* is a book in which the Jews have comprised every thing that concerns the explication of their law, and the duties that are enjoined them by scripture, by tradition, or by authority of their doctors; by their particular customs, their civil government, their doctrine, their ceremonies, their moral theology, the decision of cases of conscience, &c. The *Talmud* is composed, in general, of two parts, which are called the *Mischna* and the *Gémara*. The Jews would not at first commit these things to writing, but after the destruction of Jerusalem, finding themselves dispersed in the world, they became obliged to it. They had two celebrated schools, one at Babylon, and the other at Jerusalem; at these schools were made two different collections of traditions, each of which is called the *Talmud*. The commentary called *Gémara*, contains the decisions of the Jewish doctors, and their explications of the text; it is filled with absurdities, reveries, and ignorance, and wrote in a vulgar style. On the contrary, the text, that is called *Mischna*, consists of solid reasoning, wrote in a pure style. The Rabbin Moses, son of Maïmon,

mon, has made an abridgment of it, which is of more value than even the Talmud itself.

VIII. The Cabbala or Kabala (a Hebrew word, which properly signifies tradition) contains the different interpretations of the laws of God by different Rabbins; their decisions on the obligations that they impose, and the manner of performing them. There are some of them that are occult and mysterious, and consist in singular and mystic significations, which are given to a word, or even to each of the letters that compose it; and from these various combinations, they draw explications of the scripture very different from that which it seems naturally to import. This *Cabbala* is divided into three kinds; the first they call *Gématria*, and consists in taking the letters for the numbers of arithmetic, and explaining each word by the arithmetic value of the numbers that compose it: the second is called *Notaricon*, and consists in taking each letter for a word; or in composing a word of the first letters of several words: the third is called *Thémura*, and consists in changing a word, and the letters of which it is composed.

IX. The *Chaldee* seems to be indispensable, after the study of the Hebrew and Rabbinic; this is properly no more than a particular dialect of the Hebrew language. The Jews give to their commentaries, and to the Chaldaic paraphrase on the scripture, the title of *Targum*. As during their long captivity in Babylon, they had forgot the Hebrew, and only retained the Chaldean language, it became necessary to explain the prophets in that language; and to this necessity is owing the first commencement of the Chaldean paraphrase. The Rabbins have since collected together, these divers interpretations of their doctors, which form the paraphrase that is called *Targum*.

X. The other oriental languages, as the Arabic, the Syriac, the Samaritan, and the Coptic, are also of great use to the learned theologian. We shall speak of these more fully in the chapter of Oriental

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languages, in the third book; and only mention them here, because they immediately relate to the Hermeneutic.

XI. All the books of the new Testament being wrote in Greek, the study of that language becomes necessary to the theologian. But it must not be imagined, that this Greek is that of Athens or Lacedemon, and that they who understand the New Testament, will fully comprehend Homer, Anacreon or Thucydides. It is very necessary to observe here, that during the Babylonish captivity, the Jews, as we have just said, having forgot the Hebrew, and having adopted, in process of time, several idioms, the Greek language was at last successfully diffused over almost all the East; and, at the time of the coming of Jesus Christ upon the earth, that language was in use in Palestine, not only among men of letters, but in the polite world: every thing was wrote, every thing was treated of in Greek. The Jews no longer understood the holy scriptures in the Hebrew language, but made use of the version that the Septuagint had made of the Old Testament in the Greek language. The evangelists and the apostles, therefore, wrote their historic relations, as well as their epistles or letters, in the same language: but their style is not pure, being strewed with hebraisms and barbarisms, and with theological terms and phrases. The four evangelists differ moreover among themselves, with regard to their style, and so do the apostles; St. Mathew is not so elegant as St. John; nor St. Jude so elegant as St. Paul, who was a man of letters, and an able writer. The diction of St. Luke is the most elegant, and most correct, especially in his book of the acts of the apostles.

XII. The translations, that have been made of the sacred books in the West, will also very frequently assist in clearing up many passages. *M. le Long* has given a *Bibliothèque* of all the versions and editions of the holy bible; which may be consulted to good purposes; we shall have occasion to speak
more

more particularly of these translations, in the chapter on sacred criticism.

XIII. The Jewish antiquities are naturally connected with the study of the sacred history of the Old Testament. *Josephus* is the best author who has wrote on this subject. *Jahn Marsham*, *Vossius*, *Laelius*, *Gyraldus*, &c. are the moderns to whom we are indebted for learned researches into these matters. *Hermannus Wilsius*, in his treatise *de Ægyptiacis*, has thrown admirable lights on the Egyptian antiquities. The antiquities of the Chaldeans, Babylonians, Persians and Medes, have been excellently well explained by *Barnabas Briffon* in his book *de regno et rege Persarum*; and by *Thomas Hyde* in his treatise *de religione & sacris, Persarum*. The writings of *Meuſius*, and the *Compendium Antiquitatum Græcarum* of *John Potter*, are very useful to give theologians an idea of what they will find necessary to know of the Grecian antiquities; and lastly, the abridgment of *Cantel* will make them sufficiently acquainted with the Latin antiquities.

XIV. *Spencer* has given an excellent work on the ceremonies of the Jewish religion, intitled, *de Legibus Hebræorum ritualibus*, &c. We have likewise works that fully treat of their temples, their sacrifices, their priests and levites, their passover and purim, of their tythes, their vestments and sacred habits, and of their manners and customs; but it would be too prolix to mention all these in this place.

XV. The modern commentaries on the holy scriptures may also serve to instruct the young theologian; but he should use them with caution and moderation. All that glitters is not gold, as well in this instance as in others; and a man of learning should not often make use of other people's eyes.

XVI. The Bibles, called *Polyglots*, are also of great assistance in interpreting the sacred text. They are printed in several languages. The first is that of *Cardinal Ximenez*, printed in the year 1555, and called the *Bible of Complute*: it contains the He-

brew text, the Chaldean paraphrase, the Greek version of the Septuagint, and the ancient Latin edition. The second is that which is called the *Royal Bible*, printed at Antwerp in 1572. The third, that of *le Jay*, printed at Paris in 1645. The fourth is the *English Polyglot*, printed at London in 1657, of which Walton is the editor. There are still several more that have been printed since, but they are neither so complete nor so celebrated as the former.

XVII. The Bibles that are called *Biblia Glosata*, are also here of very great use. The sacred text is there every where accompanied with explanations and observations. There are of these in each of the three principal communions of the Christian Religion, and in most of the modern languages of Europe. Lastly, as the interpretation of the sacred text depends in great measure on the lights and the proofs drawn by comparing together different passages of scripture, there are several bibles, where the editors have placed, on the side of each verse of the text, what they call the *Concordance*, that is, a citation of other parallel passages, which are found dispersed in the Old and New Testament. These Concordances are of daily and indispensable use to the divine, in composing his sermons, and in many parts of his ministry.

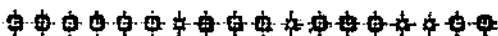
XVIII. These parallelisms are yet different from that which theologians call the *real parallelism*; by which they mean, *the relation that the typical or parabolic sense of a passage has with what the expressions literally imply, or seem to imply; the mystic sense with the real sense; the figures and the images that the sacred authors have employed, with the things or the objects that they intended to describe.* The greatest theologians have taken infinite pains in determining these points, in explaining them, and producing their proofs: in many places they have succeeded; and we cannot but admire their sagacity, their zeal, and

and their success: it must be acknowledged, however, that they have not cleared up all the obscurities; that there are many dark passages still remaining in the Prophets, in the Song of Songs, in the book of Job, and above all in the Apocalypse; on which have been hitherto thrown mere glimmerings, which are very far from affording a sufficient light. The explications, that have been attempted of these passages, are frequently so unjust, so unnatural, and improbable, and at the same time so futile, that they rebel against common sense, and only give us occasion to deplore the imbecillity of the human understanding.

XIX The last labour of him who would become acquainted with the Hermeneutic, is in what is called *Leitio Acrematica*; by means of which, each book of the Holy Scripture is examined from one end to the other, with relation to geography ancient and modern, genealogy, chronology, history, and antiquities; from whence a rational system is formed, according to the rules of sound logic. This work is attended with so many difficulties and distractions, that it is almost impossible to accomplish it, without the assistance of a guide, an able professor, and a complete academical course.

XX Furnished with these ideas, the theologian may venture to investigate the true sense of those passages of Holy Scripture that may appear to him obscure, contradictory, or difficult, and to interpret them to others: but he will be more wise, and less vain, than to attempt to impose his decisions on mankind, at all times, as authentic and infallible. The human discernment is ever confined and imperfect; and God has not granted to any man, to any theologian or assembly of divines, an exclusive power of interpreting his divine word; he has moreover denounced his anathema against all those who shall add, or take away, a single word thereof. But to explore the true sense of any pas-

sage, and to explain it to others, cannot certainly be deemed either adding or retrenching.



C H A P I V.

OF SACRED CRITICISM.

L AS the authors and professors, who treat of the different parts of theology, make frequent mention of the sacred criticism, we must not omit to show in what manner it is connected with the Exegesis and the Hermeneutic, and in what respect it forms a separate doctrine or science. Criticism, in general; is in fact no more than a superior part of grammar; a kind of rational grammar founded on reflection, and on the rules of language; but which employs the aid of divers other sciences, as history, chronology, antiquities, &c. in order to search out and determine the true sense of an obscure or ambiguous passage. The sacred criticism is only distinguished by its object; it adopts the same rules, but it adds others which take their rise and principles from the peculiar language of the New Testament; and has regard to the Bible in general, on account of the nature, essence, and qualities, of its divine author. So far it has an intimate connexion with the Exegesis.

II. But, if we would consider it as a separate study, we may say, that it is a science which is employed in examining the exterior circumstances of the holy Scripture. For example: in what time each book was wrote; who was its author; the precision and fidelity of the text; the distinction between the canonical books and the apocryphal; and many other matters of like nature. In order still the better to show in what manner, and with how much precaution, the sacred criticism proceeds

ceeds in its operations, we shall here recite some of those subjects that belong to its province.

III. It is commonly received that it was Esdras who, after the return from the captivity of Babylon, collected and fixed the canon of the sacred books of the Old Testament. This at least is the opinion of the Jews, who all attribute to him that glorious work; and the assertion appears so much the more probable, as it was the same Esdras who re-established their state; who brought the whole Jewish people into one body as a nation, and formed the Judaic republic, which was so intimately connected with their religion. The collecting of the canon of the books of the New Testament is attributed, with great appearance of probability, to St. John; although historic and formal testimonies of it cannot be produced, unless it be what St. Eusebius relates of the four Evangelists. In process of time, each council has decided what books should thereafter be held by the Christian church as canonical; and we commonly find, at the end of the decrees of each council, a repertory or list of those books.

IV. The Old Testament was wrote in Hebrew, except a small number of passages where the dialect is Chaldean. The form of the letters or characters, as we now have them, are also properly Chaldean; whereas, before the Babylonish captivity, the Samaritan character was probably used. Buxtorff and Capell have had warm disputes upon the subject of the vowel points: the former would retain these points, and the latter rejects them; each of them has had his adherents. As it is impossible to decide in this dispute but by historic proofs, and as these are not to be had, either for one side or the other, it is best to leave the affair undecided; nor totally rejecting the points however, as they are of infinite use in the study of the Hebrew language. They who love to introduce novelties into religion, (say the partisans of Buxtorff) would doubtless be

charmed to see the points totally abolished, because they then could make whatever they pleased of the sacred text. The adherents of Capell maintain, on the contrary, that by the ignorance, or inadvertence of copyists, these points may have been transposed formerly, or may be easily confounded and wrong placed hereafter; which may occasion the most dangerous errors; may give rise to contrary meanings, and whimsical explications of the scripture; whereas, by not admitting the points, an able theologian will preserve, at least, the liberty of explaining a passage according to analogy, and the rules of good sense.

V. The *accents* have given rise to full as many disputes: but this question is not decidable but by the same method as the preceding: for we clearly see, by all the ancient manuscripts, that even the Greeks and Romans have wrote without accents, but that both one and the other make use of vowels. In poetical works especially, it is almost impossible to omit them; and that language being now dead, without accents, we can find no cadence, no measure. Father Montfaucon asserts, with great appearance of probability, that accentuation was not introduced till the seventh century.

VI. The language of the New Testament is the Greek; for all that is said of the gospel of St. Matthew being wrote in Hebrew, and of that of St. Mark being originally composed in Latin, is but weakly supported. The style, as we have already remarked, is not pure, whatever some zealots may improperly, and without reason, assert to the contrary. The language of the New Testament abounds with hebraisms.

VII. The precision, the truth, and correction of the text, is the result of repeated and judicious comparisons of the variations; of which there are, according to Dr. Mill more than twenty thousand. These variations have proceeded, partly from the negligence of the copyists, and partly from the ignorance of the revisors and correctors of the ancient manuscripts.

manuscripts, who have frequently added and inclosed the comments, which were wrote in the margin, with the text. The heretics of the first ages, and the impostors, have also made divers alterations in the text itself, in order to support their errors; and these alterations have slid into other copies. It is the common rule to follow the most ancient manuscripts, as it is supposed, with reason, that they are the most correct; and to these are also added the most ancient versions.

VIII. The first of these versions is that of the *Septuagint*, which has been at all times highly esteemed, as well by the Jews as the Christians. The Hebrew language being lost by the Jews, during the captivity in Babylon, and the Greek dialect becoming the common language of the East, that version was made in Egypt by public authority, and for the use of the common people. The second is that called the *Vulgate*, which was formed from the translation of St. Jerome, and from another that was called *Versio antiqua*. After these two translations come the Greek versions, among which are reckoned: 1. That of *Aquila*, who has translated the original Hebrew verbatim, by putting over each word of the Hebrew text, its corresponding Greek term. 2. That of *Symmachus*, who applied himself to write the Greek with purity and elegance. 3. That of *Theodotion*, who has very closely followed the text, notwithstanding the fine language he employs. *Origen* published these versions in six languages in his edition of the Old Testament, which he calls *Hexapla*. To all these versions may be added, 4. Those of *Jericho* and *Nicopolis*, which are much celebrated. We have not now any one of these versions entire. The fragments that remain of them have been collected and published by *Dru-sius* and *E. Montfaucon*. Lastly, 5. The *Syriac versions*, of which one was made on the Hebrew text, and the other on the Greek.

IX. The sacred criticism is likewise employed, in acquiring a knowledge of the principal and most celebrated

celebrated manuscripts, as well of the sacred text itself as of the translations; in learning to discern the hand writing, and the essential characteristics which distinguish the real original from the counterfeits: and lastly, it is employed in knowing the best modern editions of the Holy Bible; as for example, the Polyglots, among which those of London, of the years 1653 and 1655, are the best. The introduction by Walton, which is at the beginning of these editions, is a model and a masterpiece of sacred criticism.



C H A P V.

OF MORAL THEOLOGY.

i. **I**F it were allowable to compare the Saviour of the world to a weak mortal, I would say, that the conduct of Jesus Christ resembled that of Socrates, who has left us no part of his doctrine in writing, but whose whole instructions (as well as the particulars of his life) have been collected, digested, and published, by his disciples. The Evangelists are the only historians of the Messiah: it is to their labours that we owe the knowledge of his actions upon earth, and his divine doctrine. The four Evangelists, and the Acts of the Apostles wrote by St. Luke, contain therefore *alone* the history of the life of Jesus Christ, and the doctrine that he taught. His apostles and disciples began by paraphrasing his doctrine, as well by their evangelic sermons, as in the epistles they addressed to the faithful of several Christian Churches; they have given explanations, and have added pastoral instructions; which are in effect admirable; but which, nevertheless, form not the original text of the discourses of
our

our Saviour. The bishops of the apostolic century, the fathers of the church in all succeeding centuries, the other bishops and ecclesiastics, the councils, the synods, the doctors of theology, the popes, the consistories, the reformers likewise, and an infinity of theologians, have drawn from the Gospel, and sometimes also from the letters of the apostles, and from other commentaries on the Gospel, various tenets; which united, form at this day the general system of the Christian Religion. The theologians, who devote themselves to the service of the altar, study this system in the dogmatic; the laity learn it by means of catechisms; and after they have made confession of their faith, solemnly adopt it, when they are received into the bosom of the church.

II. It is not the same with regard to the morality of Jesus Christ, which every one may read in the Gospel, and to know which, it is not necessary to become learned, nor to study a complicated system. If the dogmatic were not armed with a thousand arguments to establish the Divinity of Jesus Christ, yet would the morality of his Gospel sufficiently prove it; seeing that it is perfectly holy, entirely simple, strictly just, and most completely adapted to promote the felicity of the human race in this world, and in that which is to come. The Saviour of the world has not enjoined any part of mankind to engage in disputes, or abstract refinements; the sole command that he has given them is, *to believe in his Gospel*, and that is comprised in one word only, *Love*: the grand and only principle on which the whole of his sacred doctrine is founded.

III. To produce the greatest effects possible, by the least efforts, is the highest perfection in nature, and at the same time the true characteristic of Divinity. God has given to all the beings that compose the universe, one simple principle alone, by
which

which the whole, and every part, is connected and perpetually supported; and that is LOVE. The attraction of the celestial bodies, as well as of those of which our globe is formed, is a species of LOVE; a mutual tendency towards each other. The uniform generation, by which all beings are perpetuated, is founded in LOVE. This is the true *minimum*, the true system of *the least action*, which includes something so divine. It appears to be the will of God to establish, by the mouth of the Messiah, the same simple principle in morality, that is, in the rule of human actions, by saying, LOVE: in a word, it was his will, that in the conduct of mankind, as in every other part of nature, there should be no other principle than that of LOVE.

IV. That in the different systems of ethics of the ancient Heathen Philosophers, many maxims and precepts of admirable morality are to be found, cannot be denied; but, beside that these philosophers are almost continually contradicting each other in their maxims, no one of their systems is founded on the true principle. In searching after it, they have discovered some excellent truths, but it has been by chance, and they are at best imperfect. Jesus Christ has alone taught mankind perfect morals, by deducing them from this true principle. Every principle should be simple: the idea of a compound principle implies at once an imperfection. Every principle should be comprehensive, even universal in its effects. Every principle, whose effects are limited, is imperfect. God himself is uniform in his principle, and infinite in his effects. His doctrine, or his law, should be the same. Jesus Christ has made known to mankind this principle, simple and universal. He has therefore been, in this sense also, the true Saviour of the world. He has preached to mankind; and his only doctrine has been that of LOVE.

V. By

V. By the word *Love*, with regard to *Bodies* in general, is meant a tendency, a mutual inclination that urges them to join and to coalesce; and with regard to men in particular, a lively, affecting pleasure that possesses the mind on contemplating the perfections of any object. This pleasure is always accompanied with a desire, either to possess that object, or to render it propitious. By adopting therefore this principle, and this last definition of *Love*, it follows, that all the duties of man consist,

1. In the love of God in preference to all other objects.
2. In the love of himself.
3. In the love of his own species.
4. In the love of every other creature to a certain degree.

The doctrines of Jesus Christ are, in these respects, the most explicit.

VI. From this principle flows our *duty* towards God, towards ourselves, our neighbour, and to those beings that are subject to our power. The first rule is, to communicate to all those, whom it is our duty to love, all the good, and to preserve them from all the evil in our power. The second, to do to no one what we would not have done to ourselves in similar circumstances. The third, which is the simple effect of love, is to endeavour to please the object that we ought to love. The fourth, to endeavour to render the pleasures that we communicate to others, as lively as possible, and those inevitable evils, which we are sometimes constrained to do to them, as supportable as we can; and so of the rest. The whole evangelic doctrine of our Saviour is replete, from beginning to the end, with admirable precepts, for these purposes; and these precepts, with their applications, general and particular, we learn from that science, which we call *Moral Theology*.

VII. This doctrine we distinguish from moral philosophy, or the simple doctrine of Ethics; because Jesus Christ has made known, in his divine morality, a far greater degree of perfection than is discoverable by the mere light of human reason. For the renouncing of self-interest, and private pleasure; the forgiveness of offences; the love of his enemies; the triumph over destructive passions; and many other like virtues, the Christian is alone indebted to the doctrine of Jesus Christ.

VIII. In order to shew, moreover, in a few words, of how easy, just, and natural an application all these precepts are susceptible, we shall here give a few instances. It is our duty to love God. Now nothing is more natural than to feel a lively and penetrating pleasure in the contemplation of the united perfections of the Supreme Being; nothing more natural than a desire to please him, and to render him propitious to us: and as it is not possible for us, weak creatures, to do him either good or evil, all our power to please him consists in offering him an upright heart: a rational devotion; to be possessed with gratitude toward him, and to exert all possible efforts to accomplish the end of our creation. It is our duty to love all mankind; and yet we inflict pains and chastisements on some of them; we even put them to death: but we chastise them only to render them better, to prevent them from becoming pernicious to society in general: we retrench the number of the living, as we cut off a corrupted branch of a tree, in whose preservation we are interested: it is because we love mankind that we endeavour to prevent the destruction of the good by the malignity of the wicked: but it must ever be an indispensable necessity alone that can compel us to chastisement. It is our duty, likewise, to feel a kind of love for other creatures, even for mere animals; nevertheless we harass, we oppose, we destroy them. If we harass them wantonly, to support a criminal luxury, or to satisfy a brutal pleasure;

if we pursue a savage chase, or encourage combats between animals themselves, or other like horrible diversions, we act contrary both to the spirit and the letter of the Gospel. But if we destroy a part of these animals, to serve as an indispensable nourishment to man, observing at the same time to put them to the least misery possible, and taking all necessary care for the preservation of the species, we act in conformity to the laws of nature and of morality; we employ to our own preservation, and to that of the rest of mankind, what appears destined to that purpose by the Creator.

IX. Moral theology likewise differs from philosophy, inasmuch as it requires that our virtues be absolutely disinterested: it enjoins us to fly the evil and to pursue the good, merely as our duty towards God: it admits indeed the precept of the love of ourselves, and the love of our neighbour, but it regards this love only as a duty that results from our love towards God; and that from the principle, that God must love all his creatures as the work of his hands; and that we cannot therefore, from the very nature of love, please him, without entertaining sentiments of affection towards those to whom the Sovereign Lord of the Universe vouchsafes his benign regard. Now, as the Christian morality does not regard virtue, but as it is a duty towards God, and as it considers all our actions, that have any other motive, either as blameable, or at least imperfect, and as but little acceptable to the Supreme Being, it does not regard the advantages that result from them to society, but as useful consequences of the true Christian virtue; and from this principle it draws new arguments for the encouraging of mankind to the practice of it.

X. From what has been said, a second difference arises between Christianity and philosophy. The first adds to the second still new motives to the practice of virtue. That of redemption, and pardon, obtained by Jesus Christ, is not one of the least.

Its argument is this: if God has so loved mankind, as to afford them the means by which the evil, caused by their own fault, may be abolished, it would be the greatest of all ingratitude and malice towards himself, if man should not endeavour to acknowledge this love, to merit, and to embrace the means of pleasing God. A third motive, taken also from the merit of Jesus Christ, here offers itself as an auxiliary to the two former: according to the Christian doctrine, man has not by nature the power to practise all those virtues which are agreeable to God; but the same doctrine teaches, on the other hand, the conditions by which it is possible to please that most holy and perfect Being; and gives the Christian hope also, that he shall never labour in vain.

XI. Lastly, the Christian morality is of far greater efficacy in adversity, than philosophy: it carries with it a wonderful consolation in misfortune, and even in the hour of death; for the Christian may say, with the Apostle, *that Godliness (or the practice of evangelic morals) is in all things profitable, having the promise of the present life, and that which is to come.*



C H A P. VI.

OF POLEMIC THEOLOGY, OR CONTROVERSY.

I. **W**E cannot sufficiently lament, that the church of the God of Peace should be a *church militant*; and that a doctrine, so simple and clear as that of the Gospel, should be the cause of discord, even among Christians themselves. Nevertheless, as the truth is so difficult to discover in all things, and especially in matters of religion; as it is so frequently covered with the clouds of interest and ambition; as the same object appears so different to different men; and as error, in the face
of

of the world, constantly assumes the mask of truth & it is but just that the true religion be furnished with arms to combat error, and to pluck off the deceitful mask, by which so many poor mortals are seduced*.

If The theologian, who has made the proper preparatory studies, who is thoroughly instructed in natural religion, in the dogmatic and the hermeneutic, and who joins to these sound logic, is already well prepared for this spiritual combat: he is armed, but he is still to learn how to use these arms: he must also be made acquainted with the enemies he is to encounter, to know their force, and the arts they will use against him. It is plain enough, I suppose, that I here speak of spiritual arms; of those with which we are furnished by reason and the Holy Scripture: evil be to him that employs any other: force is ever an infallible proof of the want of argument. The propagation of a religion by the sword, after the manner of Mahomet; persecutions, either secret or open; constraint, violence, every sort of religious war, is so atrocious, so contrary to the spirit of the Gospel; in a word, so detestable, that every true Christian must avert his sight from such infamous horrors.

III. Controversy is conducted, either from the pulpit or chair, by way of harangue, by conversation, or by writing. The first quality that is necessary to a disputant, is *reason*, and the next, *moderation*; in what manner soever the contest is conducted, these two qualities should constantly be manifest, during the whole course of altercation.

IV. There are some errors that attack the *system* of religion, and there are others that attack even its *morality*. In order properly to oppose an error, we must begin by finding out its real meaning:

* It is from the combination of these ideas that controversy arises, and it is the Polemic that forms the arsenal, so to speak, where these arms are disposed; that teaches at the same time the art of using them, and which may be called the Theological art of war.

we must therefore study the different systems of other religions, and the principal heresies, if we would successfully refute them. We do not mean by this, that the theologian should know all the errors that spring up in the brain of each individual; we speak only of those that are professed by whole sects.

V. They who attack our religion, found their opinions, either on the interpretation of the sacred text, or on philosophy, or history; and we should always oppose them with the same arms with which they pretend to defeat us. It is necessary to begin by divesting ourselves of all prejudice, in order the better to show others those prejudices by which they are deluded. We should never make use, but especially when we oppose weak minds, of opprobrious terms in the course of the debate, nor contend about words or expressions, nor attack incidental circumstances that may attend erroneous principles; but bend our whole force against the root of the tree, the principal error; to uncover it, to dig it up, to destroy it.

VI. Polemic theology is taught in universities by two methods, according to the views of the student. If he learn it merely in order hereafter to defend his parishioners against the most prevalent errors, he has only to examine the principal controversies according to the systematic order of theology; and may content himself with knowing their true meaning, together with the arguments of those that oppose them. But if it be his intention to teach this science to others, or to engage in controversy, either by conversation or writing; in short, if he aspire to renown in it, he should study the origin and history of each controversy, he should make himself a complete master of the arguments for and against it, the exceptions that it makes, its interests, its different revolutions and actual state, &c. These follow, in this study, either the order established in the dogmatic, or that which is used in symbolic books, that is, such as treat on articles of faith.

VII. In

VII. In order the better to elucidate the method to be observed in this sort of study, we shall say, that to acquire a complete knowledge of theological disputes, the student should, 1. Make the examen of each religion, and even of each controversy. 2. He should thoroughly examine his system in the symbolic books, and likewise the sources of his religion. 3. He should precisely determine the principal and capital error of each religion, sect, or individual; that which is the source from whence all the other errors flow. 4. Search into the political causes of each error, and each controversy, from history. 5. Examine the natural order according to which all the errors have taken their rise, the one from the other: and lastly, 6. Confront the respective arguments, the answers, and exceptions, that each party has made to defend its cause. To all this is to be added, 7. What they call *Collegium disputatorium*; an exercise, by which all, that is learned in the closet and in the schools, is called forth and animated, under the inspection of a professor; and the mind is accustomed to think, and the tongue to speak, with facility and efficacy.

VIII. The principal contests in which the theologian may be engaged, are, 1. Against those who admit of no revealed religion, as the atheist and deist: 2. Against those who admit of a revealed religion, but adopt not the true Revelation, as the Heathens, the Mahometans, &c. 3. Against those who believe only a part of the true Revelation, as the Jews. 4. Against those who add to the true revelation matter foreign to it, as traditions, &c. 5. Against those who make a false interpretation of the sacred text, and draw from it erroneous systems, as the heretics and schismatics, &c. and lastly, 6. Against those who make a wrong use of certain expressions of Revelation, and build, on whimsical notions, ridiculous systems, as the Fanatics, Quakers, &c.

IX. According

IX. According to this division, the theologian will have to combat principally with,

1. The Atheists, with Spinoza at their head.
2. The Deists.
3. The Heathens and Idolaters.
4. The Mahometans.
5. The modern Jews.
6. The Arians and Manicheans, or rather those who in these days follow their ancient errors.
7. The Socinians.
8. The Catholics, opposed to the Protestants.
9. The Protestants, opposed to the Catholics.
10. The Molinists, opposed to the Jansenists.
11. The Jansenists, opposed to the Molinists.
12. The Reformed, opposed to the Lutherans.
13. The Lutherans, opposed to the Reformed.
14. The Arminians.
15. The Anabaptists.
16. The Weigelians.
17. The Quakers or Tremblers.
18. The Fanatics, at the head of whom is Jacob Boehm.
19. The pretended new Prophets.
20. The Indifferents.
21. The Pietists.
22. The Moravian Brethren, or the Herenhutens, &c.

X. Now, as each of the religions, communions, or heresies above mentioned, have not scrupled to publish to the world their dogmas and creeds, the theologian ought, carefully, to instruct himself in those symbolic books, in which each of them have comprised its system; to study and to make a good analysis of them, according to the method that we have proposed, and to prepare such arguments as are the most just, the most weighty, and proper to confute them.

XI. Before we quit this subject, there is one remark to be made, or rather one caution that is very essential, which we would offer to the young theologian; which is, that the polemic is useful, and

and even necessary in the study of theology in general; but that it is a discipline which ought to be treated with great prudence and moderation. Disputation in general is a dangerous art; and religious disputation is a deceitful art, and of infinite peril. The student will do right well to remember, that there is no sect, no communion on earth, that is perfectly true in all its dogmas without exception; that there are some small errors in all religions: that infallibility never was, nor ever will be, the portion of humanity. He should likewise remember, that the masters who teach him, or the books that he reads, are constantly partial to the religion they profess: and that when he has supported a thesis, and confuted his adversaries in a collegial dispute (where his adversaries, as well as his preceptors, are of the same side of the question, and will not fail to adjudge him the victory) he should be persuaded, that the victory would not have been so easily obtained, had he contended with able adversaries of the opposite religion: he should remember, that we triumph without glory when we combat without danger; and let him not be vain of his laurels, nor imagine himself some wonderful scholar; seeing that it is very possible, that he may go off victorious from such a dispute, that he may receive vast applause from his professors and his colleagues, and at the same time have reasoned like a dolt.

XII. On the other hand, the most able theologians, and the most consummate professors in this science, ought to be constantly on their guard against the abuse of polemic theology; which frequently serves less to clear and confirm the truth of the dogmas of a communion, than to establish perpetual discord and hatred among Christians. Every theologian should also remember, that by the nature of the subject, it is not possible to produce *demonstrations* in support of his theses and opinions; but that his arguments will be only valid, and preponderate in proportion to their degree of evidence; and lastly, that it is a ridiculous and insufferable vanity to imagine,

gine, that every man, who does not think precisely as we do, is guilty of a palpable error.



C H A P. VII.

P A S T O R A L T H E O L O G Y.

I. HAVING described the theoretic sciences of theology, we now come to those which regard the practice. It would be to bury the talents that God has given him, and the studies that he has made, if the theologian did not employ them to the edification of his neighbour, and the prosperity of the Church. His office in society is attended with constant and anxious labours. He is charged with the *care of souls*, with the instruction of youth, with preaching of the Gospel, the conduct of his flock, and the administration of the Sacraments, with visitations to the sick and the dying, with calming the terrors of weak minds, with administering comforts to afflicted souls, and many other functions equally difficult and important. The practical sciences that we shall here describe, will serve him as guides in this unbounded field.

II. Pastoral theology is usually divided into three parts, which are,

1. Homilitic Theology.

2. Catechetic Theology

3. Casuistic Theology. -

To which are added,

4. The Consistorial Prudence, which includes the study of the Canon Law.

5. The Prudential Exercise of the different functions of the ministry.

As the homily makes a part of eloquence, and consequently belongs to those sciences that take their rise from the imagination; and as the canon law belongs

to the general system of the civil law, we shall treat of them in their proper places, where the reader will find the analysis of each of them: of the rest in order.

III. It is in vain that a son of the church possesses all the sciences that belong to his profession, that he is an agreeable and even a renowned preacher, if he do not give a life, an efficacious spirit to his ministry, by a *good example*; for that is the first precept in pastoral theology. He is at the head of a flock, and ought to be their guide: but how absurd, if his words and his actions be at continual variance with each other! How scandalous, if he be not the first to practise these lessons of wisdom that he preaches! How indecent, if, while he edifies by his discourses, he disgusts by his morals! What baseness, if he should even glory in his irregularities! It is less shameful for a soldier to relate, that he has tamely suffered an affront, than for an ecclesiastic to boast of his debaucheries! But the one and the other is a disgrace to his profession.

IV. But this exemplary conduct should be free from all affectation in the external behaviour, A singularity of dress, and an air of austeriety; the head declined, the eyes turned up to heaven, the hands constantly clasped, a plaintive tone of voice, and a solemn gait; a scrupulosity in things indifferent, and a dogmatic and clerical manner of deciding in the common affairs of life; a ridiculous inclination to discover iniquity in innocent actions; to confound pleasure with vice, and to be an enemy to joy, the greatest boon that God has bestowed on man; and a hundred other like fopperies there are, with which the religious make a parade, that is shocking both to good sense and the evangelical morality, and which render their ministry, in the eyes of sensible people, more contemptible than respectable. These are rocks on which the young theologian is much too liable to run, and of which he cannot be sufficiently cautioned.

church is composed of persons of both sexes, and of all ages, it is necessary, that in the explanations of the catechism, there should be employed different degrees of simplicity proportioned to the age and capacity of those that are to be instructed. It is expedient for young people to retain in their minds the first principles of religion; such as are contained in good catechisms; and that they be explained to them in particular lectures: which is the most usual and most natural method of enabling youth to give an account of their faith. The sermons that are given in the Catholic churches on controversy, and in Protestant churches on the catechism, serve to instruct those who are of riper years and have their judgment more formed. These sermons compose, at the same time, a sort of course of the dogmatic and the polemic theology.

III. Both in private catechising, and in sermons that are purposely intended to explain the catechism, the theologian should avoid, as much as possible, the use of technical terms; or (which is still better) he ought to begin by explaining those terms, of which he should give such clear and determinate definitions, that no person of a moderate capacity can possibly mistake them. In a word, he should endeavour more to prove than to persuade; and as eloquence sometimes persuades at the expence of truth, he should cautiously avoid that sort of delusive persuasion, and in its room, substitute clear and solid argument.

IV. The catechumen should not only be instructed in the tenets of his own religion, and the foundations on which they are built, but also in the dogmas of other religions, and the proofs that are brought to maintain them: for a subtle, deceitful and specious book may fall into his hands; or he may be drawn into a dispute with an able adversary. It is necessary therefore, that he be provided with arms offensive and defensive, that he may be able successfully to defend himself; and, if it may be, to convert his antagonist, and by that mean

promote the glory of truth and of religion. It is the part, therefore, of his preceptor to teach him, faithfully, the principal tenets of other religions, and the arguments that are brought to defend them.



C H A P. IX.

OF CASUISTIC THEOLOGY.

I. **H**APPILY for man, and for society, all are not so obstinate, or so insensible, as to ask, *what sort of animal conscience is*, or never to know what is remorse. Happily, the greatest part of mankind are sensible, that all their actions are not conformable to the laws of divine wisdom, nor to the rules of natural equity; are afflicted at their past conduct, and find a generous and earnest desire arise in their souls to avoid for the future those dangerous rocks. To calm the troubled mind; to appease the timorous conscience; to communicate the consolations of grace to the afflicted soul; to explain and decide in doubtful cases; to direct those that err, and to support their weakness; to convince such as persist in their errors; to pierce the hardened heart; to intimidate the wicked, and to rouse the indolent; to conduct the Christians committed to the care of their pastor, in the way that leads to true felicity; are the important objects of casuistic theology, and for which it affords the proper instructions.

II. In a more confined sense, by casuistic theology is meant, the science that decides in doubtful cases of moral theology, and that calms the scruples of conscience which arise in the Christian's soul during his sojourn in this world.

III. The studies relative to these objects, which the theologian is supposed to have made, and the confidence that the common rank of Christians place in their pastors, afford them the means and the opportunities

portunities of rendering signal service to those of their fellow citizens who have need of their counsel and consolation: for where there is one man of a philosophic spirit, one Christian of a well grounded knowledge in theology, there are in society a thousand that are not, and who are yet desirous of being instructed, guided, comforted, established. It is therefore both just and important, that he who devotes himself to the service of the altar, should early study all those sciences that will enable him worthily to perform this important part of his ministry.

IV. God forbid, however, that I should countenance the abuse that is made, in some Christian countries, of the duties that I have here explained. To reduce these matters into a political system; to make the direction of consciences a profession, a regular trade; to provide each house with a spiritual director, as with a butcher or baker, a steward or porter, who by that mean may insinuate himself into the confidence of families, and become the depository of all their secrets; may sometimes sow discord between husband and wife, or the nearest relations; who may avail himself of the confidence of his devotees to direct them constantly in matters of a worldly, and sometimes even of a criminal nature; to efface the legitimate and sacred authority of the father of a family, and, in its place, to substitute a foreign power; to undermine the confidence, the union and concord of families, in order to confirm and render necessary this secondary authority; to captivate the spirit, and oft times the heart of a wife or daughter, and in general of weak minds; to enjoin them ridiculous nummeries that lead to fanaticism, and a thousand dangerous superstitions, or to religious exercises that divert them from their domestic duties; in a word, to assume an absolute authority over the consciences of mankind, is a pernicious invention, contrary to the evangelic moral, to the welfare of society, to

the interest of the state, and to the sovereign authority; and well deserves an exemplary punishment.

V. But the cure of souls, faithfully intended, and properly limited, differs totally from this despotic power. He, who is charged with it by a lawful vocation, should remember that there are four classes of men with whom he will be engaged: 1. With those of weak minds; of little knowledge, and little ability. 2. With those whose spirits are afflicted by some great reverse of fortune. 3. With those of nice and timorous consciences, who suffer by their scruples, whether they be vain or rational. 4. And lastly, the wicked, the hardened and incorrigible sinner. The grand art he consists in representing to each of these classes of men, the truth, in a manner so clear so strong and full, that they can no longer retain any doubts, that conviction must take place, and consolation or conversion be the consequence.

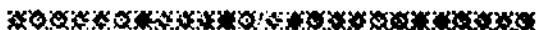
VI. Truth is in its nature highly problematic; each one, however is persuaded that he knows it, that he possesses it, and is guided by it; every man thinks himself in the right. We should therefore begin by discovering the truth in the subject before us, and in placing it upon a solid foundation. This business of demonstrating the truth to others, is attended, in the mean time, with infinite difficulty. Every mind is not capable of discovering it at the first glance; nor can all discern it from the same point of view. Sometimes men require conviction by abstract or philosophical arguments, and sometimes by the express decisions of the Holy Scripture. Sometimes by authority; sometimes by gentle remonstrance, and sometimes by dreadful menaces. Sometimes they are to be reclaimed by properly exposing the necessary and fatal consequences that result from their conduct; and at others, by the alluring promises of the Gospel. Now vice is to be boldly confronted; and now the transgressor is to be conducted into the right path by artful turnings; now the sinner's crimes are to be painted in the

the strongest colours; and now a veil is to be lightly cast over them; and sometimes we should even indulge a favourite inclination, in order to induce them to abandon a more pernicious passion; and so of the rest.

VII. As it is impossible that the books which have been wrote on this subject, though of an immense quantity, can contain every case that daily occurs in the ministry of the Gospel; and as these cases are not always justly decided by these authors; and if they were, the consulting of such enormous works would take up too much of a theologian's time, and divert him from his other studies; and as these casuistic writers contain, moreover, a number of puerile subtilities, and wretched chimeras; it is highly proper that the minister of the altar, whom we suppose to have a masterly knowledge of the principles, the dogmas, and moral of the Christian religion, should endeavour to draw, from the true source, the means that he is to employ on each occurrence; and not have recourse to books for their decisions. For which purpose it is necessary. 1. That he accustom himself to reason according to the rules of sound logic. 2. That he learn to know the human heart, under its different disguises; the characters of men, their arts and ruling passions. 3. That he do not attempt to gain or convince by little pious frauds, or by lucky sophisms artfully represented. 4. That he do not inflict what are called penances, which are the height of absurdity. 5. That he do not enjoin mummeries, pi'grimages, austerities, and a thousand like matters, which can never carry with them a real conviction, and only serve to divert men from their labours, and the duties of society: But, 6. That he constantly present, as we have before said, and cannot too often repeat, the truth in all its native force and purity.

VIII. This truth, however, is no enemy to sacred eloquence; on the contrary, the latter serves to introduce the former into the mind of the audi-

tor, and there to give it such strong impressions, as neither time, the dissipations of the world, nor the distractions of fortune, are able easily to efface. The whole ministerial function consists in teaching, preaching, administering the sacraments of the church, visiting the sick, and the dying, comforting the afflicted, and affording the spiritual aids to all those who have need of them. Eloquence is of the greatest efficacy in all these functions, and without affecting it, the minister of the gospel should never neglect it. There are some professors in universities who give their auditors a complete systematic course on pastoral theology, which may be attended with many advantages.



C H A P. X.

CONSISTORIAL PRUDENCE, OR GENERAL ŒCONOMY OF THE CHURCH.

I. **A**Mong the practical sciences of theology, we must not pass over in silence that which is called the Consistorial or Ecclesiastic Prudence; whose object is the exterior order or arrangement of the Christian church, on principles founded on the Holy Scriptures; and which are proper, not only to maintain religion in its purity and splendor, but to defend it against all schisms, dissensions and separations whatever. This œconomy is necessary in the councils, the synods, the consistories, and in the faculties of theology. We must not, however, confound this with the ecclesiastic jurisprudence, which is the science of interpreting and applying the laws, instituted by the sovereign, relative to the persons, goods, and affairs of the church; whereas the object of consistorial prudence is the arrangement of the church itself, and the ecclesiastic state, on Christian and rational maxims.

maxims. The one is a sort of legislation itself, and the other, on the contrary, an application of the civil laws.

II. The theological prudence includes therefore, first, the whole plan of church government, and the arrangement of the ecclesiastic state; secondly, the ordinances relative to exterior ceremonies, and divine worship; and lastly, the discipline of the church, the errors, the schisms, the heresies, and dissensions that arise among Christians. The source of this prudence is a thorough knowledge of the essence of the Christian religion, and the method of drawing from it just consequences.

III. This discipline is likewise employed in deciding, wherein consists the difference between the clergy and the laity; or if there be, in fact, any real difference between them: if the church form a distinct state in the general system of government; and to whom belongs the right of deciding *circa sacra*; and what are the limits of the spiritual and temporal powers in this respect: wherein consists the hierarchy of the church, and what are its rights and privileges: to whom appertains the nomination of a priest, or other ecclesiastic, according to the divine ordinance: to whom is committed the right of preaching in public, of administering the sacraments, and of exercising the excommunicative power of expelling, or again admitting, any particular Christian, or even a whole country, into the pale of the church: the bans and interdicts; the exercise of sacred or theologic studies; the schools, the seminaries, the universities, and academies, the classes, the convents, and so of the rest: all subjects vigorously attacked and obstinately defended.

IV. The consistorial prudence examines likewise the liturgies, the ceremonies and religious customs, the breviaries, the canticles, and other books of devotion adopted by the church; the formularies, the subjects of discipline, &c. &c. the

creeds, the confessions of faith, the catechisms, and many other like matters; and lastly, the doubts and objects of controversy, that occasion the holding of synods and councils; the question, if the Pope be above the councils, or the councils above the Pope; the practice of elenchtic theology, or the public elenchy; the separation and reunion of the church, which the syncretists and Irenians dispute; the divorces more or less allowable; matrimonial, and consistorial matters, &c. &c.

V. All these subjects, and an infinity of others, which arise from, or have an immediate connexion with these, require to be thoroughly considered, reduced into a regular system, explained and fixed on solid principles, and confirmed by just and pertinent examples. From all this results what is called Ecclesiastic Prudence. This science has not yet been reduced into a system, or formal discipline, and that principally because it has been confounded with the ecclesiastic law: but that in reality differs as much from this, as political prudence differs from the common law.



C H A P. XI.

OF THEOLOGIC PRUDENCE, IN THE DIFFERENT FUNCTIONS OF THE MINISTRY.

I. **I**NDEPENDENT of casuistical theology, of which we have treated in the ninth chapter, and of the œconomy of the church in general, which we have explained in the last, the theologian has, moreover, need of great sagacity in the particular exercise of his ministry; and many able divines have reduced this science into a system, and have given general precepts, and particular rules, for the conduct of the minister of the altar, in the different

ferent circumstances that may arise in this part of his duty. We shall decline the particular explanation of these different systems, as it would lead us into numberless *minutiæ*. *Conrad Porta* has wrote a work on the subject, intitled *Pastorale Lutheri*; *Stoltzelinus*, *Kortholt*, *Philip Hahn*, *Hartman*, and many other theologians, have wrote large volumes concerning it; but, above all, the treatise of *Dr John Mayer*, which is called *Musæum Ministri Ecclesiæ*, is to be consulted on this matter. I the more readily omit the names and titles of other works of this kind, as I have prescribed it to myself as a law, to avoid, as much as possible, these sorts of citations, seeing that the number of new books, that are continually appearing frequently supersede their predecessors; and moreover, in this part of theology, each Christian communion has its particular authors, who treat it in conformity to the dogmas and principles which that communion adopts.

II. The humour of reducing every thing into system, has also taken place in this matter, which, in fact, appears to have no occasion for any peculiar discipline, that could not be included under some other part of theology. But as this distinction is already made, it is our business to explain it, for the use of such as devote themselves to the altar. The prudential theology is for them and their ministry, what political prudence is for a man of the world in the commerce of life. It is the art of attaining the end proposed: and as each condition in life has its particular pursuits, the divines have also naturally theirs, and the precepts of theologic prudence serve to conduct them to it.

III. But as the dogmas, the ceremonies, the rites and objects, that the ministers of the different Christian communions propose to themselves, are by no means the same, each communion, each sect, does not follow, in this respect, the same rules and precepts, nor even part of the same principles. All that we can therefore do amidst this diversity
of

of opinions, and contrariety of maxims, is to point out, in a few words, the principal objects that one or other of them comprehend in this part of their pastoral theology

IV. The *Ascetic Theology*, for instance, treats of the various particular exercises of piety; and the principles, that it proposes with this regard, serve as guides to the minister of the altar, in his recommendation of the practice of it, as well as in many parts of his ecclesiastic duty. Fasts, pilgrimages, and many other matters of the same kind, belong to the province of ascetic theology, and which we will not absolutely reject, because we write for readers of all sorts of communions. Truth, however, obliges us to remark, that the ascetic theology of every communion is the offspring of principles falsely attributed to the Gospel, and belongs much more properly to superstition than religion. The monastic life, of which there is not the least trace to be found in the holy scriptures, and which is so contrary to the wisdom and goodness of God; the contemplative life which is employed merely in theoretic and barren speculations, and which is a continual impediment to the practice of the duties of a citizen, and of the social virtues; the corporal chastisements that the pious visionary inflicts on himself, and a thousand like absurdities, are the fruits of fanaticism, and the essence of ascetic theology.

V. Under this head may be also included, confession and absolution, which are modern inventions, and of which there is not the least vestige to be found in the Gospel, and which were unknown to Jesus Christ and his apostles; unless we would torture and disguise the text, and make a strange abuse of words, and of phrases the most simple: inventions, in short, that are more politic and lucrative than divine. Be that as it may, the ascetic theology prescribes general maxims relative to confession and absolution, and particular precepts for the priests of the confessional.

VI. The

VI. The *Paracletic Theology*, on the contrary, is totally employed in preparing consolations against plagues and other public calamities and adversities, and against the most considerable evils that befall individuals. It considers, examines, and directs these consolations, and points out the proper method of applying them. As it is the business of affective theology to humble and intimidate the Christian, and to subject him to all sorts of pious and painful bodily exercises, so it is that of paracletic theology to reanimate his courage and his faith, and to administer consolation to his soul.

VII. The five doctrines of which we have here treated, to wit, the Homilitic, Catechetic, and Casuistic Theology, and the Consistorial and Theologic prudence in the ordinary exercise of the ministry, form therefore what is called, in a collective sense, *Pastoral Theology*; a science on which many authors, of all communions, have wrote vast treatises; in which complete courses are made at Universities, by the faculties of theology; which is reduced into a regular system; and which in fact, forms not one of the least parts of that science which is necessary to an able and faithful theologian who undertakes the cure of souls.

VIII. We think we have said enough to give an idea of those sciences that compose the general system of theology. We are not ignorant, however, that there are theologies established in the schools, still different in their genus and species: that they distinguish, for example, 1. The Theology of God, (*Theologia Dei*), 2. That of Jesus Christ, 3. That of the Holy Ghost, 4. That of Angels, and 5. That of men: that they again subdivide the Theology of God, 1. Into *Theologia Dei naturalis*, or *essentialis*, by which is shewn, that God perceives *simul at semel*, once and for ever, all that is contained in his essence, and 2. *Theologia Dei idealis* or *exemplaris*, which considers

siders those things that must be revealed to mankind to work their salvation: this last article is again divided into *Archtypic Theology*, which teaches what comes, in this respect, immediately from God himself; and *Ectypic Theology*, which considers the theologic notions that man, as the image of God, is able to acquire by his own nature, that is, by the ability he has received from the Supreme Being, to know and adore him, and by the preaching of his divine word. But we should never have done, were we to relate all the distinctions, divisions, and subdivisions, &c. that men, fond of systematic forms, have introduced into all the sciences: divisions whose whimsical denominations busy and embarrass the mind that ought to be more usefully employed in attending to realities; and which constantly favour of that pedantry which insinuates itself, more or less, into the study of every science.



C H A P. XII.

O R J U R I S P R U D E N C E.

JURISPRUDENCE is the art of instituting just and useful laws, and of judiciously applying those, that already subsist, to such cases as arise in civil life. This definition, taken in its full extent, comprehends the idea that Tribonius gives at the beginning of the institutes of Justinian, when he says, that it is the knowledge of all things divine and human, and the science of that which is just or unjust. For, in fact, to make good laws relative to all the objects that are presented to us by society, we must be thoroughly acquainted with those objects, that we may know what is useful to each one of them, and what justice may admit in its favour: to judge
of

of such cases as may arise, we must be instructed in the laws that subsist in that society; and to know if any action be just or unjust, we must examine if it confirm or contradict some one of these laws; if it be precisely in that case which the law authorises or condemns; and this application is the most difficult, and perhaps the most essential part, of the whole science of jurisprudence.

II. Justice is the conformity of an action to the laws; as injustice is a non-conformity of an action to the laws. Equity is the will or desire to render to each one, or to each object, that which is due by virtue of the law of nature, or of laws positive.

III. "The laws (says M. de Montesquieu, and this definition appears to me excellent) are the necessary relations that arise from the nature of things; and in this sense all beings have their laws, &c. There is an original reason; therefore the *natural laws* are the relations that are found between that and the different beings, and the relations between these several beings themselves. Intelligent beings (by which is here meant mankind) may have laws of their own making; but there are others that they have not made: before there were intelligent beings, they were possible, there were therefore possible relations, and consequently possible laws. Before there were laws made there were relations of possible justice. To say that there is nothing just or unjust, but as it is commanded or forbid by positive laws, is to say, that before a circle was ever drawn, all diameters of a circle were not equal." Behold the true and certain principle of natural law and equity.

"IV. Man, (continues M. Montesquieu further on) as a *corporeal being*, is, like other bodies, governed by invariable laws; as an *intelligent being*, he incessantly violates the laws that God has established, and defeats those that he has made himself. He must conduct himself, and yet he is a *limited being*;

" being; he is subject to ignorance and error, like
 " all finite intelligences; the weak knowledge that
 " he has acquired, he again loses; as a sensible
 " creature he becomes subject to a thousand passions.
 " Such a being might at every instant forget its
 " Creator; God reminds him of his being by the
 " laws of religion. Such a being might at every
 " instant forget himself; philosophy reminds him
 " of what he is by the laws of morality. Made
 " to live in society, he might forget the rest of
 " mankind; the legislature recalls him to his duty
 " by laws political and civil."

V. The state of pure nature is a state of peace. The state of man in society is a kind of state of war. The idea of property in objects there enters necessarily and essentially. The acquisition or the conservation of each property gives rise to this state of war. When we consider mankind as inhabitants of so great a planet, it is necessary that they be divided into different nations; there must therefore be laws in the relation that these nations have among themselves; and these are what we call *the laws of nations*. Considered as living in a society that must be maintained, there must be laws in the relation there is between the government and those that are governed, and these make the *political or public law*: there are still others in the relation that all the citizens have among themselves, and these make *the civil law*.

VI. Positive laws therefore, the union of which forms the civil law, are, according to Puffendorf and reason, nothing else than *the ordinances of sovereigns, by which they prescribe to their subjects what they are to do or not to do*. Their object is, to procure the general good of society, in obliging each particular citizen to act according to the rules of equity; and the force or efficacy of these civil laws consists in the *penal sanction* that accompanies them, that is, in the decreeing of pains to be inflicted on transgressors.

VII. These

VII. These considerations on the necessity, origin and nature of laws, being premised, it follows, that the study of jurisprudence, in its largest extent, comprehends :

1. The preparatory sciences, and which are indispensable to every man of letters. We shall explain these in treating of philosophical matters, and in those other places where each of them ought naturally to be found.
2. Legislative Jurisprudence. This draws its rules not only from law, and natural equity in determining that which is *just*, but also from policy, in discovering that which is *useful*, in the construction of each law.
3. The Law of Nature.
4. The Law of Nations.
5. The Public or Political Law of each Nation, and, above all, of that state where we would fix our residence, and employ our talents.
6. The History of Legislation ; which teaches the occasion and origin of each law, and consequently shews, if it be applicable to the present situation ; and whether just and useful or not, by following the precept of the Apostle, *Try all things, and hold fast that which is right.*
7. The Roman Law ; which, in almost all modern Europe is now regarded as the foundation of jurisprudence in general ; and which consists of the institutes, the digests or pandects, the code, and the novels.
8. The Germanic Law ; which is used not only by the Germans, but by other nations, by whom many of them have been retained or borrowed.
9. The Saxon Law ; which still subsists in many countries.
10. The Civil Law, peculiar to each principal state of Europe.
11. The Law of Custom, or the established practices that have acquired the force of a law in divers countries.
12. The

66 UNIVERSAL ERUDITION.

12. The Laws that conquering nations have established in their colonies, especially in the distant parts of the world, and in subjected countries, as the Code noir in America among the French colonies.
13. The Feudal Law, derived from the nature of fiefs, and the several reciprocal obligations between the lord and his vassals.
14. The Military Law.
15. The Mercantile Law, or the laws of commerce in general.
16. The Cambial Law, or the laws and customs of Exchange.
17. The Metallic Law, or the laws of mines and miners.
18. The Law of the Venery, or those laws that relate to forests and the game.
19. The Canon Law, for the affairs ecclesiastic of the Roman Catholics.
20. The Ecclesiastic Law of Protestants, which is founded in part on the canon law.
21. The Municipal Laws of some large cities, or particular provinces.
22. The form of process before the tribunal of the German Empire.
23. The Form of process in general, according as it is received and established in each country.
24. The practice or application of all these different laws to cases that arise, which the lawyers also name *prudentia juridicalis*.
25. The Consultatory Prudence, or the rules to be observed in the decision of difficult cases, and in the advice that is asked, by unskilful persons, of the men of the law.
26. The Marine Law.
27. The Criminal Law.

It is through this labyrinth of universal Jurisprudence, that we shall endeavour to guide those who shall venture into it, by presenting them with the thread of Ariadne, in a short and close analysis, which we shall now make, of all the different

ferent parts of this equally vast and complicated science.



C H A P. XIII.

OF LEGISLATIVE JURISPRUDENCE.

I. **W**HEN we consider the enormous multitude of laws, ancient and modern, with which all Europe is deluged, we must naturally regard legislative jurisprudence, at this time, as a superfluous and useless science. But when we reflect on the nature and quality of these laws, when we weigh their value, and apply them to the situation of the people for whom they were made, we are tempted to think that it would be advantageous to the people, if their sovereigns would take the salutary resolution of abolishing, in one day, and at one stroke, all the laws that are now subsisting in their respective states, and substitute, at the same time, a new and complete code of laws. Not but that there are, among these ancient laws, some that are wise, just, and useful; but in those grand undertakings, on which the happiness of nations depends, we should not be impeded in our operations by a trifling spirit of oeconomy, but ought at once totally to eradicate the evil; not to build on the ancient ruins, not to leave one stone upon another, but to erect an edifice entirely new; employing, however, all such of the old materials as are good and worthy to enter into the construction of a regular and solid fabric.

II. It is said that the late king of Sardinia, Victor Amadeus, had conceived this great design, and that he employed ten years in that undertaking, assisted by the most consummate lawyers in his country, without being able to bring it to perfection. And in fact, of all the designs that the human mind can undertake, it is the greatest, the most extensive and

and difficult: we should have a complete knowledge of the principles, the relations, and the interest of agriculture, and the whole rural oeconomy, of commerce, of navigation; of manufactures, of arts useful and agreeable, and of all that can enter into a political system; in a word, of every possible subject, in order to determine on such laws as may be to them *convenient*, and in themselves *perfect*, each one in its kind. Here we may say with Lucretius, *Felix qui potuit rerum cognoscere causas!* This universal knowledge of all subjects and their origin, this sovereign perfection in the determination of the laws that we would prescribe, appears to be the prerogative of the Supreme Being alone. Men, as finite beings, must be constantly subject to ignorance and error; it is their duty, however, to make all possible use of that portion of light which God has given them, and to their utmost, to endeavour after that perfection, by taking, for their guide and model, the laws that divine wisdom has displayed to them, in the arrangement of every particular part of nature, and in the whole system of the universe.

III. *Simplicity*, in the first place, is one of the greatest perfections in nature; all compound subjects are more or less imperfect in proportion to their degrees of composition. Laws therefore, should be simple in their principle, and copious, not to say universal, in their effects; that is to say, applicable to all parallel cases: exceptions are always imperfections in a law, and which we should take care how we expose, much less point out, in the practice of that law. The law of England, that forbids foreign navigators to import into that island, any merchandise that is not of the growth of their country, is quite simple in its principle, and boundless in its effects; it may therefore be called perfect, although it be attended with some visting inconveniencies, which a legislature must despise. The laws of the same nation for the encouragement of agriculture; those that prohibit the exportation
of.

wool, and many others, are of the same kind. The Roman laws, on the contrary, are too specific, too refined, too complicate, and abound in subtilities, and are consequently ridiculous: they are, in fact, rather snares that chicanery has laid for mankind, than laws.

IV. *Perspicuity* is a second perfection and an essential quality in laws. In most countries of Europe they follow, more or less, the analogy of the Roman law, and this law is all wrote in Latin. The *Corpus juris* has not, that I have ever learnt, been translated into any living language, and yet these Roman laws are the basis of modern jurisprudence; they are to be the rules of conduct for all subjects, for all those unlettered citizens who understand them not, and whose number is so excessive in comparison of that small handful of men who do understand them, and who act like adepts, in covering their secret with an impenetrable veil, that they may make gold at the expence of the public. The style of laws, therefore, should be simple, concise, clear, without equivocation, without useless ornament, and adapted to the understanding of the meanest inhabitant.

V. The reasons for which laws are made should never be annexed to them: the people should be taught to rely on the wisdom of him or them to whom they have assigned the legislative power: it is repugnant to their dignity to detail to the public the motives of their conduct in every particular; and the submitting of these reasons to the examination or critique of the people, or commentators, or other like reasoners, serves only to enervate the law itself, and gives rise to a thousand false interpretations and chicaneries without number*.

* The whole of this section is so different from that spirit of Liberty, which our author constantly manifests on other occasions, that if he had not expressed himself quite clearly, we should have suspected that we had mistaken his meaning. Are not the people then, for whose use laws are instituted, to judge of

VI. *The least number possible*, of laws, is likewise a perfection, as their multitude is the greatest of imperfections. We might engage to reduce, into one good quarto volume, all the laws fundamental and essential to a state. Each father of a family might purchase, at a small expence, a copy of this code; read it in his own language, teach it to his children, and make it the guide of his actions, as well as of those of his family. Whereas it is impossible for a man employed in other labours, and subject to the other duties of society, to apply himself to the study of so enormous a compilation of laws and ordinances; which however are to be the rules of his conduct, unless he is contented to fall into guilt, or unless the state is desirous of the loss, or destruction of one of its members. Wonderful utility this of pains and penalties!

VII. The greatest part of the divine laws relate to religious duties, or to objects that affect the consciences of men; or they form the rules of morality. In the regular course, the observance of these is left to the virtue and conscience of each individual. In the construction of civil laws, however, good care should be taken not to ordain or establish any thing that is really repugnant to the revealed law of God; for whatever contradicts that which has proceeded from supreme wisdom must be folly, and in reality, no subject can be bound to obey a law that is repugnant to what the Almighty has decreed.

VIII. It is not the same with regard to natural equity, whose laws are equally divine, but which God has engraved on the heart of every individual of the whole family of mankind: these must of necessity have the force of civil institutes, and the legislature ought not only to regard them as the

of the utility of these laws? Perhaps these are here some words omitted in the original, and it should be, *'Under an arbitrary form of government, the reasons for which laws are made, &c.* The preamble to a British act of parliament constantly recites the reason of its institution.

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first of its laws, but should support them with the authority of its tribunals, by laying a strong hand, so to speak, on their transgressors. For all the rules that are prescribed to tribunals, relative to their judgments, are in fact so many laws, and consequently the law of nature, and the law of custom ought to have the force of the written law: and as the law of nature is even superior to the human legislature, it ought, in every sense, to be respected by it: it may abrogate all other laws and customs, but the law of nature it can never alter, but must regard as the source and basis of every other law.

IX. A wise and solid policy forms the second source, from whence the legislature should draw the rules that it would prescribe: for as that teaches what it is that constitutes a good government, and what is useful to a state, the materials of good laws are there to be found all ready prepared and digested. For what relates to this article, I shall refer the reader to my political institutes, not from self-love, or that I think they contain any thing marvellous, but because I have there said all that I know of this matter, and I could not treat of it here, without falling into repetitions.

X. The philosophers by profession, as well as the rhetors, pretend that morality, reduced into a system, is very essential to politics in general, and to the construction of laws in particular. Notwithstanding their authority, I find this difficult to believe, because the greatest part of those subjects that belong to morality, ought not to fall under the empire of the laws; and because, in general, I am no great admirer of systematic morality, as it is represented in books, or taught in the schools. I have known, indeed, men sufficiently prejudiced in favour of sovereign authority, of souls sufficiently base, slaves enough to maintain, that the moral actions of men, their vices and virtues, might be very well made subject to the civil laws. Such principles as these are horrible. This would
be

be to deprive mankind of that small portion of natural liberty, which the most extravagant despotism has still left them; it would be to take from them the means of being virtuous, and there would no longer be any merit in not being vicious; it would be to open the door to tyranny, and to expose the best of men to perpetual vexations. What shall the tribunals punish a man because they think him not sufficiently grateful, liberal, or beneficent? Away with all such sort of maxims.

XI. History furnishes a better source for legislation: we there find not only the occasion of laws, but also the effects that they have produced. They are so many examples to be imitated or avoided. But we must study the good historians, and without stopping at the descriptions of battles, and the details of wars and massacres, carefully attend to every thing that, in the hands of a man of ability, may become truly useful to mankind.

XII. The study of positive institutes, whether public or civil, is, in the last place, an admirable source for the constructing of laws: but we should here use the greatest circumspection. We have already said, that the Roman law, the German law, the law of the Lombards, the Saxon law, and all the other different institutes of the different nations of the earth, contain an innumerable number of laws on all sorts of subjects, and even on the most minute particulars. But this is an ocean on which we should not sail, without keeping the sounding-lead continually in hand. M. Montesquieu says, with a great deal of reason, *That laws ought to be so properly adapted to the people for whom they are made, that it must be by very great chance, that those of one nation can be convenient for another.* In fact, the greatest part of the ancient laws, and those of the Romans in particular, are but little applicable to the situation of modern Europe; and it would be to entertain too great a diffidence of our own abilities, to think ourselves incapable of framing proper laws for a country, with which

we

we are well acquainted, without the assistance of those ancient guides: for it is in general the human reason that governs, and ought to govern mankind over all the earth; and laws are nothing else than the application of this reason to all particular circumstances.

XIII. I would lastly advise all those, who apply themselves to legislative jurisprudence, to study the treatise of M. de Montesquieu on the spirit of laws. They will there find the most intimate, the most significant, and to the generality of mankind, frequently the most uncommon relations of all things possible, together with the laws that have been, or may be made, relative to them. I do not deny, that this illustrious author has sometimes established arbitrary, not to say, false principles; but his book, notwithstanding small errors, enlarges the mind, and extends the sphere of human knowledge, especially that which arises from reflection. It is an inestimable treasure, a blazing torch in the hands of a man of genius, but, to a weak mind, an ignis fatuus, that leads to a precipice.

XIV. The tribunals give effect, force, and life to the laws; it is an essential part of legislation, therefore, to see that they be established on a wise and solid foundation.

XV. Time, in its course, produces a continued series of events; these events change the face of the world, and these changes alter the situations and interests of nations. We must not therefore imagine, that it is possible to form *immutable laws*, such as can be constantly useful to a people to the end of time. It belongs therefore to legislation alone to be permanent, and to that sovereign authority to abrogate the laws as they become defective, and to supply their place with others agreeable to the actual state of the people: and thus the code, once instituted, must be continually renewed as the situation of affairs shall require.

XVI. The power, that makes the laws, has the sole right to interpret them. The legislature, therefore, should not permit individuals, however learned to comment, interpret, and amplify its institutes; for such comments, by their diversities, serve only to cause ambiguity in the laws, to give rise to endless contestation, and to render that doubtful, which ought to be precisely determinate.



C H A P. XIV.

OF THE PUBLIC OR POLITICAL LAW.

I. **I**N the most extensive sense, the public or political law comprehends (according to the idea we have given, Chap. XII. Sect. 5.) *the reciprocal duties between the governors and governed*; that is, from sovereigns toward their subjects, and from subjects toward their sovereigns, and toward the state of which they are members. Each state, each people, each nation, has therefore its public law; the study of which becomes the more extensive, and the more difficult, in proportion as the form of government, is more complicate. The public law, or constitution of England, for example, which determines the rights and prerogatives of the king, the parliament, and the people, forms a very extensive science. In France, where the princes of the blood, the peers, the parliaments, the bishops, the clergy, &c. equally enjoy many ancient rights and privileges, the public law of that nation is equally complicate, and requires a very attentive study. The nature of this work will not admit of our entering into a minute explication of each particular political law: we shall endeavour, however, to give an analytical abridgment of the public law, or constitution of Germany, which, being of all others the
most

most complicate, may serve as an example or model for the method of treating all the rest.

II. When we would apply ourselves to the study of the public Germanic law, we should previously examine a very material question, which, though it may at first appear quite pedantic, is nevertheless very far from being frivolous. The intention of it is to dispel that dark cloud which covers the ancient history of Germany.

1. Whether there were anciently in Germany several bodies of people; if each of these bodies had its chief or chiefs; if these people were obliged to submit to the yoke of Charlemagne, to whom they yielded, either by force or voluntarily, the right of reigning over them; if, after the extinction of the Carlovian house, these people and their chiefs reassumed their rights, by virtue of *postliminy*; and whether in that case it be not apparent that they have ceded to the Emperors, elected after the death of the last Carlovian princes, as to Conrade of Franconia, Henry the Fowler, &c. *the least part* of their power, rights, or authority that they could? Or,

2. Whether there were not anciently dukes, princes or chiefs, of divers people of Germany; if these dukes, margraves, and other German princes, were originally generals, ministers, governors, and all domestics of Charlemagne and his descendants; and if these domestics rendered themselves formidable in their posts and their provinces; if they made successively considerable acquisitions in lands, to that degree, that in the end they threw off the yoke, and erected themselves into sovereigns? In which case we ought to regard them as a sort of usurpers, and it is to be presumed, that the Emperors would not have ceded to them their authority and their rights, but that they were unable to deprive them of it without risk.

This important question throws very great light, not only on the nature of the constitution, and the government of Germany, but on all those cases

where presumption and probability for or against the rights of the emperors, or the princes of Germany, are to decide some contelation that is not clearly expressed in the written law.

III. From what is here said, it is sufficiently apparent, that the public law, or constitution, arises from the laws and conventions that have been made to regulate the form of each government; and, consequently, that the science of public or political law is drawn, 1. From history, which teaches the origin of states, and the occasions of laws and conventions: 2. From policy, which shews the motives, the inconveniences, and the remedies of laws: 3. From the civil law, as it shews what is just or unjust in particular cases, and the manner of applying those cases to the laws; and 4. From the law of nature and nations. Public jurisprudence consists, therefore, in the knowledge of the political laws, and the art of applying them to the affairs of the state; and the most simple method of acquiring it is, to instruct ourselves in the written institutes of Germany, in the laws of the empire themselves, and in the customary law, by authentic documents.

IV. With regard to the method that we shall propose to attain this end, as it relates to the public law of Germany, we shall endeavour to examine, in the first place, the principles on which this law is founded; that is to say, the fundamental laws of the empire; secondly, the origin of the Roman empire; in the third place, its limits; fourthly, the form of government, and the sovereign power in the empire; and lastly, the rights of the states, and members of the empire, and the connexion they have with each other with regard to the republic in general.

V. The fundamental laws of the empire are either *written*, or established by *custom*. The first are properly conventions made between the emperor and the States, to regulate the form of the republic, or the manner in which it should be governed, either

ther in whole or in part. Among these are reckon- ed, in the first place, the *recessions of the empire*, so far as they regard the public state; and by these are meant a collection of the deliberations of a diet: for as these assemblies were not constantly held, they collected, at the end of each diet, all the re- solutions that they had made, and digested them in- to one written form, which they called *Recessus Im- perii*, from the Latin word *recedere*, because they were published when the diet was on the point of separation: Since that assembly has been constant- ly held at Ratisbon, the *decrees of the diet* have taken the place of the recessions, and of these there are very ample collections. The emperor, or in his place the king of the Romans, or else the vicars of the empire, on one hand, and on the other, all the states of the empire united, have given to these re- cessions, and decrees of the diet, the authority and force of fundamental laws.

VI. The famous *Golden Bull* is the first law of the empire: it was given by Charles IV. in the year 1356, and takes its name from the golden seal of the emperor that is annexed to it. It is confirm- ed, namely and specifically, in all the imperial ca- pitulations or agreements. The authentic original, wrote in Latin, is kept at Francfort on the Main, the city that is destined for the election and coro- nation of the heads of the empire. It contains ma- ny chapters on the public law or constitution, the rules for electing and crowning the emperors, the rights and prerogatives of the electors, the order and rank of the imperial court, the arch offices of the empire, and the functions of those that are in- vested with them, &c. It is to be met with in all the collections.

VII. Germany was anciently desolated by the ravages of private wars: each member of the em- pire, great or small, had the right of attacking his neighbour, and of compelling him to justice, sword in hand, with the aid of his vassals, or his lord, his friends or his subjects, after making some decla-

rations and ridiculous ceremonies, as by sending his enemy a mangy dog, or something of the like kind. This state of violence and confusion could only subsist while the Germans were in their manners savages; but when they began to civilize, the states, and all the nations of Germany were united by a more gentle, and more rational bond. It was Maximilian I. who performed this great work, and published, in 1495, at the diet of Worms, *The constitution of public and perpetual peace*. This act not only abolished the licence of particular wars, but also founded the chamber of Imperial justice*, as a supreme tribunal, where all particular quarrels should be ultimately decided by the laws of equity. At the same time, Germany was divided into circles, and each circle had its director and other chief officers. It is from this period that we are to date the true form of the Germanic government: for it was not till then that the Germans became a civilized people. This constitution of public peace has been also confirmed by the peace of Westphalia, and by all the imperial capitulations.

VIII. The reformation gave rise to disputes, quarrels and wars in Germany. *The convention of Passau*, made in 1552, began to silence them; and the peace of Augsbourg, concluded 1555, put an end to them entirely. It is known by the name of the *Religious Peace*, and has been confirmed by all the public acts. The principal articles are, that an entire liberty and security, with regard to exterior and interior worship, be granted to electors, princes, and imperial towns, and to the immediate nobles of the empire, who follow the confession of Augsbourg, as well as to the Roman Catholics; that the three parties would never make use of violence; that all other sects be excluded from this peace; that the ecclesiastic jurisdiction of the pope, the bishops, &c. over the Protestants remain sus-

* Now held at Wetzlar.

pending;

pended; that the ecclesiastic goods which were then in the hands of the Protestants should rest there; that no person should be seduced, either by force or artifice, to change his religion; that emigration should be permitted to subjects who were desirous of retiring from their country on account of religion; and that they who acted contrary to these laws, should be punished by the ban of the empire.

IX. Wise and wholesome as these laws were, the change of times, and the incessantly restless spirit of mankind, have rendered their multiplication necessary; the electors have therefore made a new capitulation with each emperor; to which those monarchs have bound themselves by oath, after their election, and before their coronation. We find the traces of them even under the Carlovianian emperors; but the first formal capitulation was made on the accession of Charles V. to the imperial throne. It was then reduced into chapters, which they called in low Latin *Capitula*, from whence came the word *Capitulation*: they contained the rules that the emperor promised to observe in the administration and government of the empire. We find all the subsequent capitulations, down to our own days, in the divers collections of the acts of the empire. It has been several times intended to form a perpetual capitulation; but this project, proposed by the princes, is a chimera, seeing that the continual changes require continual new precautions, and new clauses; it is ridiculous, moreover, to think of making laws that shall be immutable: this project therefore has been constantly rejected, and the electors have maintained themselves in their right and privileges.

X. The ecclesiastic state has also its constitution in Germany. Beside the dispositions of the ancient councils, the decrees of the council of Constance, and the Concordats that were established between the holy see and the German nation, have in particular acquired the force of laws. It must

be, however observed as an invariable rule, *that in Germany, the authority of the councils becomes void, whenever they are contradicted by the laws of the empire.* The authority of national and provincial councils is here also acknowledged, as well as several particular constitutions; as the transaction between the emperor Henry V. and pope Callist II. on the subject of bishops; the convention between Frederic III. and Nicholas V. which are called by way of excellence, the concordats of the Germanic nation, &c. The protestants have not only been declared free from these concordats, by the peace of Westphalia, but they have likewise advised the emperor to abolish them as they relate to the catholics, to give liberty to the German church, and to follow the decrees of the council of Basil.

XI. The peace of Westphalia is also a fundamental law of the empire, and perhaps the principal of all its laws, seeing that it regulates the state of Germany. Its tenor was fixed by a double instrument, one part made at Munster with France, and the other at Osnabrug with Sweden. The peace of Nimeguen concluded between the Emperor and France in 1679, that of Ryswick in 1697, that of Baden in 1714, that of Vienna in 1725, and likewise those of the Pyrennees and Aix la Chapelle, &c. have all acquired the force of laws, so far as they relate to the state, to the affairs and interests of the holy empire. They are to be found in the acts and public memoirs in the diplomatic corps, and elsewhere; and their validity is to be determined by the analogy of the public law, and by considering the diversity of times, and the circumstances in which Germany then was.

XII. Beside all these written laws, the empire is likewise governed by custom, which is a repetition of actions homogene and uniform. The ancient Germans wrote little and did much. They had recourse to their memories; their usage became laws; and custom preserved its obligatory force,
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by the tacit consent of the emperor, and the states of the empire. Custom takes place not only with regard to the affairs of the state, but also as it relates to the manner of executing them; as in the election of emperors, in the functions of archbishops, in the appointing of ambassadors, in processions, in the *relations and correlations of the diet*, in the style of the chancery, &c. and it is abolished, either by written laws, or by contrary and more recent usages. In litigated causes, it must be proved, either by the archives, by witnesses, by authentic documents, or by others proofs of a similar nature.

XIII. We have already said (sect. 3) that the public law, or constitution, is also founded on the principles of the law of nature and nations; on the Roman law, where the domestic laws fail, and it is applicable to the state of Germany; on the canon law, under the same restrictions; on the feudal laws of the Lombards; collections of the customs of the Lombards; the constitutions of kings and emperors, Franks and Germans; and the ancient feudal customs of the Germans themselves; on the ancient German laws; on the laws of Swabia, Saxony, &c. But it is to be observed, that all these laws are not adopted but in default (*in subsidium et supplementum*) of positive laws of the empire; and that where the latter speak, the former are silent.

XIV. After having thus examined the fundamental laws of the empire, the public law explains to us the *limits of its territory* as well ancient as modern, *the possessions that it is expedient for it to maintain, and the losses that it should endeavour to repair.* With regard to the latter article it is an immutable principle of the Germanic constitution, *that the Empire conserves an eternal right over all these countries which have ever appertained to it by a legitimate title, unless their alienation has been made by just means, and conformable to universal laws.*

Now, the Holy Roman Empire has been composed of Germany, a part of Italy, of the kingdom of Bourgogne, and that of Lorraine and Arles. Its power was then extremely formidable; but time and fortune have introduced great changes. The doctrine of public law has recourse to history, to the archives, the ancient charters and documents, and the diplomatic art, to discover the origin of all these unions and acquisitions; to determine the provinces, towns or territories of each of those countries that made a part of the Empire; what were their different titles, what has been taken away, and what yet remains; and what are the exact limits of the countries that yet are in connexion with it. All these matters are subject to profound researches; and to have a complete knowledge of the public law, it is necessary to be extremely well versed in the German history, and thoroughly acquainted with the sources they call *Scriptores rerum Germanicarum*.

XV. The division of the German Empire forms also an object of the public law. This division has been likewise subject to divers changes. The provinces, that anciently belonged to Germany, were Bavaria, Suabia, Saxony, Moravia, and the lands occupied by the Slavi, the Vandalia or the March, Franconia, and the provinces on the Rhine. Pedantism has added to these still other divisions: and lastly, the Empire has been divided into circles. The emperor Maximilian I. made the first division of this kind, in 1500, at the diet of Augsborg, and divided it into the circles, 1. of Franconia, 2. Bavaria, 3. Suabia, 4. the Rhine, 5. Westphalia, and 6. Saxony. This first institute was enlarged by the diet of Cologne in 1512, and then was established, 7. the circle of Austria: and lastly, were added, 8. the circle of Bourgogne, 9. the Electoral circle, or that of the Lower Rhine, and 10. that of upper Saxony. The public law shows the different territories that make part of each.

each circle; who are their directors, codirectors, colonels, assistants, secretaries, receivers, and masters of the mint; what are their rights, their functions, prerogatives, offices, and privileges, at the general diet of the empire, and at the particular diets of the circles; and so of the rest.

XVI. When we have attained a full and precise idea of the territory of the empire, and its limits, we pass to the examen of its form of government: and here the lovers of systematics find themselves greatly embarrassed. Some of them regard it as a monarchical state, and the emperor as a monarch that has powerful vassals whom he governs according to established laws: and they found their opinion on the respectful expressions that are contained in the Golden Bull; in the treaty of the peace of Westphalia, and in other fundamental laws of the empire; on the ceremonial used at the election and coronation of the emperor; on the functions and respects that the electors and other states of the empire are obliged to render him; on a prejudice arising from certain acts of authority, which emperors, of themselves very powerful, have sometimes abusively exercised toward some members of the empire; and on many similar considerations. Others, who run into the opposite extreme, describe the empire as a republic, free and independent, and of which the electors and other states are the chiefs, who elect from among themselves a kind of doge, who is merely the image of authority, reserving to themselves the right of governing this strange machine by their deputies in the general assembly of the diet, and in the tribuna's of the empire. And the advocates for this opinion have likewise their arguments and authorities. Neither one or other of these ideas, however appear to be just; and there are are not wanting men of ability, who, paying little respect to names, to definitions and systems, regard these matters as their nature represents them, and consider the German empire, in the state it now is, as an association of several sovereigns,

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veraigns, great and small. weak and powerful, who unite their respective forces to constitute one more formidable power; who adopt old, or institute new laws, by the mean of a permanent assembly or diet, for the order and maintenance of the said association; who choose one common chief to give more lustre to their body, and more authority to their laws; who pay him respects, of which the honour is reflected on themselves; who prescribe the rules of his government; who establish the tribunals for the administration of justice; who charge their chief with the execution of laws and sentences pronounced by these tribunals; and who, lastly, regard him as the first sovereign in rank among his equals in authority. I believe that they who shall attentively consider the actual situation of affairs in the present system of Europe, who shall reflect, that among the members of the empire, there are found a king of Great-Britain, a king of Prussia, a king of Hungary and Bohemia, a king of Sweden, a great duke of Russia, and so many other powerful princes, will agree, that the draught here given is delineated from nature.

XVII. When we have formed a just idea of the system of government of the empire, we pass to examination of the rights and prerogatives that result from it, as well with regard to its chief as its members: and we inform ourselves of what the laws decree relative to the election of the emperor; of his coronation, and of that of the king of the Romans; of the titles of majesty and marks of dignity that appertain to the emperor; of the prerogatives of a king of the Romans, elected during the life of an empeter; of what relates to the emperfs and the queen of the Romans; of the formation and arrangement of the imperial court; of the arch-officers of the holy empire, and of those which are called *Officia Palatina*, or functions of the imperial court; of the rank of the vicars of the empire during

ing the vacancy of the imperial throne; and of all other matters relative to these objects: and which altogether afford a study highly intricate and multifarious.

XVIII. This study leads to the consideration of the states of the empire, their rights, privileges, &c. We have already shewn that the component parts of the sovereign power in Germany are tempered by each other. In order, therefore, to give a just idea of the true character and origin of all that concurs in the general government, we may say, that *a state of the empire is a citizen who is an IMMEDIATE member of the empire, and has a voice and seat in the diet.* The word *immediate* supposes that this member is in possession of lands that are held immediately of the empire. The exceptions to this rule, and the examples to the contrary, are abuses that cannot change the nature of the institute. Their characteristic consists absolutely in the right of a suffrage in the assembly of the diet. This right, which in the most ancient times was personal, is now become real, and annexed to the territory of which the person is in possession. The next thing to be inquired into is, what are the rights, prerogatives and dignities of the college of electors in general, and of each of them in particular: those of the ecclesiastic princes, the archbishops, bishops, suffragans, metropolitans, abbots, and other ecclesiastics of the holy empire: that of the secular princes, their primitive offices, their dignities and privileges, the origin of their title, and that of the counts of the empire: inquiry is then to be made into the plan and system of the college of princes, the rank and place that each prince there holds; and here it is to be remarked, that each prince has in this college a particular voice*, whereas the counts (who are divided into

* Which they call *VIRITIM VOTARE*, whereas the counts vote only, *CERIATIM*.

those

those of Suabia, Wetteraw, Franconia and Westphalia) have only one collective voice, that is, the four benches have each one voice only: lastly, a research is to be made into the rights and privileges of the nobles who are *immediates*, and of the free cities of the empire, which are divided into two classes, those of the Rhine, and those of Suabia, and who have equally two collective voices.

XIX. We then enter into a much larger detail, and examine the several parts of the sovereign power in Germany, to wit, the ecclesiastic power, and the liberties of the Germanic Church with regard to the Holy See and the court of Rome: the jurisdiction of the empire, its general police, the arrangement of its monies, its public offices, &c. the domains of the empire, its finances, its revenues, its imposts, its *matricule*, the receipt of contributions, &c. the regal rights of the empire, as those of war and peace, of treaties and alliances, of embassies and ambassadors, &c. so far as these objects relate to the empire in general. On this occasion, inquiry is likewise made into the number and condition of the troops of the empire, and what each circle is obliged to furnish for its contingent; the state of the imperial fortresses, &c.

XX. The subjects that next follow, according to this order of study, are the examen of the general diet of the empire, the origin of this diet, its ancient state, its various changes, and actual arrangement: the rights and privileges of the imperial commissaries, of ambassadors, legates, and deputies of the states, &c. the manner of conducting their deliberations, that of collecting the voices, the form of the resultats*; and so of the rest. Next follows the examination of the two superior tribunals of the empire, which are the imperial chamber of justice established at Wetzlar, and the aulic

* By which is meant the evangelical corps; what are its rights and prerogatives, its constitution, and the method of its assembling and acting.

council at Vienna; their functions, their authority, their principles and rights; and lastly, the imperial tribunal of Rothweil, and those which yet subsist with an inferior authority in Suabia and Franconia. The ambiguous article of the rights and prerogative particularly reserved to the emperor, and which are called *Jura reservata Imperatoris*, terminates this business.

XXI. It will be likewise proper to know certain particularities essential to the public law, and to determine *what is the sovereign authority that each immediate member of the empire has a right to exercise in his respective states and territories*, as well with regard to religion and affairs ecclesiastic, as to those that are civil and political, such as relate to jurisdiction, domains, revenues, war, peace, treaties, alliances and legations, the method of administering justice, of appeals, and every other matter relative to the government of a country. Examination should be also made into the affair of succession in the countries that make part of the empire; of the right of appenage, &c. and lastly, what is the private condition of the princes of the empire; in what cases and occurrences they enjoy the rights of common individuals, as in adoptions, emancipations, guardianships, testamentary dispositions, &c.

XXII. There yet remain to be considered, the rights and prerogatives of the equestrian order, or the immediate nobility of the empire; their origin, their progress, and actual situation. And lastly, all the study of the public law is terminated in examining the foundation, the rights, privileges, possessions, &c. of the military order established in Germany; and especially, 1. The Teutonic order, or the hospital of St. Mary of Jerusalem; the grand master of which is prince and state of the empire, having fixed his seat at Mirgentheim in Franconia: and, 2. The order of St. John of Jerusalem; of which the grand prior of Germany is likewise a prince and member of the empire, having his seat at Heiternheim in the Brisgaw.

XXIII. We

XXIII. We cannot too often repeat, that all these subjects are susceptible of great researches, and that the study of the public law or constitution is extremely complicate. We are, indeed, only able to give the outlines; an examination into these matters themselves, however, will not be so uninteresting as they may appear in this analysis; a thousand interesting objects will be met with in the pursuit. History is the best guide in this labyrinth; and the knowledge of the law of nature, a good logic, and a clear and sound judgment, will conduct the student through all its intricacies.



C H A P. XV.

THE ROMAN LAW.

I. **T**HE names, that custom adopts or retains, frequently give rise to illusive ideas in the sciences; there are many who imagine that the law, which at this day is called Roman, is a system of laws that was in use in ancient Rome, either under the kings, the republick, or the emperors: we must begin therefore by informing them that nothing is less true; and that this law has nothing in it Roman, but the name. Rome, in its most flourishing state, had but few laws; we may form an idea of the jurisprudence of that famous people, by reading the admirable treatise of Cicero *De Legibus*. What is now called the Roman law, therefore, is only a compilation of laws that the eastern emperor, Justinian I. caused to be made by the juriconsults, Tribonius, Theophilus, Dorotheus, and Johannes, in the sixth century, and ranged in a certain system according to the order and nature of the several matters. The introduction to these institutes, addressed to the studious youth, is dated at Constantinople the first of December, and in the year of the third consulate of that emperor, who following the caprice:

caprice of Constantine, transferred to Constantinople all the customs and abuses of Rome.

II. It is true, that Justinian and his lawyers have included in this system many of the laws that had been in force at Rome, but there are also a great number that are taken from elsewhere; as from the natural law, that of nations, those of the Greeks and Egyptians, and the particular constitutions of that emperor. The whole has been reduced into a body of law*, and makes what is called the Roman law, because the emperors, though resident at Constantinople, constantly called themselves Roman Emperors. This so celebrated book is composed of the institutes, the pandects or digests, the code and the novels. It will be sufficient just to open this famous composition, especially the institutes, to be convinced that Justinian committed an egregious fault in applying, without distinction or judgment, the greatest part of those laws, as well good as bad, that were made for Rome and other countries, to the eastern empire; to which they were not in the least consentaneous. Modern nations of Europe have doubtless done still worse, by adopting that law for the foundation of their legislation and jurisprudence: for to speak plainly, this so famous book abounds with insufferable absurdities, and a pedantism that is repugnant to good sense. I just now opened it by chance, where it treats *de patria potestate*, and it there says, *The father may lose his authority over the son by several ways; first, when the father dies; secondly, when the son dies, &c.* are not these happy discoveries? and it is no exaggeration when we say, that there is scarce a page in the *Corpus Juris* that does not contain similar insipidities, and that is not at shameful variance with the common sense of mankind.

III. The advice, that should be given to those who apply themselves to the study of jurisprudence, is not free from embarrassment. If they draw their

* *Corpus Juris.*

knowledge.

knowledge principally from the Roman law, it is a very bad source; they will be liable to fill their minds with chimeras and absurdities, which they will regard all their lives after, as the certain principles of all that is just and equitable; in which, however, they will be lamentably mistaken. It was not without reason therefore, that I said in my Political Institute, that lawyers should not be consulted alone in the composing of laws, but that the ministers of every other department should be joined with them: for it is almost certain, that juriconsults, imbued with the prejudices of the Roman law, which they have learned in their youth, and which have made too deep impressions on their minds, will follow its analogy, maugre their precautions, and fail in their intention; which should be, to dictate laws useful to the state by which they are employed, and agreeable to the age in which they live. Experience moreover, must convince us, that the laws, fabricated by modern Tribonians, are all modelled after the fashion of the Roman laws; and as the reticence to the courts of law can be maintained by litigation only, they have in opposition to the good intention of their masters, constantly left the door open to chicanery, by subjecting mankind, in the most simple and ordinary actions of life, to a thousand juridical formalities and precautions, drawn from the Justinian institutes; and which are in fact so many traps into which they may fall, and where they are sure to be plundered.

IV. However, as all lawyers are not called to legislation; and as we have said (chap XII. sect. 1.) that jurisprudence consists, in part, in the knowledge of the laws that subsist, and the art of applying them to occurrent cases; and as in most countries of Europe that are called civilized, the Roman law is adopted either in whole, in part, or *in subsidium*; or their several municipal laws are at least founded on principles that are drawn from thence; it follows, that he who would apply himself to jurisprudence should study this Roman law;

but.

But he should be previously well advised to do it with the greatest precaution, and carefully to distinguish the time and place where these laws were made, and by no means to regard them as infallible, or to imagine that the *Corpus Juris* is an inexhaustible fund of wisdom, or that truth, justice and utility are no where to be found but in the Roman law.

V. This law could not be obligatory to the western countries of the empire, especially after the total destruction of the empire of the east. Its adoption in all Europe was voluntary. It first began to be used in certain provinces of Italy. In the twelfth century its authority was confirmed over almost all Italy. In the fourteenth and fifteenth centuries the Germans brought it from Italy, and introduced it into their academies. It took root insensibly in every mind. The makers of laws were all imbued with its maxims, and their laws necessarily favoured of it. It was placed on the throne by Maximilian I. and has reigned ever since that time in Germany. Most other countries of Europe have followed these examples, and the vestiges of the Roman law are every where to be found. When we read the disputes of Bartolus, Baldus, Azo, Zasius, Cujacius, Bachovius, Mercerus, Pancirollus, and so many other celebrated lawyers, on the obscurities and antinomies or contradictions that are found in the Roman code, we cannot avoid crying out with Solomon, *that all is vanity*; and concluding that jurisprudence is not excepted from the general rule.

VI. In this true situation of affairs, the student should closely apply himself to the knowledge of the history of the Roman law, and of the state of ancient Rome; but especially that of Constantinople and the eastern empire; of the *senatusconsulta*, the *plebiscita*, and constitutions of the princes, of the pretorian power, of the customs and manners of the people, of the decisions of legists and reviewers; of the interpretations and application of each law to the present state of the world. A perfect know-
ledge

ledge of the Latin language, and of the Roman antiquities, will greatly facilitate this study.

VII. With these preliminary sciences, we pass more easily to the knowledge of the Roman law itself. The institutes first present themselves; they were composed after the digests and the code, for the instruction of beginners in this study. *Bonus institutista est bonus jurista*, is an old saying of the schools, and notwithstanding has some truth in it: for although this book be writ without method, and without judgment, and though it be filled with obscurities, and even in some places is contradictory to the digests, and other antecedent laws, it includes however the elements of the Roman law, and we have no better abridgment.

VIII. These institutes should be studied in the institutes themselves, and the mind not occupied with acquiring an imperfect and superficial knowledge from extracts or abridgments: they are already a kind of compendium; to abridge them further is to reduce them to a mere skeleton. A complete course in them is commonly made in universities and academies. It is necessary to begin by searching out the true sense of the text, in which the commentaries, paraphrases, and notes are of great utility. It is proper to remark also, that there are many imperial constitutions, that are not to be found in the other parts of the Justinian law; and of which an author, named *Bandoza*, has made a very useful index; we have also a Greek translation of the institutes that amplifies and explains many usages and customs of the old Romans, and of which the first edition was published by Angelus Politianus; and lastly, many learned lawyers of our days have applied themselves to rectify, explain, and digest the institutes, with whose labours it is necessary to be acquainted. They are quoted by abbreviation with an *I* only, and adding the title and paragraph.

IX. The pandects or digests (which are denoted in quotations by an *ff.* or *d.*) contain, according to the

the common opinion, a complete system of civil law; and if we inspect the rubrics, and the titles of the books and chapters only, we must agree that this work contains laws relative to most matters and cases that occur in civil life: but when we see how these titles are executed; the insignificance of many of its laws; the little order and method that are there observed; the chimeras, and trifling reasonings, with which this so celebrated book is filled, almost from beginning to end; we cannot but deplore the weakness of the human understanding, which in the middle of the eighteenth century, could offer no better guide, no theory more perfect, for the determination of what is just or unjust, nor a more solid foundation for the properties of mankind: for these famous pandects are, in fact, nothing more than a shapeless mass; a mere extract from better precepts, and more celebrated juridical decisions that were then known. However, we must here repeat, that we have nothing better; and it is impossible to become an able lawyer without making a solid study, and even a complete course in these digests.

X. There are different editions of these pandects, in which the text varies infinitely; and this diversity renders the true sense still more equivocal and unintelligible. The copies most known are those of Nuremberg or of Holoandre, that of Florence, and that which is commonly used. Of the Florentine copy there remains only an essay known by the title of *Emendatio pandectarum juxta exemplar Florentinum, &c.* The common edition, as it makes part of the Corpus Juris, has, at this time, the authority of law; and is generally made use of to obviate critical disputes, to which there would otherwise be no end. However, as these digests are too prolix in the original text, and have no method, we can only regard them as a dictionary to be consulted occasionally, to verify the laws that we find cited, or to quote these laws themselves as authorities. But when we would use them in the course
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of the study of the theory of the Roman law, we should have recourse to a good abridgment, or systematic treatise on these digests, and add the best explications of their matters, the most judicious interpretations of the text, the most celebrated commentaries, and the most solid controversies on the law, which may serve as an application of the Justinian laws to modern principles.

XI. The Code (codex) was the beginning of the Roman law; but at this time, the principal matters of which it treats are incorporated in the digests; and it is seldom consulted but in particular cases. The first code was formed of the Gregorian, the Hermogenian, the Theodosian, and from some laws of Justinian. That emperor afterwards altered it, and augmented it with some new decisions, from whence it was called *Codex repetitæ prælectionis*. As there are also added some *Novels*, or extracts from them, these are called the *Authentics*. Modern nations make little use of this book in the business of jurisprudence; although it is capable of throwing light on the Justinian laws, and of supplying the defects there are in the institutes and digests; and the more as the *Codex repetitæ prælectionis* was the last of the works of Justinian. It is quoted by abbreviation with a simple C. There are many celebrated commentaries on this book.

XII. The *Novels*, which form the most recent law, serve to explain many subjects in the preceding laws, and to supply their defects. There is no order observed in the matters they contain; and as they are almost all adapted to the state that empire was then in, it is difficult to apply them to the actual situation of modern states. The greatest part of these novels were published at first in the Greek language; and after the death of Justinian they were never collected into any regular body. The ancient, but bad Latin translation of them is, nevertheless, regarded as authentic; it is added to the Code, and is used by the name of *Authenticæ collationes*. It is cited in abbreviation by the letters *Nov.*

Nov. or simply by an *N.* In examining them, the different editions should be carefully attended to; of which editions the numeration and descriptions are to be found in all the juridical Bibliothèques, or catalogues.

All these four parts, or four different works, of which the Roman law is composed, are united in the great work, which is called, by way of eminence, *Corpus Juris*. No lawyer should be without it. He ought likewise to have a good *Corpus juris glossatum*, furnished with an ample index or register. Dionis Godofredus has made very judicious and very learned notes on the *Corpus Juris*; and his work deserves to be in the hands of every one, who would apply himself successfully to the study of so vast and so complicate a science. The commentaries on each part of the Roman law are of so large a number, that it is impossible to enumerate them. The libraries and booksellers shops are loaded with them. Are there many of them that are excellent? I know nothing of the matter.



CHAP. XVI.

THE GERMAN AND SAXON LAWS.

I. **T**HE intimate connexion there is between the Saxon law and the German law in general, of which the former makes a part, obliges us to unite them here; the nature of their connexion will not permit these two subjects to be treated separately, without falling into a number of disagreeable repetitions. We must not confound, moreover, the Germanic-law, of which we here treat, with the political law or constitution of Germany, although the former borrow, from the *Recessions* and other public laws of the empire, several constitutions and ordinances by which the affairs of individuals

dividuals are regulated, and which consequently become the objects of the civil law. These cautions seem necessary before we enter on the subject.

II. According to Tacitus, Strabo, Ptolomy, and all authors that have mentioned this matter, the ancient Germans had no written laws. They followed the laws of nature and of custom. The principal maxims of their customary law they transmitted to their posterity by tradition, and by hymns and canticles, which they recited or sang to their children, and which contained at the same time the most illustrious actions of their ancestors, many objects of worship, &c. Charlemagne was the first who taught the Germans to read and write (at least those people who inhabited the center of Germany, and the north and eastern provinces) and who became their first legislator. But as the manners of these Germans were yet very simple, not so say savage, it is natural that the laws should be also simple and imperfect; that is, relative to few objects, as the necessities of this people were not greatly multiplied, and as commerce, arts, sciences, luxury, &c. were unknown to them. The frequent revolutions that have happened in Germany, the continual changes in the form of government, and the various divisions of provinces, have hindered the German law from being reduced at once into a regular and general system, as well as prevented its uniformity. Without staying to inquire, therefore, what these laws ought to have been, and whether they were dictated by strict justice and sound policy, we shall content ourselves with briefly examining what they in fact are; what now remains of the original laws of Germany; what has been added by the German legislators; and what has been adopted from other nations.

† III. The first of the German laws, that is come down to us, is doubtless the *Salic* law. The etymologies of names, that the critics draw from the conformity of words and sounds, are commonly better adapted to amuse children than to satisfy men

men of understanding. If we should say, with some celebrated authors, that *Salic* is derived from the two German words *Saltz* and *Leck*, of which the first signifies *salt*, and the other *to lick*, and should draw from thence real consequences, it would be to report an opinion that is only capable of exciting ridicule. It is more reasonable to believe, that these laws were called *Salic* from the name of the ancient Franks called *Salians*; who made them when they inhabited the northern banks of the Rhine, from whence they were also called *Ripuarii*; and who since introduced them among the Gauls. For although mention be made in these laws of pecuniary penalties; and we know that the Franks on this side the Rhine knew not yet the use of money, we may suppose that they had some metal, or other imperishable substance in lieu of it, and of which they made use in the common intercourse of life, where a real exchange of goods could not take place; or in their public contributions, &c. All that we certainly know of this matter is, that these laws came originally from the Franks (a nation of Germany,) and that they are German laws. It appears moreover, by a little treatise, which is at the head of a collection we have, that king *Chierri I.* being at *Chalons*, reformed and digested these laws for the Germans, the French, the Bavarians, and the other people under his subjection. This collection, which is intitled *The Part of the Salic law*, consists of four and twenty titles, which treat of different matters and different crimes. The *salic* laws were first published by *Pithou*, and since by *M. Bignon*, advocate general, who has also added learned commentaries. There are likewise the commentaries of *Chifflet*, which he intitles *Natale solum Legum salicarum*; and a *salic* lexicon of the *Atuatic* words.

IV. The second collection of ancient Germanic laws is that which is called the *Weichbild* * of Mag-

* The old German word *Weichbild* answers to the Latin *ager, territorium*, and therefore signifies the law of a certain territory, a provincial law.

debourg or Saxony, because that archbishopsrick makes a part of Saxony. There is a treatise *de Weichbilitis Saxonis*, wrote by one *Grypblander*, which is held in esteem.

V. The ancient Saxon law, which makes part of the German law, is that of which the Saxon Eastphalians and Westphalians formerly made use. It consisted at first, like those of the other German nations, merely of ancient customs. Charlemagne, as we have already said, gave them the first written laws, which have been published in part by *Heralde*, *Lindenbrog*, *Lucas Holfcinus*, and others. The emperors and the kings of Germany have, in course of time, added some matters to it; as certain laws which are attributed to Henry the Fowler, and to the Othos. *Etkon of Rebhan* compiled, about the beginning of the thirteenth century, a kind of code of all these ancient customs, and intituled it the *Saxon mirror*. This law is adopted by a great part of Germany, and regarded as an universal law in the Saxon palatinate. But since the introduction of the Roman law, &c. of which we shall presently speak, it has lost its authority in many provinces, and the observance of it is now confined almost to the countries of the Ernestine and Albertine branches. When we would make use of the Saxon mirror, it is necessary to add the commentaries, and to take good heed not to confound it with the Saxon feudal law.

VI. *The Souabian mirror* is another compilation of ancient Germanic laws and customs; less considerable indeed than the Saxon mirror, but which however had authority in the provinces upon the Rhine, in the Low Countries, and in other parts of Germany. There are divers editions of it, with copious commentaries.

VII. Lastly, we must reckon, among the number of the ancient German laws, the law or *statutes* of *Lubeck*, celebrated especially for the usages and customs of the sea, and for its laws of commerce; the *statutes* of *Hambourg*; the *laws* of *Holstein*; the *Ditmarshian*

marfan law, &c. though these laws are neither of so ancient a date, nor of so extensive an authority, as the former. A more copious information of these different laws may be had in the famous treatise of *Conring, De Origine Juris Germanici*, in the *History of the German Law*, by *Hoffman*, and in the *Codex legum antiquarum of Lindenbrog*, &c.

VIII. We must here remark, that the constitutional law, as well as the modern jurisprudence of Germany, is composed, 1. Of the ancient German law, 2. Of the new laws of the empire, 3. Of the new ordinances and statutes which the powerful princes of Germany have made in their several states, 4. Of the Justinian or Roman law, and 5. Of the canon law. It is not the business of this abridgment to examine whether all these foreign laws ought to be obligatory to the nations of Germany, and to what degree they are actually bound by them. It is sufficient to know that they are so. The rest is to be learnt by the study of jurisprudence itself.

IX. With regard to the *ancient common law of Saxony* in particular, we should know, that it is composed, 1. Of the provincial law, or the Saxon mirror, 2. Of the Saxon *Weichbild*, and 3. Of the old feudal law of Saxony: the changes of times have caused, however, great alterations in these as well as in the German law in general, and future times may produce still different manners, and consequently different laws; but the ancient Saxon law ought still to be considered as the basis of new laws; and where these are wanting, those are still valid.

X. The modern Saxon law (*jus Saxonicum speciale vel novum*) is very different from the ancient. It is divided into *electoral* and *ducal*. The former is that which the electors of Saxony, by virtue of their prerogative, have prescribed to their electorate, and to the countries that are incorporated with it. This institution is composed of ordinances and decisions, of laws relative to the police,

and of every other kind. Among the rest, the constitutions of the elector Augustus, in the year 1572, are most remarkable: these are divided into four parts, which Muller and Carpzow have illustrated by ample commentaries. To these must be added *the redressments of grievances* of the countries in the year 1609, and the decisions of the elector John George II. to the number of ninety one; which John Philip has elucidated by remarks. All these form the body of the new Saxon law, and demand a particular study.

XI. *The ducal Saxon law* properly belongs to the Ernestine branch. It consists of divers constitutions and ordinances relative to law suits, regulations of the police, decrees of the tribunals, and other similar laws. All these constitutions (as well as the ducal Saxon law in general) follow, however, the analogy of the universal Saxon law. This law is obligatory either to *all the states* of the country where it is received, or only to *some particular states*. There are moreover, in Saxony, some cities and provinces which have their municipal or particular laws and customs, from whence arises what is called *jus statutarium*, which occasions fresh difficulties in the study of this jurisprudence, and renders it extremely complicate.



C H A P. XVII.

THE FEODAL LAW.

I. **W**HEN we think, in the study of the law, that we have finished our career, there frequently remains much ground to be gone over before we can attain a complete knowledge of it. From the various conditions that men hold in society arise certain prerogatives and advantages, and various duties are imposed, from whence result particular rights with which it is absolutely necessary for

for the man of law to be acquainted. Among these particular rights is first reckoned the *feodal law*, of which we shall here give the out lines. This matter belongs in part to the political or public law, in as much as it regards the interests of sovereigns, and the connexions that subsist between them and many of their subjects; and in part to the civil law, as it concerns the private fortune of a great number of the inhabitants.

II. Without having recourse to those learned subtilties, which I find in the treatise on the spirit of laws, history and reason furnish me with arguments equally strong, to convince me that the origin of fiefs is derived from the ancient Germans; from their warlike spirit in general, and from their *law of greatest force* in particular; by means of which it was allowable for each free man, possessing portions of land, to do himself justice by force of arms. We should remember, that Germany was antiently inhabited by various people, great and small; that these people had each their chief; and for the rest, that all the nation was divided into freemen and vassals. I shall not stop here to prove what every page in history shews, nor shall I enter into a further detail of the customs and laws that resulted from this situation; it is sufficient to remark, that the fiefs took their rise from it, and that, without a kind of miracle, they could not but have resulted from it.

III. In fact, the kings, dukes, and princes of these people, as we choose to call them, had almost always the sword in hand, and were constantly environed by a multitude of warriors, some of whom are called by the Latin authors (the only writers we have on the ancient state of Germany) *comites* or *commilitones*, that is, companions; and the rest *fideles*, the faithful. The chiefs of the people, the most powerful lords, had also about them a small troop, a sort of guards. It is very natural to suppose, that these companions, these commilitones, and these faithful or followers, could not live on

the air, they and their dependants; that they must receive a recompence for their services; and as the use of money was then unknown in Germany, it necessarily follows, that the princes and chiefs must give them portions of land, and the right of employing those who inhabited such lands for its cultivation, and also of arming them in case of need, and of using them either as followers, when they accompanied their prince to war, or of defending themselves when, by virtue of the right of arms, they were attacked in their own possessions; or when they would revenge an injury that had been done them by some neighbour. Now the donations of land are called in Latin *feudum*, and in German *lehn*, that is a loan; the chiefs of nations gave, therefore, these lands by way of loan, on the conditions above mentioned; but still reserving to themselves the right of sovereignty. The freemen, who were thus in possession of lands, became, in the natural rotation of human affairs, powerful; and, in proportion as their power increased, they extended those terms of advantage under which they held their lands. However, it is not till the thirteenth or fourteenth centuries that we can distinctly trace the marks of sovereignty or territorial superiority that vassals exercised in their fiefs. Their manners also changed, and they became by degrees more civilised. The form of government was at last totally reversed. Charlemagne conquered Germany, and reduced it to a province of his empire. The possessions of fiefs remained; and to the ancient conditions new ones were added, which were continually amplified in proportion as the face of affairs altered. The regulations that were made on this account had the force of law; and, from thence, have successively arose the feudal laws, with all their technical terms of lord paramount of the district, vassal, rebellion, &c. &c. which form at this day a science very extensive and very intricate.

IV. There is a second sort of fiefs, whose origin is different, but altogether as natural as the foregoing;

going; these are the *feuda oblata*, that is, *offered* or *transferred fiefs*; which arose in the following manner. So long as *the law of greatest force* subsisted, it is natural to imagine, that the weak found themselves perpetually exposed to the attacks of the strong, and far from being able to do themselves justice. They therefore had recourse to protection; to obtain which, they offered some powerful neighbour, or even the prince of their nation, the lordship of their lands, and also promised him certain rents, services, or succours in time of need, on condition of receiving in return, all the protection of which he was capable, in all those incidents where they should have occasion to claim it. This transfer, this alienation of the superiority of their lands and possessions, became irrevocable, and consequently these fiefs, voluntarily offered, took the same nature, some trifling circumstances excepted, as those which were granted by the lord.

V. Religion has ever had a powerful influence over the minds of men, and the Roman catholic religion above all others. After Charlemagne had converted the Germans to Christianity, and the authority of the hierarchy of the Roman church had extended to Germany, many of these fiefs fell into the hands of the clergy, some of which they possessed under the title of lords, and others under that of vassals. Some possessors of lands promised themselves mighty protections by offering their lands in fiefs to the church, which was not only respected but held as sacred. In a religion, moreover, where the ministers of the altar are great lords, as cardinals, bishops, prelates, &c. it was necessary that they should be provided with estates correspondent to their dignities; and for this purpose the princes or chiefs of the German nations gave them many lands in fief, and from thence came the *ecclesiastic fiefs*.

VI. Such being the true origin and nature of fiefs in general, it is surprising that the Germans have been able to introduce this singular custom

among the Gauls and other nations; but it is much more surprising, that this right and custom was not abolished after the emperor Maximilian I. had totally overthrown the foundation of it, by abolishing the law of *the greatest force*, and all acts of violence; for it is a maxim founded on common sense, that when a cause ceases, all its effects should also cease: notwithstanding, there are still lords paramount, and vassals, though there are no longer any private wars, and though all the disputes between the inhabitants are decided before the tribunals. Sovereigns have also the right of employing their subjects in their wars by virtue of their sovereignty, a right far more sacred than that of feigniority. These fiefs, moreover, are contrary to all principles of sound policy: they form precisely what is called *statum in statu*, an intermediate state which has no real use; which encreases the component parts of the constitution unnecessarily; which gives rise to a jurisprudence altogether peculiar; which causes distractions in society; which makes possessions, uncertain and often times dependant on arbitrary will; which lays continual snares for the people, and makes them fall either into contumacy or transgressions of the feudal right, in order to pillage them of their property under the shadow of the law.

VII. Let us speak plainly. The practice of the renewal of fiefs, and services, payable in case of the death either of the lord or vassal, or at every alienation, clearly proves what we have been saying, that fiefs were originally obtained by way of loan. All personal services have moreover been reduced to pecuniary contributions. What necessity then is there to multiply these contributions, and to take them under so many different titles, which are so many vexations to the industrious inhabitant? Cannot the state take them by a method more simple and more convenient? Has it not the right of sovereignty over all its lands and subjects? Wherefore then these futile, miserable laws and
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 customs

customs of vassalage, &c. Alas! by favour of these laws, you deprive an industrious family of its patrimony; you ruin some of your best subjects in order to obtain their lands; or you acquire these lands by the extinction of a noble family. You have made a wonderful acquisition! You have lost those subjects who are indispensably necessary in war, in council, at court, and in all the first employments of the state: instead of the services which they rendered you, and the contributions which they paid you, you incorporate their lands with your domain, and put them under the subjection of your chambers of finances; institutions the most proper in the world to rob a country of its lustre, and to swallow up all rural œconomy. The castles fall in ruins, the gardens lie waste, the lands and the cattle are abandoned to the rapacity of stewards, and the forests are despoiled; all new erections or improvements, which arise from the diversity of genius in the inhabitants, cease; industry and the riches of agriculture expire; every object assumes a dull and barren aspect; beggary appears in every part. Behold, you have performed an admirable chief d'œuvre! Every sovereign, who does not abhor the giving of fiefs that are to devolve into his own domain, is very ill instructed in his real interest.

VIII. But as there is no reclaiming mankind from those errors where their interest seems to be concerned, though it be manifestly chimerical, we must here inform the studious youth what those fiefs are that subsist at this day, and where he will find the source of the laws that arise from them. It appears then from all that we have said, that "a fief is a certain property which the owner gives or cedes to another, on condition of fidelity, and of certain rents or services; with the further condition, that the possession of it shall not be alienated or transferred to any other person without the knowledge of the first proprietor, nor without his consent, and a renewal of the promise of fidelity." Such a property is called a

fief, and in Latin *feudum* or *beneficium*; the proprietor who grants it is called the *lord paramount*; the possessor, who receives it, the *vassal*; and the contravention of this agreement is called *rebellion*, &c.

IX. The feudal law contains, therefore, all those regulations to which the lords and their vassals are subject, and which serve as laws to decide in all cases where any difference arises relative to their fiefs. It must be confessed, that these laws are as obscure and as embarrassing as the foundation of the matter itself. *Loiseau*, speaking of the word *suzzeraineté*, or seigniority, says, that the term is as strange as this kind of lordship is absurd. Under the emperor *Frederic II.* one *Hugolin* composed a book of the feudal law, according to the usages and customs of the Lombards; and annexed it, by way of collation or appendix to the novels of Justinian. This Lombard law was introduced with the Justinian, first in the academies, and afterward by the lawyers in the courts of fiefs. But as it was imperfect, and even erroneous in many places, they found themselves obliged to have recourse to the customs of the Germans, and to adopt, by way of supplement, divers feudal laws of Saxony and Suvia. The Roman and canon laws were also successively added to it; and which, altogether, form a whimsical composition. It is an edifice whose foundation is rotten, and whose superstructure is loaded at once with Gothic and Roman ornaments.

X. To obviate so many inconveniencies, the feudal law is divided into *universal* and *particular*. The former comprehends the Lombard law, which is supposed to be capable of a general application to all countries. The other regards Germany in particular: but, as the usages vary in the different provinces and states of Germany, inquiry must also be made into all that custom has introduced, and of what is received in each particular court of fiefs. The different commentaries, that have been made on the text of the Lombard and German feudal laws, serve only the more to obscure and confound the matter.

XI. A celebrated lawyer, named *Schilter*, has published a *Jus feudale Alemanicum*, which abounds with good sense and erudition; and *M. Thomafius*, in his treatise *de felectis feudalibus*, has introduced an ancient author *de beneficiis*, which have ruined the credit of the Lombard laws in Germany: but have they substituted any thing more rational?

XII. He, who shall apply himself to this science, will do well, amidst the chaos of matter and of laws, to search in history the sources of the feudal right, and to consult the best authors that have treated on it, whose names he will find in a work intitled *Erici Maurittii Nomenclatorem scriptorum in jus feudale*. He would do still better, to make a complete course of the feudal law under some able professor; to read the best treatises that have been wrote on the subject; constantly to have recourse to history, and to inform himself carefully of the laws, rules, and customs, that are received in each country, and in each tribunal established for the determination of feudal causes.



C H A P. XVIII.

THE ECCLESIASTIC LAW, AS WELL CATHOLIC AS PROTESTANT

WE are not to imagine that the ecclesiastic law, or the law of the church, is so called because it is of divine origin; that it proceeded immediately from God; or, that it is taken verbatim from the Holy Scriptures. No: it is a collection of human laws made by the sovereign, and relates not only to all persons who appertain to the ecclesiastic state, but to all objects that are relative to the exterior exercise of religion. It is true, that the use, or abuse, has subjected, to the ecclesiastic jurisdiction, many things that in a strict sense do not relate to it; but as no essential injury occurs from thence to society,

ciety, and as all consistories and ecclesiastic courts of justice are established by the sovereign of the place, who by his own will appoints their members; and as all affairs are there decided in his name, and by his authority, in virtue of his territorial superiority, it matters little whether they be laics or ecclesiastics who exercise this kind of justice; and this regulation appears the more eligible, as cases frequently occur where it seems necessary that the judges should be versed in the science of theology.

II. As the ecclesiastic jurisprudence teaches the civil laws of a state, that relate to the persons and subjects that belong to the church, we must not confound this science with ecclesiastic prodence, of which we have already spoke in treating of the different parts of theology, and to which we refer the reader.

III. Since the time of the Reformation, the ecclesiastic law may be divided into two parts, one of which is obligatory to the catholic Christians, and is called the *Canon Law*; the other is obligatory to the protestant Christians, and is called the *Consistorial Law*, or the ecclesiastic law of the protestant church; although this church has preserved many of the principles, decisions, and ordinances of the canon law also. It is no small inconvenience in protestantism, that the limits of the authority of the canon law are not exactly defined, and that no one knows to what point, and in what cases, these decisions and these maxims are binding to protestants. We shall see presently, notwithstanding any thing that may be said to the contrary, that their ecclesiastic tribunals follow the analogy of the canon law, and that it is adopted by custom wherever the positive laws of the sovereign are defective.

IV. After Christianity was extended in the east and west, and the use of councils was introduced, the ecclesiastics, so assembled, turned their views to the regulation of manners and the exterior conduct of Christians, and made on this subject certain ordinance

dinances or *Canons*; which is a Greek word, and signifies *rules*. It was the humour of those days to give the most simple things, especially if they concerned the church, strange and abstruse names, in order to cover them with a kind of veil, and render them respectable in the eyes of the vulgar, and to give them an air of great learning. These canons, which are either decisions on matters of religion, or rules of ecclesiastical policy and discipline, made by a general, national, or provincial council, have been collected at different times. The bishops first made use of these collections to extend their authority, and the popes afterwards made the same use of them to establish their hierarchy, by loading the whole Christian world with a code or body of laws, fabricated after their own maxims. Our civil law then is Roman, and so is our ecclesiastical. It is thus that Rome, after the destruction of her monarchy, still governs Europe by the authority of the mitre and her laws; it is thus that the prophecy of the augurs is accomplished, that the God Terminus, placed in the Capitol, should never go back.

V. It is pretended that the canons have been collected ever since the third century. *Dennis the Little*, in the fifth century, made a more ample collection of them; and after him *Ferrandus*, *Crestonius*, and above all, *Isidorus Mercator*. From these different compilations has arose the celebrated *Decret*, or the *Concordance of the discordant canons*, which was made in 1151, by Gratian, a benedictine monk, from the texts of the Bible, the councils, and the sentiments of the fathers of the church. It was further augmented by the *Decretals* of pope Gregory IX. Boniface VIII. added to these decretals the sixth book. To Clement V. we owe the *Clementines*. John XXI. added the *Extravagants*; and lastly have been added the *Common Extravagants*. All these matters compose the body or course of the canon law, which we have in three folio volumes, including the commentaries*. This is the jurisprudence that is ab-

* The best collection is that which was published at Hall by the late chancellor Böhmer, and is dedicated to the pope.

this day authorised by the holy see, and which alone is used in catholic countries, in the ecclesiastic, and contentious court. In France, however, these decrees are not all received; several of them have been rejected, and the canon law, in general, has there no other absolute authority than what the king is pleased to give it.

VI. The German bishops have found means to make it more valid in the empire; and even the protestant princes have retained its principal maxims in their processes in matrimonial cases, and in many other subjects of ecclesiastic, civil and feudal law. We have two curious works on this subject: one is the preface that *Arnold Corvinus* has placed at the head of his Aphorisms of the canon law, and the other a book wrote by an anonymous author, and which is intitled, *De jure canonico, quatenus in academiis reformatis, atque judiciis Lutbrancorum salva conscientia retineri possit et observari, jurisconsultorum quorundam judicia.* Every lawyer, who would make himself a master of his profession, ought not only carefully to study the history of the canon law, but also to make a complete course in this part of jurisprudence, reading, at the same time, the best commentaries that have been wrote on it.

VII. The ecclesiastic and consistorial law of the protestants requires yet a new and particular study. We must here lay down certain fundamental principles. The foundation of the Christian religion, in its dogmas and its morals, is perfectly divine and altogether spiritual, and cannot admit on any pretence whatever, any temporal judge or human laws: from whence it appears how absurd it is for a sovereign to pretend to assume any authority whatever over the consciences of mankind: but the exterior state and exercise of religion, as well as the persons and other matters that relate to it, are doubtless subject to the civil and political laws, and to the sovereign power of the state, which has a right to dispose of them, to moderate and alter them, agreeable to the times, to the place, and to the public

public good. By the Reformation, the sovereign has not only acquired a power over the exterior state of the church in his own dominions, but the authority and jurisdiction of the pope and the clergy have totally ceased; and the ecclesiastics are there bound by their fidelity, their love of peace and concord, and their respect toward the civil government; and the authority which the holy see, the councils, &c. formerly assumed over conscience, and religion itself, being abolished at the same time, they acknowledge no other authority than that of the sacred and canonical books. This altogether forms a system, entirely different, of protestant ecclesiastical law.

VIII. From what has been said, it follows, that in the study of the law it is necessary, 1. To endeavour to acquire a thorough knowledge of the religion and state of the church, not only by the repeated lecture of sacred books, and above all the New Testament, but also by consulting the best authors who have wrote on this matter: 2. To study the history of the Reformation, and especially to observe, in what manner, among the protestant princes, the arrangement of the churches and schools has been successively and variously altered: 3. To learn from the public law, what are the limits of the power of any state over the churches of another state that is subordinate to it; the history of universities, academics, schools or colleges; of ordinances for the church; of visitations, conferences and controversies; of the peace of religion; the treaty of that peace; of consistories, &c. 4. To examine what is the right that each sovereign exercises over the church; and how far his power extends in deciding theological disputes, &c. 5. To acquire a sufficient knowledge of the ceremonies of the church, and of the adiaphorists, &c. 6. Carefully to consider the subject of Christian liberty, and of the power over consciences: 7. To study the laws that relate to matrimonial affairs, and the degrees prohibited: in one word, to study the whole divine

divine law, positive and universal. To which may be added, 8. A knowledge of the arrangements of hospitals, and of all charitable institutions, and of their rights and privileges.

IX. The subjects, *de reliquiis sacramenti in rebus matrimonialibus, de jure Sabathi, de polygamia, de jure principis circa sacra, de libertate ecclesiarum Germaniæ, Galliæ, &c. de beneficiis ecclesiasticis*, and an infinity of others, belong also to the province of ecclesiastic jurisprudence; and the man of law ought not to be ignorant of them.

X. With regard to Germany in particular, it is certain, that the foundations of the ecclesiastic law of the states of the empire, are 1. The peace of religion; 2. The several recessions of the empire which relate to this matter: 3. The treaty of the peace of Westphalia: 4. The concordats of the German nation with the popes: 5. The particular constitutions, as the regulation of churches, schools, matrimonial affairs, &c. 6. The protocols, and the articles of visitations: 7. The canon law also; and 8. The usage established in each country. There is in Saxony a *Corpus juris Saxonici Ecclesiasticum*, published in 1708; and among the regulations of churches, those of Saxony and Wurtemberg have been hitherto most esteemed.

XI. By the analogy of the general principles that we have here laid down, it will be easy to develop the system that each nation or state, whether catholic or protestant, has established, and observes in its ecclesiastic law, and what are the objects that come under its consideration. As the laws, the usages and customs, and the abuses, also vary in each country; and as the ecclesiastic jurisprudence conforms to these numberless combinations, it is impossible to enter here into a full detail of these matters. We think we have conformed to our plan, by giving a general idea of ecclesiastic law, and by pointing out the sources from whence its particularities may be drawn.

XII. In

XII. In the countries where the Greek religion is established, and where they follow its ancient ritual, as in Russia, and in the dioceses of the patriarchs of Alexandria, of Antioch and Constantinople, in Greece and elsewhere, there is likewise an ecclesiastic law, and which also is not precisely the same in all these countries. As there is no absolutely independent hierarchy in this church as in the Latin; but as the patriarchs, the archbishops, bishops, metropolitans, suffragans, papas or curates, the caloyers and other religious, are all immediately subject to the sovereign of their respective country, who renders them all the respect that is due to their rank, but at the same time that he kisses their hands, ties them together; and as in this church they know neither pope, nor sacred college, nor inquisition, nor bulls, nor legates, nor nuncios, nor any thing that forms the political system of the Roman church, the study of the ecclesiastic law of the Greek religion cannot be near so complicate and difficult, as those of the other countries of Christianity.



C H A P. XIX.

THE MERCANTILE LAW; THE MARINE LAW;
AND THE CAMBIAL LAW.

I F the fiefs, the clergy, the military, the foresters, the miners, and so many other classes in civil society, have each one their law, it is but just that commerce, the source of every prosperity in a nation, should likewise be the object of the legislator's regard; and, as its success is founded on certain fundamental principles, that it also have a particular law conformable to those principles. We shall here treat of this law, of which no advocate ought to be ignorant; and we shall combine it with the Marine law, and the Cambial law, or law of exchange, as the intimate connexion between commerce,

merce, the marine, and exchange, will not permit them to be separated; for these three subjects come naturally under one general head. We might dispense with ourselves from entering into the detail of these matters, and refer the reader to the chapter on commerce, in our political institutes, where all its grand principles will be found established; but as it is not our intention to leave this system of general erudition incomplete, and as the business here, moreover, is not so much to treat of laws that might be made in favour of commerce, as of those which already subsist, and their application, the following analysis will be found not altogether superfluous in this place.

II. Most nations, especially those whom we call, by way of excellence, *Commercial*, have made a great number of laws relative to commerce, the marine, and exchange; of which sometimes are formed complete codes, and sometimes simple collections, under the title of Ordinances, &c. It is very necessary that a lawyer, called to judge these cases of commerce, or to plead mercantile causes, should know their laws and regulations, and therefore that he should make them his serious study; and that they also, who exercise commerce, should know its laws: but I must confess, that it is unknown to me that this subject has ever undergone a regular discipline; that its matters have been ranged in a natural order; that the principles of each matter have been properly established; that the laws relative to them have been collected, explained, and justly applied to particular cases: in a word, that these subjects have been reduced into a true system. If any such work exists, its reputation is yet unknown to me.

III. Those nations, that have known the immense advantages that result from commerce, and understand its true interests, have readily granted it all the LIBERTY of which it is susceptible: this liberty is the soul of every commerce, but it is not however a liberty without limitation; as it is not allowable

allowable for any citizen to trade in whatever he will, and in whatever manner he will; but it is lawful for him to make the utmost advantage of his particular traffic, so far as it is tolerated by the state, and as it does not interfere with the interests of society, and of commerce in general. The liberty of commerce consists, moreover, in such regulations, that each merchant, each subject, may previously know what merchandise, and in what manner it is lawful for him to traffic, without being subject to posterior laws, or to depend on the caprice of a sovereign or his ministers. Thus, in England, in France, and in Holland, countries the most free, and the most commercial in the known world, there are several branches of commerce that are either totally prohibited, or admitted under certain conditions, and great restrictions. The jurisconsult ought therefore to know by the laws of the land, what commerce is there permitted, and under what conditions or restrictions.

IV. The LOSS OF TIME is an enormous loss to commerce in general. We are to suppose, therefore, 1. That the wisdom of the legislature has provided against this loss; that the laws relative to commerce are neither too numerous, nor too refined: 2. That the form of process in these affairs is short, and not embarrassed with chicanery or formalities: 3. That there are courts particularly appropriated for deciding these cases forthwith: 4. That the sentences be prompt and brief: 5. That the execution of these sentences be immediate, without difficulty, and without much expence. Judges and advocates should constantly keep these maxims in view; well consider and properly apply them.

V. They should also be acquainted with the tariff, or book of rates, that are paid for merchandises at the custom-house. It is not indeed the business of a lawyer to examine, whether these rates be founded on a just proportion; that belongs to the financier; but the former ought to know what the laws decree in this respect; and from the principle that we have laid down in the preceding section, he ought

ought to take care that the merchant be not liable to lose his precious time by chicanery, by the vexations and common delays of a custom-house; but that every thing be there performed with dispatch and facility.

VI. The third grand principle for promoting the success of commerce is CREDIT, founded on *public confidence*. All the laws should tend to preserve credit, and to encourage this confidence: every law that shackles credit, that curbs this confidence, is defective and absurd. Every lawyer should suppose, that the spirit of this principle reigns in each law of commerce, and never omit its application to such cases as may present themselves. It is also on this incontestable principle, that are founded many maxims of the cambial law, and particularly that confidence which is reposed in the books of a merchant; and in an infinite number of established customs in commerce.

VII. Beside the written law, there are also general customs founded on the analogy of the law of nations, by which several matters in the imposts, and other usages received in each particular country, are regulated; and with which it is also necessary to be well acquainted. If any difficult contestation should arise between a foreign merchant and one that is a native, the decision, whether founded on the positive laws, or the laws of custom, should constantly incline somewhat in favour of the stranger; because this generous equity is highly proper to extend the confidence and credit of a nation among foreigners, and the state thereby acquires an advantage a thousand times greater than it would get by favouring its subject, and by keeping a trifling quantity more of money in its territories: for, in general, nothing is so silly and wretched as a covetous desire of keeping money in a state against wind and tide, in those cases where it might be parted with to advantage; and those cases occur more frequently than is commonly imagined.

VIII. To preserve also this public confidence, and foreign reputation, those states, that export their

their produce and manufactures, have judged it necessary to fix, by particular ordinances the essential qualities, that such provisions or manufactures ought to have, together with their degree of perfection, that the foreign consumption may not be diminished: especially with regard to manufactures, and the different branches of trade. On the other hand, there are many merchandises imported which are in like manner to have certain essential qualities, without which they are not suffered to be entered, and are even frequently confiscated. All these matters demand a very minute inquiry and great application.

IX. The *coins* are intimately connected with commerce; it is for the sovereign, assisted by his council of finances, to regulate their standard, their form, their value, and their currency. But the lawyer should not be quite ignorant in these matters; he should know the laws and regulations that are made in his own country, by his neighbours, and among the principal nations of Europe, relative to monies; and the principles on which those ordinances have been established.

X. The *representatives* of monies, or *bills*, have also their laws, and the knowledge of them is very essential. Among these representatives, bills of exchange hold the first place, and are immediately connected with commerce. There is no civilized nation that has not made regulations for exchanges, and from thence arises the *cambial law*, which requires an assiduous study.

XI. There are regularly four persons interested in every bill of exchange: 1. The *drawer*, who gives or sells the bill of exchange payable at another place: 2. The *remitter*, who purchases this letter of exchange, and sends it to his correspondent who is to receive the payment: 3. The *endorsee* or presenter, who is the correspondent of the stranger, and to whom the receipt of the payment has been assigned by the remitter, by writing on the back of the bill, *pay to such an one*: 4. The *accepter*, who is he on whom the bill has been drawn, and who on the first presentation is obliged to write the word *accepted* on this

this bill of exchange, and to pay it when it becomes due. The laws ought always to incline something in favour of the remitter, because he can have no bad intention, being obliged to purchase and pay ready money for this paper, on the credit and confidence which he reposes in the drawer.

XII. The rest of the cambial law, the explication of the several terms, and the principles on which each custom is founded, altogether require an extensive study: it is proper to know well what is meant by *course of exchange, broker, presentation, protesting, usance, non-payment*, and a great number of like technical terms. An easy and expeditious judicature in matters of exchange cannot be sufficiently recommended.

XIII. The notes that a debtor gives to his creditor, and by virtue of which he obliges himself to pay that creditor at the end of a certain limited time, do not properly belong to the cambial law: they are no other than a kind of obligations that demand an exact payment, or ready justice, and rather appertain to the civil law.

XIV. Every country that has a navigation has also a *Marine Code*, and the contents of this code are very great, as its objects are immense. Even its terminology is astonishing, and the whole requires a particular study. A juriconsult however, who dwells among a people that are engaged in maritime commerce, must not be ignorant of it: and if in such a country he should find no complete code, he will do well to collect all the marine ordinances that he can find dispersed, to range them according to their several matters, to make a good index to them, and to become familiar with them.

XV. The business of insurances, averages, of the right of shipwrecks, of tolls or customs, of the functions, duties and rights of pilots, &c. are intimately connected with navigation; and most of the codes of commerce, and of the marine, contain laws and ordinances, clear and minute on these important objects, which all relate to mercantile jurisprudence, and with which a man of the law, among a commercial people, ought to be thoroughly acquainted.

C H A P.

C H A P. XX.

THE MILITARY LAW.

I. **E**VERY Soldier is a citizen or member of the common-wealth, and therefore can have no peculiar privilege, no essential prerogative, distinct from the other members of society, but what he sometimes usurps by force; and such usurpations are always acts of injustice which cannot be formed into laws. He is even bound, more than any other subject, to maintain good order, and to support the civil laws, because he is paid by his fellow subjects to watch over the public security, and to employ all his force, even at the risk of his health and his life, to protect them against all sorts of violences or attacks, against all dangers exterior and interior. As his duties are very great, and his salary very small, there is annexed to the military state a second kind of recompense, which is called *honour*, and which serves at the same time as an encouragement to noble actions: but except this, the soldier can have no peculiar privilege, without causing trouble and disorder in society.

II. Military law, therefore, is only that which the sons of war exercise among themselves, in their proper state, in order to preserve good discipline, and to attain the end which that state proposes. As there has never yet been a people that have at no time been engaged in war, so there has been none that has not established military ordinances. The ancients have always naturally served as guides to the moderns. Polybius, Vegetius, and, many other ancients, have given the maxims that were observed in their times in these matters. The moderns have followed them. Justus Lipsius has published a treatise *de re militari veterum*, Sichter mann has wrote *de pœnis militaribus*; the works of the chevalier de la Valliere, of Vauban, Montecuculli, Puysegur, Feucquieres, Quincy, and Folsard, are filled

filled with excellent maxims, from whence the principles of this law, and the most useful ordinances relative to these matters, may be drawn. We have likewise for the theory of the military law, some works that are not in every one's hands, and which it is proper here to make known; such are *Adriani Beieri juris militaris prudentia in formam artis redacta*, 8vo. Jena; *Hieronymi Imboffi dissertationes militares*; *Pappi de Tratzberg corpus juris militaris*; *Eberhardi Hagerii corpus juris militaris*; and the complete military law of the European powers, by John Frederick Schultz. This last book is wrote in German.

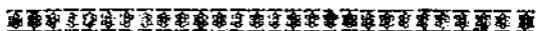
III. But it is proper to caution those who would study these matters, that the ancient maxims are not always applicable to modern circumstances, because they proceeded from a principle very different from what now subsists. Formerly when war was determined, they enrolled the soldiers, or else all, who were able to bear arms in a nation, prepared themselves for the battle, and, when peace returned, went back to their ordinary employments. The wise policy of modern times has changed this matter entirely. The military is become a distinct state in society. A number of the inhabitants are devoted to it from their youth, or are engaged in it either voluntarily or by artifice, and sometimes even by force. Each power has framed *articles of war*, which contain an abridgment of all the duties of a soldier, and a *military regulation* much more extensive, which contains all the duties of the officers. The chastisements for the soldiers, and the penalties for the officers who offend against these regulations, are there very clearly expressed. When a soldier is enrolled, or an officer engaged, the judge advocate, who is the judiciary officer in each regiment, reads to him the articles of war, and makes him take, under the colours, not only the oath of fidelity, but that of exact obedience to those articles, which are there explained to him; and to the officers are given the military regulations, that they may learn their duty. It is in consequence of this

this solemn engagement, that the penalties inflicted on offenders are so very rigorous, and that a deserter, for example, is punished with death. As the state military is a state of violence, and as the soldier is always armed, it is natural that justice be there more rigid than in the civil state.

IV. The lesser faults are decided by the chief officer of the regiment, or by the general officers assisted by the advocate. Greater crimes are determined by a council of war, and the sentence is referred, in the last resort, to the sovereign, for his approbation and confirmation. As these councils of war are composed merely of military men of all ranks (except the judge advocate, who should be a professor of, and skilful in the law) no great dependence can be at all times put on the strict justice of their decisions. The military laws are, it is true, very clear, but it would seem, that the more good sense of these judges is not sufficient at all times to distinguish, if the case that presents itself be applicable to such or such a law: and frequently an unhappy wretch, clothed in blue, red or white, is sent to the gibbet, who would not have lost his life if his crime had been examined by judges better instructed, and more versed in juridical proceedings.

V. A council of war is properly a deputation of military men assembled in a body, and forming a tribunal to decide on some great or capital crime committed against the laws of war. If the offender be of a subordinate rank, the council of war is held where the regiment then is, and two deputies of each rank, from the common soldier up to the captain inclusive, form a council, under the presidency of a general officer, and with the assistance of the advocate. The lowest ranks give their opinions first, beginning with the common soldier. But if the offender be an officer of distinction, as the commander of a regiment, or a general, the sovereign then nominates, from the army, a number of officers of experience and integrity to form

the council of war. Lastly, the marshals are properly no other than civil judges in an army; they form a court to which are referred cases of competition: they judge also of duels, of affairs of honour, &c



C H A P. XXI.

THE LAW OF THE VENERY.

I. **W**E have already said (Ch. 12. § 3) that laws are the necessary relations that arise from the nature of things, it follows therefore, that certain conditions, certain professions in society, ought to have their particular laws, when, by their nature, they are so different from other arts and trades, that the legislator cannot comprehend, in his general system of laws, the rules and ordinances that were necessary to them in particular. The venery and the mines are especially in this predicament. It is true, that the rural oeconomy, and almost all the other arts, professions, and trades, have their laws, statutes, regulations, privileges, &c which are peculiar to them; but as these laws vary in every country, and often in every province, and as these statutes and privileges are always loaded with ancient abuses, and as most sovereigns prudently reform and abolish these old customs and privileges, and as the detail of these matters is immense, it is impossible to enter into such a labyrinth; which, moreover, does not directly belong to general erudition, and would not a little embarrass this work. They who would have a complete knowledge of it, should repeatedly consider the statutes and regulations of all the classes of trade in each country. As to what concerns us, we shall content ourselves with treating, as briefly as possible, of the law of the venery, and that of the mines.

II. Men

II. Men shut up their goods and their cattle in towns, enclosures, within walls and buildings, in chests and coffers, to defend them from injury, and to protect them from robbery: but it is impossible to guard the forests and the game; these would be a prey to the first invader, if the laws were not extraordinarily rigorous in this respect. It is for the same reason that the stealers of cattle, left day and night in the pastures, are punished with so much severity. The officers of the forests and of the hunt, who, so to speak, inhabit the woods, are also incessantly exposed, not only to the intemperance of the seasons, and to all the dangers that attend a solitary and savage life, but also to the attacks of the robbers of the game, and the plunderers of the forest; and often likewise to those encroaching neighbours, who would pursue the chace by artifice or violence, on the territory of others, and whom the keeper of the forest is to repel by opposing force to force. It has therefore been found necessary to erect separate courts for the affairs of the forests, to appoint officers of the hunt, and to establish particular laws for these various objects; and from all these arises the law of the venery.

III. He, who would attain a thorough knowledge of this law, should make himself acquainted with, 1. The officers of the venery in their several ranks: 2. The forests themselves: 3. The different woods those forests produce: 4. The game that inhabit them: 5. The instruments and weapons of which the hunters make use: 6. The terminology of the chace: 7. The regulations and ordinances that have been established by the sovereign of each country; and 8. The customs that are observed; with regard to these objects, in those countries. All the books that treat of the chace, of forests, and waters, explain these matters. The emperor Frederick II. has already wrote a Latin treatise on the venery. Touilloux has likewise wrote a book, which he intitles *de la Venerie*. In France there are a great number of ordinances relative to the chace,

among which those of Henry IV. of the month of June 1601, and of Louis XIV. in August 1669, are remarkable. There is also a treatise on the law of the chase by F. de Launay, professor of the French law, which is a very good one. We have in Germany *the complete hunter*, by John Frederic Flemming; and many celebrated writers, who treat of the oeconomy of the field, have inserted in their works dissertations on the venery, and the laws of the chase: and lastly, this matter is copiously treated, both in theory and practice, in a celebrated work entitled *Abajveri Fritschii corpus juris venatorum forestale Romano-Germanicum*. All these works may be read to advantage, or consulted occasionally.

IV. It is to be observed also, that the law of the venery does not relate merely to the chase, and its appurtenances, but also to forests, their preservation, the felling of wood, and the several uses to which it may be applied, as the making oils, pitch, ashes, resins, charcoal, &c. and in a word, to the several customs that appertain to the domain of the sovereign, the finances and other important objects of government; and all this requires a thorough and extensive knowledge. It is therefore very necessary in a state, that there should be persons who apply themselves chiefly to this part of jurisprudence, and make it their serious study.



C H A P. XXII.

THE LAW OF MINES, OR THE METALLIC LAW.

I. **A**LL those who are concerned in carrying on, and working in mines, may be said to live in a subterraneous world: there is no instant of their life when they are not in danger of losing it: their hard and painful labour, and the foul air they breathe, shorten their days: society therefore
owes

owes no small recompence to such of its members as devote themselves to an employment so laborious and so dangerous. It is of consequence, moreover, to a state, that the cultivators of, and labourers in mines, proceed with all the art, care, and success possible; as not only the precious metals, but those more common, and of more immediate utility to mankind, and in general all minerals and fossils, are valuable to society, and tend greatly to enrich that state which finds them in her bosom. This double motive has induced legislators to make particular laws in favour of those who direct and those who labour in mines: and these collectively form what is called the law of mines, or the metallic law.

II. Whoever would apply to the study of this part of jurisprudence, should consider, in the first place, that the laws of mines were not formed and reduced into a system at once, but that they were given and extended in proportion as the mines were more known, and as their rich and fruitful veins became multiplied. The ordinary form of process was not applicable to mines and their workers. All legislators, moreover, have resigned to lawyers the framing of civil institutions, and these have constantly left the door open to chicanery: they clearly see, that their masters have not assigned to magistrates, to judges and advocates, sufficient appointments to live with decency; that their salaries are not proportionate to the extent and importance of their labours: it is necessary, therefore, to furnish them with means of prolonging of suits, and of augmenting expences in favour of the courts of law; and these are what every where pay and support their judges. However, as the interest of the sovereign is immediately concerned in the affair of mines, and moreover, as those men, who draw gold and silver from the bowels of the earth, are of all others the most poor and miserable, and consequently the least able to contribute to the subsistence of the magistrate by an expensive process,

the proceedings in these cases have been retrenched, and the laws have obliged the judges to expedite all their affairs to the greatest degree possible.

III. Mines and their dependencies form, therefore, every where a particular government which is expressly reserved to the sovereign of the place. There are established separate departments, courts superior and inferior, and divers magistrates, for the mines; which have all their particular laws, customs and privileges. It is also prohibited (especially in Germany) to move any process, that arises relative to the mines, to another court, even by way of appeal: so that the metallic law may be justly considered as totally distinct from all others. He, who would make this law his study, should first learn the names, titles, and functions of all the magistrates and officers that are employed therein; which, considering their diversity and uncommon denominations, must be sufficiently embarrassing.

IV. It is manifest, moreover, that the decision of mineral and metallic affairs depends also on a knowledge of mines and metals, and of the manner of working them; and this knowledge is founded on the principles of physics, and on much experience. It is therefore necessary to have not only a good theory of natural philosophy in general, but repeatedly to read over the best books that treat of mines, of metallurgy, of subterraneous geometry, of the hydraulics and hydrostatics of mines, of mechanics, of the separation of metals, &c. We should also endeavour to retain, if possible, the terms of art, which in this science are prodigiously numerous. When we are thus fully instructed in the art itself, in the language and business of mines, we shall study with success the laws that result therefrom.

V. The laws, the usages, and customs received in the various mines in the different quarters of the globe, are not every where the same. In America, for example, they are worked by African slaves, whom

whom their European masters, or rather tyrants, treat with a severity that is shocking to nature. In Asia, and in some countries of Europe, they are the criminals, vagrants, and profligates, who are condemned to this painful labour. In other countries, they are vassals or bondmen, and the most despicable part of the inhabitants. In other countries again, as in Saxony, in the Hartz, and elsewhere, they are free and respectable inhabitants, who make it their trade. This diversity of customs naturally occasions a great diversity in the laws appropriated to it. There is in Germany a *Corpus juris, et systema rerum metallicarum*; which he, who applies himself to this part of jurisprudence, should make the foundation of his study. He may also consult the *Speculum juris metallici* of Sebastian Span; the treatise of Baron Lyncker, *de Juribus minerarum*; the dissertation of M. Horn, *de Libro Metallico anti-grapho*, and many other works of the same kind.

VI. By these means the student may acquire a general and well grounded theory of mines, and of the metallic law. But, as in this sort of subjects it is necessary to ingraft, if I may so say, a good practice on a solid theory, he would do wisely not to content himself with the information of books, or the lectures of professors, but to transport himself to the spot, to descend into the mines, and to see with his own eyes all their various operations; instructing himself at the same time in the particular constitutions, laws, and orders relative to these matters, in each country, that have been decreed by the sovereign, or that old time has established.

C H A P. XXIII.

THE CRIMINAL LAW.

I. **T**HE assemblage of the laws, statutes, usages and customs, that relate to assaults and injuries, forms what is called the *Criminal Law*; and the business of interpreting this law, and applying it to offences, as they arise in society, is called *Criminal jurisprudence*. A man may be attacked or injured by others, after three manners; either in his *goods*, and from this sort of injury he is defended by the civil law; or in his *reputation*, from which he is defended by the laws against obloquy; or in his *health or life*, against which he is protected by the criminal laws, and which likewise extend to all malefactions that may injure society or the public tranquillity.

II. If men were not liable to inordinate passions, if we lived in a Platonic republic, there would be no need of criminal laws; but as matters are now circumstanced, it is only by the rigour of chastisements that the good citizens can be protected from the malice or violence of the bad. It is not here the place to examine, if the most rigorous punishments, especially that of death, of a violent and excruciating death, be founded on the original strict law of nature; and whether a man can cede or transfer to another man, call him sovereign, judge or magistrate, the right of putting to death, which is a right that he does not possess over himself: it is sufficient to observe here, 1. That the welfare of society, and the public security, require severe punishments for atrocious crimes: 2. That every inhabitant knows the penalties prescribed by the law; and that it depends on himself to avoid them: 3. That in becoming a member of a political society, he subscribes, either expressly or tacitly, to the laws that therein subsist: 4. That the most part of criminal punishments are prescribed by

by the divine laws: 5. That they are confirmed by the almost unanimous consent of all civilized nations: And, 6. That they have been found necessary for the maintenance of society in general, from the earliest accounts that we have of the world.

III. We cannot, however, avoid making a few remarks, as they are essential to this subject: which are, That very severe chastisements are a constant mark of a tyrannical government; that, in punishing the guilty, we should not pursue an unlimited severity; that the invention of new and barbarous punishments is repugnant to humanity; that no judge has a right to inflict any other pains or penalties, than what are precisely prescribed by the law; nor to repeat the established chastisement for one and the same crime; and lastly, that the interpretation and application of the law ought, constantly, to incline somewhat in favour of the unhappy criminal; as it is much better that ten guilty go unpunished, than that one innocent man should perish: and that it is a base and infamous spirit of vengeance, unworthy of the laws of a sovereign, to inflict insupportable punishments on a guilty wretch; for when we punish with death, we should, if possible, avoid every kind of torture, which nothing, but the hope of deterring others from being guilty of the like crimes, can in the least justify; for, as Luther very justly observes, *If there were no punishments in society, no honest man would dare to put his head out of the window.*

IV. The laws of different countries, and different ages, have not inflicted the same punishments for the same crimes. Theft, for example, was not punished by death among the Hebrews, according to the law of Moses; but an adulterer was stoned to death. In France, on the contrary, a domestic thief is hanged for a trifle, but the adulterer is discharged, with at most a reprimand from a snuffing confessor, whom he despises. The reason is, obvious. The Jews have ever been a people addicted to larceny and fraud; their laws, therefore, have

not been severe against their favourite vice. The French are a people of gallantry, who think there is no such thing as inviolable love; and that the conjugal bond for life is a contract too strict for human nature to endure. The Saxon laws condemn the adulterer to have his head struck off; and as this absurd law has never been repealed, the judges are obliged to pronounce sentence according to the letter of it; therefore, when this case now occurs (and from the weakness of human nature it frequently occurs) the judges take particular care to present their sentence to the sovereign for his signature, at those moments when he is in good humour, and to add recommendatory letters at the same time, in order to prevent the disgrace of so ridiculous a law ever being carried into execution.

V. From all these reflections we shall here draw only one inference, which is, that criminal laws cannot be derived from the strictly abstract law of nature. Their first principle arises at most from that of society; the second from the manners of each people; the third from the political situation of each nation, and the interests that result from it; the fourth from the will of the sovereign; the fifth from that of long custom; and the sixth from the law of Moses, which modern legislators call divine, and which, however, they follow no longer than they think proper.

VI. Whoever, therefore, would apply himself to criminal jurisprudence, should begin by studying those laws relative to it, which subsist in the country where he intends to establish his residence: but as those laws are partly natives of the country, and partly adopted from foreign nations, he should previously form a good system of the general theory of criminal law; and on this subject we propose here to throw some elucidations.

VII. Although we have said, that he should instruct himself in the laws that were anciently in use, and in those which now subsist among other modern nations,

nations, it must not be imagined, however, that those laws are either infallible or universally applicable: for it is here necessary, even much more than in civil laws, to pay great attention to the time, to the place, to the form of government, and to the manners and interests of the people for whom each law was made. The rigour of the Roman laws, with regard to slaves, was enormous; it must therefore be rejected by the civilized nations of modern Europe. In France, in England, and in some other countries, a reproach, a reprimand, a disgrace, makes a strong impression on the mind, and has greater effect in preventing the increase of crimes, than the wheel and other most cruel tortures have in despotic governments. It is therefore necessary to know the true meaning and spirit of a criminal law, before we attempt to interpret or apply it. We should well understand the *language* in which it is wrote; we should be masters of a sound *logic*; accustom ourselves to a *philosophical* manner of thinking; have the necessary knowledge of *philology*, or of the etymologic and critical art; of the *history of the law*; of the *antiquities and customs* of different nations; nor should we be totally ignorant of the *medical art*, nor of *theology*, that we may be able to resolve the various difficulties which may arise, and to make a just application of these laws to such cases as may occur, and are relative to them.

VIII. It will not be expected, in a work which we shall endeavour to make as universal as possible, that we should enumerate the criminal laws that are established in every country; and still less, that we should give their analysis. That is the business itself of the study of the criminal law. We shall confine ourselves here with only citing, as an example, *The Criminal Constitution of the Emperor Charles V.* which was first sketched by the emperor Maximilian, proposed to the states of the empire assembled at Worms in 1521, taken again into consideration, digested and augmented at the diet of Spire

Spire in 1529, and lastly published in form of a law in 1532. This criminal constitution, which is called *Constitutio Carolina*, is the basis of all the criminal laws of Germany; though several princes of the empire, by virtue of their right of territorial sovereignty, have altered it considerably in their respective states. We have a correct edition of it, with a very good Latin commentary, which is the work of counsellor and professor Kresse of Hanover. This is a book that is not only indispensable to the German lawyers, but may also serve as a guide to those of other nations, who will there find the solid and comprehensive principles of criminal jurisprudence in general.

IX. When the student has acquired the knowledge of the criminal laws, he should form a good system of the crimes, transgressions, and injuries to which these laws relate. The principal of which are, 1. Theft, either with or without burglary, larceny, &c. : 2. Sacrilege : 3. Rapine, or theft attended by a violation of the public peace : 4. Man-stealing, which the Latins call *plagium* : 5. Beast-stealing, whether they be domestic animals, as horses, or deer or any other game : 6. Carnal transgressions, in general : 7. Fornication : 8. Concubinage : 9. Adultery : 10. Bigamy and polygamy : 11. Violation of virginity : 12. Violations of chastity : 13. Sodomy : 14. Incest. 15. Procuration : 16. Injuries real, verbal or written : 17. Blasphemy : 18. Libels : 19. Duels : 20. Homicide, whether involuntary or premeditated ; if with a design to rob, or without that design : 21. Way laying : 22. Assassination : 23. Parricide : 24. Regicide : 25. Expelling of infants : 26. Procured abortion : 27. Procured sterility : 28. Poisoning : 29. Suicide ; and mutilation offered to our own bodies : 30. Fire-raising : 31. Magic : 32. Falsification, in general : 33. False coinage : 34. Forgery : 35. Perjury : 36. Fraud of every kind : 37. Fraudulent removal of boundaries : 38. Fraudulent bankruptcies : 39. Double-dealing : 40. Treason, of the first or second degree :
41. Per-

41. Perduellion, or an attempt against the security of both the sovereign and the state : 42. Sedition and tumult : 43. Acts of violence : 44. Violation of the public peace and tranquillity : 45. Violation of the sacred character which the law attributes to certain persons and places : 46. Encouraging the desertion of soldiers, or the escape of prisoners : 47. Eluding the payment of public duties : 48. Infidelity of ministers, or other persons employed in the service of the state : 49. Breach of military discipline : 50. Violation of the ordinances of the marine : and numberless others, which are comprehended under some of the foregoing.

X. After having formed a just idea of the nature of all these crimes, and of that which constitutes their characteristics, we pass to the examination of the pains and penalties, that the legislators of different ages and countries have decreed for their punishments : and these are divided into *capital* and *not capital* ; *corporal* or *disgraceful* ; such as deprive the transgressor of *liberty*, and such as are *pecuniary*. By the general refinement of manners in Europe, humanity has become one of its customs ; and modern laws reject many of the barbarous punishments of the ancients, such as lapidation, crucifixion, poisoning, condemning to wild beasts, *ad bestias*, and many other like horrors. As it is supposed with reason, that the law, which gives to sovereigns the right of putting their subjects to death, is not strictly just, it is still much less so to give them the power of inflicting accumulated tortures, which are shocking to human nature, and which even the plea of example cannot justify : all that ought to be permitted is, to accompany the punishment with those mournful and tremendous circumstances, which are capable of making strong impressions on the minds of the people. The codes of criminal laws of each nation contain enumerations of these punishments ; but let us turn our eyes from such horrors, and let not this work be polluted with their description.

XI. When-

XI. Whenever the matter concerns the life, or what is perhaps more precious than life, the honour and liberty of the subject, the judge cannot be too circumspect; and when a crime is clearly proved, he ought well to regard the several circumstances attending it; for each of these either aggravate or extenuate the guilt, and consequently the punishment. For the same reason, the process against a criminal should be made, according to all the rules prescribed by the law, before a competent judge, with all the requisite formalities, and every possible precaution: and this obliges us, also, to say something here with regard to the form of proceedings against criminals.

XII. Criminal jurisprudence furnishes the necessary rules and institutions relative to the following subjects, 1. Criminal jurisdiction, in general: 2. Criminal tribunals, in particular: 3. The judges, officers, attorneys, prosecutors, defendants, &c. 4. The constitution of the court: 5. The accusatory process: 6. The inquisitory process: 7. The seizure of the offender, and of the contriver of offence: 8. The evidence: 9. The imprisonment of malefactors, and the pursuit of those that escape: 10. The nature of imprisonment, and the means of avoiding it or making it less grievous: 11. The examination of the accused: 12. The articles of inquiry, and the answers of the accused: 13. The confession of the accused: 14. The proofs of the crime, whether by evidence, by writing, or by circumstances: 15. The confrontation: 16. The defence of the accused: 17. The different methods by which an accused may purge himself of an imputed crime: 18. The different kinds of tortures for the discovery of the truth: 19. The horror of the *question*, its different degrees, and its dreadful impression: 20. The manner of the accused purging himself, by oath, from an imputed crime: 21. The sentence, and the manner of drawing it up: 22. The publication of the sentence: 23. The effects of the sentence:

sentence : 24. Banishment, its formalities and effects : 25. The execution of the sentence, and the solemnities or circumstances with which it is attended : 26. The criminal process against those that are absent : 27. Safe conduct : 28. Edictal citation : 29. Criminal judgments in military matters : 30. The prescription of crimes : 31. The abolition of offences, and the other manners by which a criminal process is suspended or discharged : 32. The expence of a criminal process ; and many other like matters.

XIII. They, who are solidly instructed in all these points, may be said to possess a good theory of the criminal law ; and, if Heaven has given them *a just discernment and candid judgment*, they will excel in the practice of it. It only remains to give one advice to all those whom Providence has called to this important and painful function, which is, to observe all imaginable moderation and circumspection in the use of torments in general, and of the *question* in particular ; let them be well persuaded that it is an ancient prejudice, a notion unworthy of regard, to think that a criminal ought not only to be convicted (*convictus*) but also (*confessus*) condemned by his own confession : for this confession amounts to nothing. If he be convicted on clear and solid proofs, that conviction is sufficient : and if the conviction be not clear, manifest, without doubt, without ambiguity, his own confession will not add the least proof ; seeing that in this case it would be in the power of every one accused to prolong his life, especially if he has a constitution sufficiently strong to endure the torture, as is commonly the case of hardened villains ; or by suffering himself to be tortured to death, make his sovereign become guilty of an infamous injustice. In short ; the evidence of a man *in propria causa* is of no validity, does not furnish the moiety of a proof, and nature revolts at the mere thoughts of the *question*. The infamous Damien said, when expiring in the midst of unheard of tortures, *you forget that you are men.*

mon. The most criminal of mankind gave a lesson of justice: and when, by the assassination of Henry IV. the whole people was so enraged against Ravillac, that the company of butchers offered to slay him alive, by artfully taking off the cuticle, that he might be then exposed to flies and bees; the parliament decreed that such a punishment would be disgraceful to humanity.

XIV. Let us finish this subject, so important to mankind, with a short extract from the treatise on toleration, by M. Voltaire. He there says, that he sows a grain which may one day produce a harvest. Let us here endeavour to multiply this precious grain. These are his words: "Some other tribunals have an odd kind of jurisprudence; they admit of the fourth, the third, and sixth part of a proof. So that with six hearsays on one side, three on the other, and four parts of presumption, they will form three complete proofs; and on this curious demonstration they will break you a man on the wheel without mercy. A slender knowledge, in the art of reasoning, would be sufficient to make them take another method. What they call a demi-proof, can be no more than a suspicion; strictly speaking, there is no such thing as a demi-proof; either the matter is proved, or it is not; there is no third way. A hundred thousand suspicions united can no more establish a proof, than a hundred thousand cyphers can compose a number. There are quarters of notes in music, though they cannot be performed; but there are no quarters in truth, nor quarters in reasoning. Two witnesses, who maintain their depositions, are considered as a proof, but this is not sufficient; these two witnesses should be without passion, without prejudice, and above all, what they say should not be repugnant to reason.—There is no remedy for such a jurisprudence, except they who purchase the right of judging mankind, or who have the confidence to present themselves, in order to obtain

“ obtain it of the sovereign, under the title of
 “ gratification, shall hereafter apply themselves to
 “ better studies.”



C H A P. XXIV.

Of certain parts of general JURISPRUDENCE; and
 1. Of the particular civil laws of the principal
 states of Europe: 2. Of the laws of conquer-
 ing nations in their colonies: 3. Of the law of
 custom, and of the municipal laws of cities:
 4. Of the form of proceedings: 5. Of the pro-
 ceedings before the tribunals of the German em-
 pire.

I. **W**E shall combine, in this chapter, certain
 parts of jurisprudence, which have not
 much relation to each other, and parts also on
 which we think we ought not to be particular, as it
 seems to be only necessary to mention them, in or-
 der to discover, at one view, all the extent of their
 jurisdiction, without having any occasion to enter
 into much detail to make their analysis.

II. There is no people on the earth that have
 not their national laws. The most rude among
 the savages have at least a customary law; and even
 a kind of law of nations that they observe. The
Statistic *, or the science of the political system of
 the different states of the world, teaches us what
 are the particular laws of each country; and the
 juriconsult may from thence draw the necessary in-
 structions as he shall find occasion. We have al-
 ready mentioned, in more than one place, what he
 ought to do when he would establish his residence in
 any particular place; for all the jurisprudence of a
 lawyer will be merely speculative, and even frivo-
 lous, if he do not apply himself to the study of the

* We shall give the analysis of this in chap. 13. of b. 3.
 national

national and municipal laws of the country he inhabits.

III. Most of the principal nations of Europe are also in possession of conquered countries, and have their colonies. These colonies consist of people of both sexes, and of all conditions, who are sent to countries, either newly conquered or newly discovered, to inhabit and to cultivate them. We may consider these colonies from three different points of view. The first, as serving to discharge a country of its inhabitants, when they appear to be so numerous that they cannot conveniently subsist together: the second, as those whom a victorious prince and people are used to establish in the midst of conquered nations, in order to keep them in better subjection: and a third, which may be called the colonies of commerce, as traffic is there the only object. Since it has been known in Europe, that a country can scarce possibly have too many inhabitants, and since the salutary progress of luxury or refinement, all those hands, that formerly seemed to be superfluous, are now very usefully employed: and as, since the introduction of standing armies, the conquered people are kept in subjection by garrisons and regular troops, there are now no other colonies than those of commerce, which the European nations support in the other three parts of the world. M. Melon in his essay, chap. iv. divides them into two sorts, the one, where the government does not establish forts and factories merely to keep them in subjection, but for the security of their commerce with neighbouring nations: the other, where one nation conquers another, and sends inhabitants in order to repeople it.

IV. It is very natural that all these different colonies should have their particular laws, by which they are to be governed. We find these laws, not only in the several codes that the different nations have made, but also, by way of extract, in the *Universal Dictionary of Commerce by Savary*; in the

Parfait

Parfait Negociant, and in the other works of that able and laborious writer. The *Code noir*, or Black code, being not only highly celebrated, but furnishing the idea of a new kind of colony and plantation, we shall here make a short analysis of it, merely to give our readers a general idea of this sort of legislation, and of the law that results from it. The code noir is an ordinance of Lewis XIV. of the month of March 1685, touching the government, administration of justice, and the police of the French islands in America, as also concerning the discipline and commerce of the negroes and slaves of those countries. It was published at St. Domingo, May 6, 1687. The importation of negroes makes the principal object of traffic, that the English, French, and some other nations have on the African coasts; and it is for this commerce that are formed the Assiento companies of Guinea, of Senegal, and other parts of Africa, &c. These negroes, who are unfortunate slaves, and unjustly subjected to a painful yoke, are transported from the coasts of Africa to the ~~isles~~ and continent of America, of which they make the greatest wealth: the culture of tobacco, of sugar, of coffee, of indigo, and of many other rich productions, and even the working of mines, are not too much for the industry, strength and patience of these people. Every commercial nation has, therefore, made particular laws and ordinances for their respective colonies, some more or less wise, more or less rigorous, than others.

V. The code noir is a particular ordinance for the French islands of America, which make a part of the Antilles. It consists of sixty articles, which may be divided into seven heads. The first contains fourteen articles, and relates to matters of religion, and the state of the children of a father and mother, the one a slave, and the other free. The second, of seven articles, treats of the public law, particularly of carrying arms, of the assembling of the slaves, of prohibiting them from selling the
sugar

sugar canes, even with the permission of their masters, and of other fruits and provisions without their permission. The third, of six articles, shows the duty of masters toward their slaves, and with what the former are obliged to furnish the latter. The fourth, which contains only four articles, determines the right slaves have to acquire any property, and to whose advantage; of their traffic, and *pecule*, that is, what they acquire by frugality; of their incapacity to testate, or make a will, or to inherit; or enjoy any office; or to be admitted as evidence in a court of justice. The fifth, of twelve articles, regards the method of criminal process against the slaves, and the penalties that the masters incur, who kill them. The sixth, of eleven articles, regulates the quality that slaves have among the effects of those to whom they belong; where they are regarded no otherwise than as goods or chattels. It treats also of the buying, selling, and real seizure of plantations of sugar, indigo, &c. in which the negroes work; of the power of redemption and scoffment, and of the guardianship of the children of gentlemen and tradesmen, and of their slaves. The seventh and last head treats of the manumission of slaves, of their rights when made free, and of the respect which they owe to their ancient masters. The sixtieth and last article, which may be considered as the eighth head, is the ordinance of penalties and confiscations that have not been appointed by any other article. There are, moreover, other ordinances and edicts for the other French colonies in Asia, Africa, and America; as the edict of the month of March 1724, which regulates the administration of justice, the police, discipline and commerce of negro slaves in the province of Louisiana.

VI. We shall only observe on all these, 1. That it is almost necessary that the laws in all the colonies should have a rigorous tendency, because the natives in a subjected country, and the slaves who are transported thither, are so numerous, so formidable, and so well acquainted with the country,

try, its avenues, its retreats and places of refuge, in comparison of the small number of their European masters, who are there established, that these would be in continual danger of being exterminated or driven out by their slaves, if the laws did not protect them, by keeping the latter in the most severe subjection: 2. That not only they who administer justice, and they who follow the business of the law in the colonies, should be perfectly acquainted with these laws, but such European lawyers also, as live among those nations on whom these colonies depend; seeing that all doubtful cases in the capital, and all those that arise from objects of commerce relative to the colonies, depend on these laws, and are determined, sometimes by analogy, and sometimes by the letter of the law.

VII. We have already observed, in more than one place, that, independent of the written laws, several countries or provinces are governed by custom, or customary right, and we shall here briefly explain our ideas on this subject. In a juridical sense, by the word *Custom*, is understood a particular or municipal right, established by usage in certain provinces, and which has the force of a law from the time that it is reduced into writing. This right is very common in France especially, and the diversity of customs is also very great in that kingdom. Authors are little agreed on their particular origins: all that we certainly know of this matter is, that the first digest of the customs of France, by public authority, was made under Charles VI. by M. Rouillard; the second in consequence of the ordinance of Charles VII. given at Montil les Tours in 1453; and in the year 1577, the estates, assembled at Blois, demanded the reformation of customs, and obtained it, in 1589, for these of Normandy. M. Bruneau has given a chronological table of customs, and has marked in what year each of them was digested. Bartolus says, that the customs have been introduced to augment or controul the common law. At this day, the general customs of France

France are comprisd in four large volumes; and by all these different digests, what was at first no more than a usage, is become a written law, founded on antiquity.

VIII. Custom, in general, is a frequent repetition of homogene or similar actions; and in law it is a repetition, during a long course of years, of decisions that are uniform, and drawn from the same principle, for similar cases. It is not in France alone that custom still subsists, it is in force in many courts of justice among most of the other civilized nations of Europe, and still more among those that are less civilized. When we see so many respectable nations follow the law of custom, we are tempted to think that their sovereigns have not time to make determinate written laws for the subjects they govern. Be that as it may, it is clear that the student in the law ought to inform himself of the written custom, as well as that which is not written, but subsists merely by use, and which has often the force of a law: but it is clear also, that there is no giving rules for the method of acquiring the knowledge, nor of forming an analysis, of that which is mere custom.

IX. To what we have said *on the form of process*, in other parts of this book, especially in the seventh and following sections of the chapter on the practice of law, we shall here only add, that we thereby understand *certain rules established by ordinance, which are to be observed in juridical proceedings*. Now, as these rules vary not only in each country, but also in the several tribunals in the same country, it is impossible to give the jurisconsult universal maxims that may guide him in this anfractuons path. It was necessary to establish certain rules in order to introduce regularity and uniformity in a process; it was necessary by these rules to guard the judges against every surpris from the parties or their advocates; it was necessary to bridle the impatience of the clients, and to give the spur to the indolence or negligence of their advocates; regulations were therefore necessary in the administration of justice, but that

that it should be a rule in law, that *the form is of more importance than the matter*, that a man of probity should lose a cause manifestly just, because he or his advocate shall have omitted certain formalities, are maxims that are detestable, that are repugnant to common sense and natural equity, and in the last degree baneful to society.

X. The delays, the formalities, and the expence of a process before the tribunals of the Germanic empire (the imperial chamber of Wetzlar, and the aulic council of Vienna) are above all unjustifiable. But as the causes that are brought before these courts, or moved thither by way of appeal, in the last resort, are only those of the first importance, the injury that results to society is not so great, nor so general. The form or rules of proceedings, in these two superior tribunals, are prescribed by the ordinances of the empire or emperors. That which concerns the chamber of Wetzlar, is known in Germany under the Latin title of *Ordinatio Cameralis*: we have a good edition of it, with a useful commentary, that is the work of *Julius Magenhurst*. The plan of this ordinance of the imperial chamber, of the year 1613, has also been published by *Jacob Blume*; and the same author has given, in 1666, a collection of its ordinary decisions: the last recession of the empire, of the year 1654, with the commentary of *Textor*, may also be consulted to good purpose. Lastly, *Gailius*, *Mynfinger*, *Wurmser*, *Hartmann*, *Mauritius*, and many others, have made learned dissertations *de judicio camerali*, that deserve to be read.

XI. The ordinance that directs the aulic council in the form of its proceedings, is celebrated among the German lawyers under the title of *Ordinatio judicii aulici*: it was published by the emperor *Ferdinand III.* in the year 1654. *Gailius* in his observations, *Mauritius* in his dissertations *de Casaræ Majestatis et Imperii judicio aulico*, and *Sprenger* in his *Ellychnium*, have described this institution, and have explained it by notes and commentaries.

mentaries. Many professors in the German universities expressly teach *the method of conducting a process before the tribunals of the holy empire*: and we must not omit to advise those students, who would fix their residence in Germany, to make in it a complete course.



C H A P. XXV.

1. OF THE PRACTICE OF THE LAW; AND 2.
OF CONSULTATIVE AND JUDICATORY JURIS-
PRUDENCE.

I. **T**HREE sorts of vocations, each different from the other, attend the disciple of Themis, on his arrival at the goal of his career of study. He is called either to teach the law in the chair of a *professor*, or to plead before the tribunals in quality of an *advocate*, or to judge causes, civil and criminal, as a *magistrate*. Each of these stations requires a particular *practice*, founded all on the same general theory of law, with which we suppose the student to be well furnished, before he assumes either of these offices in society.

II. The *professor* should make a judicious choice of the matters he would teach, and not meddle with those of which he has not made a very assiduous study. As in those universities where a due regulation is observed, there are professors for each branch of a science, and as it is advantageous for the student to make a complete course in every part of the law, or at least in those that are most essential, the professors should agree among themselves on the subject that each of them shall teach, in order that from the whole a complete system may arise. Every man of erudition, who teaches the sciences to others, should also accustom himself to a good method in explaining them. He should well remember that the student does not come to the
university

university but to acquire the foundations, the principles of science, and that his own reading, his private studies and reflections must furnish the rest; that it is therefore essentially necessary to make use of a style nervous and concise, and of a method that is clear and simple, and free from reflections that are trifling or pedantic, and sometimes as insipid as learned: that which is useless or frivolous ought never to hold the place of the essential and the necessary. The course in every science, how complicate soever it may be, ought by all means to be completed within the year: for prolixity is the same in the process of a science as in a sermon or other discourse; not the least trace of it ever remains in the memory: and no man that speaks in public is long in his harangue, but because he wants art or industry to be short, that is, to concentrate his ideas.

III. It is a custom in Germany, and a custom highly rational, to send to the juridical faculty of some celebrated university, the report of any capital process that is abstruse and embarrassing; this faculty examines the report, judges the cause in the last resort, dictates the sentence in the name of the sovereign of the country, and sends it back to be published. The faculties of the law become by this means the tribunals, and what is more, the superior tribunals, frequently even without appeal. The court consists of a director and the ordinary professors of the juridical faculty; each member becomes advocate and judge at the same time, and in that double capacity has all those duties to perform that we shall explain in the sequel of this chapter.

IV. The natural business and duty of a good *advocate* is, 1. To explain, to those who have litigious concerns, and who would commence a process, and come to consult him thereon, the justice or injustice of their causes, according to the rules of law and equity: 2. To point out to them the best method to obtain justice: 3. To inform them

of the most efficacious means of obviating all the chicaneries and artifices of their adversaries : 4. To prevent them, as far as possible, all useless expence in the course of the process. From this true point of view, the practice of the law requires, 1. A complete theory of jurisprudence, and an extensive knowledge of the law : 2. A perfect acquaintance with what is called *the course of justice*, or the manner of conducting a process : 3. A knowledge of the chicaneries, artifices, and snares, by which an iniquitous judge, or an artful advocate of the adverse party, might pervert and corrupt the law, in order to oppose the necessary precautions ; which are called in the language of the courts *Cautelæ* : 4. A candor and a probity proof against all temptation.

V. But away with those ignorant wretches whose whole science consists in chattering a tinsel jargon, who having got by rote a certain number of law axioms, and juridical phrases (of which there are many collections printed), throw them about like squibs on all occasions and every opportunity ; and who, by favour of this trash, pass themselves on the vulgar for able lawyers ; abusing the faith of their innocent clients, by leading them into unjustifiable actions ; and knowing neither the law itself, nor the method of conducting a process to advantage, plunge them into an abyss of chicanery and ruinous expence ! Far be hence those base souls, those artful cheats, who, understanding their business, cause the same evils by design, and merely with a view to enrich themselves at the expence of the honest part of mankind ! There is too great a number of these bloodsuckers, of whom it may be said, *They sow not, neither do they reap, but they are supported, however, by the demon of chicanery*. As hewers of wood, and drawers of water, they would be useful citizens ; but in the quality of advocates they are the pests of society.

VI. Advocates of known ability, being too much engaged, or thinking the management of a process

process beneath their care, resign all that may be called the mechanism of the law in juridical proceedings to *attornies* and *notaries*. These are a sort of inferior advocates, who, with a slight tincture of the law, and a great knowledge of practice, charge themselves with observing all the formalities in a process that the laws and the courts require; and with giving the requisite authenticity to all sorts of instruments, and validity to evidences; with observing that each part of the process be legal, and that each action of their client conforms to the rule of the court; in a word, that nothing be neglected that relates to formalities. There is in Germany a constitution of the emperor Maximilian I. for the notaries, which all the world is acquainted with; and there are many books that treat *de Notariis et de arte Notariatus*. The duties of attornies are therein comprised, and well explained.

VII. All the functions of the notary and attorney ought, however, to be executed under the inspection of the advocate, who for that reason should be thoroughly acquainted with the practice of the law, and the form of process used in the country where he exercises his profession. On the general theory of forms and practice, there are in Germany several treatises, as that of Schwedendorff, intitled *Expositio summaria actionum forensium: Samuel Stryck de actionibus forensibus investigandis: Quirinus Schacher Collegium practicum: Benedicti Carpzovii processus Martini Commentarius ad ordinationem processus*, and his *Processus continuatus*; with a great number of other works of the same nature. The advocate should know, beside these general maxims, the particular constitutions of each country, city, and court of justice, relative to the forms of process, and the rules of pleading. In the German universities he will find, likewise, more than one opportunity of making a complete course according to the form and ordinance of a process, whether civil, criminal, feudal, executive, possessory, provocatory, ma-

rimonial, &c. as well as of providing himself with the books that may serve as guides in these matters, and as general instructions to an advocate in all his duties, which consist, according to an old saying of the courts, *in respondendo agendo, et cavendo.*

VIII. We now come to that part of the practice of the law which belongs to the judge or *magistrate*. Learning, judgment, probity, and industry form his four cardinal virtues. It is superfluous to enlarge on the two first; it is sufficient to mention them, to show how indispensable they are. With regard to probity, we cannot sufficiently recommend to judges to observe it to the utmost, even to scrupulosity. We must likewise caution them to be constantly on their guard against themselves; every moment to suspect that injustice may be concealed under the mask of justice; and that the Latin proverb, *summum jus, summa injuria*, is daily verified; that we frequently see sentences dictated by judges of great integrity, which are strictly just according to the rigor of the laws, and highly unjust according to natural equity: so that we may say with regard to the laws, *that the letter killeth, but the spirit quickeneth*; and that one of the greatest of all acts of injustice is, when a judge, in order to prolong a process, and augment the fees, makes citizens, and men useful to society by their labours, subject to formalities and precautions, which they call juridical, in the common concerns of life; and which in reality are no more than subtleties that are useless in the administration of justice, and chicaneries highly detrimental to the state and to individuals, by the vexation and the loss of time they occasion to the industrious part of mankind.

IX. *Delay* is the greatest inconvenience that attends a law-suit: it is an evil that undermines the prosperity of individuals, and consequently of the state in general. My pen is unable to describe, in colours sufficiently strong, all the evils that arise from this source. All laws should be calculated to abridge the continuance of litigation; the judge
by

by his own activity should do the rest. It is an atrocious crime in a magistrate to suffer, by his indolence, a cause to linger in the court, and thereby occasion inexpressible anguish and distress to his fellow citizens; while he regards it as a bagatelle, and even frequently treats it with an air of pleasant indifference. They tell, in France, of a lucky consequence that attended an answer which was given to one of their magistrates, who was a man of great ability and great sloth; this magistrate was M. de Pontac, who had retired to his estate of the same name, to divert himself during a part of the fine season: a client went to him to solicit a final determination of his process, which he had many years sought in vain: he arrived at Pontac just as the president was going to mount for the chace; and that magistrate, naturally of a droll disposition, bade him stay till he came back, and in the mean time to amuse himself with finding out the meaning of the cypher that was over his gate, and which consisted of four P's, that signified *Peter Pontac Premier President*: when M. Pontac came back from the chace, he found his dangling client; Well, my friend, says the judge, have you made out the cypher? Yes, my Lord, that I have. Aye! well, what is it? It is, *Pauvre Plaidur Prenex Patience*; i. e. poor client have patience. His affair was finished the next day.

X. The judge has also continually to guard against, and to contend with, two sorts of adversaries, which are, unjust suitors and artful advocates. These regard the law merely as a net in which they may catch men of property, who, relying in the security of a good conscience, frequently neglect those precautions which are necessary against chicanery: or they use it as a defensive armour, shroding their evil intentions under the cover of the laws, and dexterously parrying those attacks that justice may make on their iniquities. The world unhappily swarms with books, in which juridical precautions (cautelæ)

are reduced into a system, and which we cannot read without exclaiming, at every page, *inventa lege, inventa est fraus legis!*

XI. Lastly, the practice of the law requires, that the magistrate have a clear discernment in the perusal of those cases that are laid before him, and that he know how to give a judicious account of them. The judge, who should read, from end to end, the enormous heap of writings that constantly attend a long and complicated process, would never have done; he would frequently find two causes more than sufficient employment for the whole year: there is, therefore, an art, a method in reading such writings; in lightly running over the introductions and formalities, and in dwelling on those points only that are essential to the dispute. Much sagacity is necessary to develop the truth, and clearly to distinguish the point of contest and its proofs. It is frequently as searching for a diamond in the midst of a heap of rubbish. It is not, moreover, sufficient merely to discover the truth, to know the justice of a cause, or of an action; he ought also to have the art of explaining it to his colleagues, to the other judges, to the court of which he is a member: to do this, he must know how to give an account of the proceedings he has examined, that he may be able to satisfy the parties, and the public in general, of the equity of a sentence. It is this art that the young student in the law learns in a course which they call, in our universities, *collegium relatorium*.

C H A P. XXVI.

O F P H Y S I C.

TH E common people, whose unhappy lot it is constantly to deceive themselves, seem to imagine that physic is the art of rendering man immortal; or, at least, that a son of Esculapius is ignorant of his profession, who cannot cure every disorder that is offered to him: they think, that like the king of France, who by his presence and his touch has the gift of expelling the scrofula, the physician, by his visits and the feel of the pulse, should constantly be able to drive away all infirmities, and to snatch the sick from the jaws of death: strange notion, to attribute to a mortal the gift of performing a miracle on another mortal; which would place physic not only above every other science, but even render it superior to the decrees of heaven, and the order of nature.

II. When we consider physic only as the art of sometimes prolonging life, and of enabling mankind to pass the days of their existence in the most perfect state of health which their constitutions are capable of; it is in these respects a science that merits all the attention, and the highest regard of mankind. It is a science that cannot be sufficiently explored: it is fit, therefore, for the happiness of the human race, that men of the greatest genius, of the most vigorous, the most just and sagacious spirits, assiduously apply themselves to the study of it. This truth becomes more manifest when we examine the parts, the delicate and fragile springs, of which this machine that we call the human body is composed, and the great number of these that are hid from our sight, and are out of the reach of im-

mediate relief; for we must then agree, that it requires an uncommon sagacity to judge, by exterior symptoms, of interior and hidden causes; and to know how to select and properly apply the most efficacious remedies for the removal of each disorder, and its latent cause.

III. From what has been said it appears, that physic has two principal objects, which are the preservation of health, and the cure of those disorders by which mankind are attacked. The physician, therefore, should know, 1. The condition of the human body as it is in its natural state, that is to say, in health: 2. Its condition in all the derangements to which it is so liable; that is, in all its different disorders: 3. The symptoms of each disease: 4. The most proper methods to prevent the disorders of the body, and the debilitation or destruction of its parts: and, 5. The most efficacious remedies for each disorder. These general heads have each their particular science, of which they may be said to be composed; and the union of these forms the art of physic. We shall not only treat these matters more fully in this chapter, but we shall also make the analysis of each particular science in the following chapters, after making some reflections, that are indispensable, on physic in general.

IV. *To know the disease, to know the remedies, and to know the proper moment of applying them, is therefore that in which the science of physic consists.* Moliere somewhere says, *that a physician is a man that is largely paid for holding an amusing discourse by the side of a sick man's bed, till nature cure him, or the medicines kill.* Others call physic the *art of conjectures*; and others again have made pleasantries without number on this science. But when disorders attack this frail machine, when the body suffers, and death approaches, these sort of *bon mots* are presently forgot; the wind carries them away; the sick man follows the precept of Solomon, he honours the physician and entreats his aid. It is certain, however,

ever, that we frequently find too much truth in the satirical strokes we have just mentioned, especially when we consider the abuse that is daily made of physic by quacks: these abuses are moreover very easy, even frequently almost inevitable, in a science, that, so to speak, gropes its way, where the ground that it is to go upon is covered with obscurity, and enclosed with a thick wall, so that it is impossible, from the nature of it, to enlighten all its operations by the torch of demonstration.

V. We shall not here condescend to consider the practice of those shameless mountebanks, who run about the provinces, and knowing neither the principles of physic, nor the structure of the human body, nor the causes or the seat of disorders, nor the proper remedies to cure them, carry about with them, every where, their art of murdering, and send more of the inhabitants of a country to the grave, than a general pestilence: nor shall we contend with those who spread abroad every where their panaceas, their balm of life, their orvietan, and a thousand such drugs, as if it were possible in nature that there could be an universal remedy; as if all diseases proceeded from the same source, and that the same remedy could penetrate to the seat of each particular disorder, and there produce the same effects. To evince the absurdity of such extravagancies, it is sufficient barely to mention them. But there is another species of quackery which is more plausible, and from which physicians, otherwise able, are not exempt; and this takes its rise from a fondness for systems. The physician, of a too systematic disposition, forms, sometimes from mistaken symptoms, and frequently from such as are doubtful, or not duly attended to, an *indication*, that is, a system of the disorder: and in conformity to this system he regulates his cure, he gives the remedies and prescribes the regimen. The event does not answer the expectation; new and contrary symptoms arise: no matter, he must not abandon his system, but explains the new symptoms by it, and

H S forces

forces nature to conform to it : the cure is continued upon this plan ; the patient departs for the other world, the physician pockets the fees, and the earth covers his ignorance and his caprice. The experienced and rational physician, on the contrary, makes an indication, but he subjects himself to no system. He follows nature through all her variations, he carefully watches every symptom by which he may discover her present disposition ; he adapts the medicines and the diet to these symptoms as they appear : he aids nature ; he facilitates the means that she employs to restore the body to its natural state ; he fortifies the springs and gives them fresh action ; and if he does not constantly cure, it is because the parts are destroyed, the machine worn out, the disorder incurable.

VI. There is also another and very dangerous species of quackery, with which, sometimes, whole nations are infected ; and that is the method of curing by what they call the *heroïques*. There are, say they, but a small number of remedies, the efficacy of whose virtues is well known, well established ; such, for example, as rhubarb, ipecacoanha, mercury, the bark, &c. add to those phlebotomy, glistering, vesication, and so forth. Behold, these are the only remedies that are to be applied to a disordered body. All your powders, your drops, your infusions, your mixtures, your emulsions, your lenitives, your little defensative remedies, are all nothing more than quackeries, than palliatives that are repugnant to true physic. When a man pronounces this decree, he thinks that he talks like a learned physician, but he reasons like a dolt. Nature will not always brook these violent attacks : if you shake her foundations, you suspend, you impede, you defeat her action : she must be suffered to take her own course, aiding and encouraging her operations however, at the same time, by these little remedies, whose effects are more moderate. They would cure a quinsy, for example, by twenty repeated bleedings, by vesicatories, &c. but the patient

tient remains in a languid and exhausted state all the remainder of his life. But we frequently see that malady cured by one or two bleedings, and some of these little remedies that are so much despised; time, care, patience, and regimen do the rest, and the patient recovers his former health and vigour.

VII. There is a third species of quackery, which consists in the regimen itself that is prescribed by some ignorant physicians; and which may be made even mortal when carried to excess: there is a moderation in all things from which we should never depart. We will endeavour to explain ourselves by one example. In the disorders of the lungs, but especially in expectorations of blood, and hemorrhages, &c. most physicians begin by frequent and violent bleedings; and prescribe the patient, at the same time, not merely a regimen, but a regular fast. They perform an admirable *chef-d'œuvre*. Nature requires a very different treatment. The blood alone is able to cure the expectoration, the wound in the lungs, the lacerations of the capillary veins; the blood alone is able to penetrate, to approach, and to convey relief; it is of itself balsamic, oily, viscous, consolidating. But this blood requires constant recruiting, a daily renewal, and this renewal cannot be made but by the aliments. Whereas, instead of diminishing the too great quantity of it, they draw it all off, or at least all its best substance, and by their imprudent diet they take away the means of recruiting it, and of restoring it in good condition. It will be no other than a languid and slimy blood, mixed with a caustic water, tart and acrid, a corrosive liquor, an indigested matter that slowly circulates in the sick man's veins. They extract from his body the only balm that could heal him, or they corrupt that balm, or they give the patient a malady still worse than the first, a total debility, an inanition, a destruction of the stomach, and relaxation of all the viscera, which the aliments taken in moderation, would

would have preserved in exercise, in tone, and activity.

VIII. It is doubtful whether we should call by the name of quackery, or pedantry, or prejudice, or a fondness for old customs; those different systems that physicians, as well ancient as modern, have established, of the temperaments of the principle of life, of the primordial cause of diseases, of the causes or efficacious powers in the human body, of the essential principle and method of cure, &c. which have given birth to divers sects among physicians, as those of the dogmaticians, empirics, methodists, episyntheticians, pneumaticians, eclecticians, and so forth; of which, some found their opinions, and support their arguments by the authority of Hipocrates, others on that of Galen, of Paul Amman, of Söhal, Hoffman, Boerhaave, &c. They who devote themselves to physic, ought naturally to acquire the knowledge of these systems, either with a view to profit by them, or to discover in what points they are erroneous. It should be an object of their study. It will be sufficient for us to give a general idea of the principal of these systems, and to accompany it with a few reflections.

IX. The physicians and philosophers have supposed, for example, that the human race are divided into *four temperaments*, which are not only the moving principles of all their actions, but also the primordial causes of all their disorders. These temperaments are the *choleric*, the *sanguine*, the *phlegmatic*, and the *melancholic*. Every man is ranged under one of these classes. The physicians, in particular, also call temperament, the mixture and harmony of the four simple elementary qualities, heat, cold, moisture, and dryness, which form, according to them, the temperament of the nature and constitution of bodies. From this point of view they distinguish two sorts of temperaments, the one they call of *weight*, or *ad pondus*, and the other of *justice*: the temperament of weight is that which has an equal proportion and measure of the elementary

tary qualities; and the temperament of justice is that which contains unequal portions of these qualities, but in a proportion agreeable to the functions to which each part of the body is destined. It is not of these latter temperaments that we shall here speak; but we cannot avoid making some remarks on the doctrine of the former.

X. All these sorts of distinctions exist in the heads of the founders of systems, and not in nature, whose operations and productions are never limited to any regular order. In all that nature does, she constantly varies her productions; and in the different temperaments or humours of the human frame there is a variety as great as that in their features and aspects. It is evident, therefore, that the doctrine of distinct temperaments is a chimera, and the consequences drawn from it, are errors. But who can say, what is the nature of that hidden and volatile fire which is in the human body; that kind of *phlogiston* which seems to be diffused throughout all nature; of which electricity discovers to us every day more, and which is extracted by electrical experiments from all bodies? Who knows, whether the greater or less quantity of this fire, contained in the human body, does not contribute to give it more vivacity or more indolence? Who knows, if the various dispositions of the organs permit all human bodies to receive and contain an equal quantity of this sacred fire; which doubtless does not exist in vain in nature? It is to be wished, that physicians would make the most exact and opposite experiments, in electricity, on bodies both dead and living, and on those criminals for example, who are condemned to capital punishments, on beings animate and inanimate; on bodies that are already in existence, and on such as are detached from the matrix, and are without the principle of life. Reiterated observations of this nature communicated to the public, might give rise to many hypotheses, and at last lead to the discovery of the truth. It is certain that one human body contains
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more of this fire than another: it is manifest also, that this fire put in motion in the spring, by the increase of the sun's heat, gives fresh life to action in every part of nature; liquefies the juices that winter had congealed, and gives a new vegetation not only to torpid plants, but to every body which respire. This is all we yet know of this matter; but this little knowledge is sufficient to afford room for many reflections.

XL Among the different sects of modern physicians, we shall consider two only, whose different opinions seem to merit all our attention. The one, having the celebrated *Stahl* (and in some respects Hippocrates himself) at their head, supposes that the primary cause of all the disorders in the human body proceeds from the mind; and consequently that the mind, being differently affected, produces different diseases: and this opinion they found on reason and experience. They believe that the mind is the principle of life, and that this principle acts on all parts of the body, as well on the more gross, as the more minute and imperceptible; and that consequently when this acting principle is attacked, and put into any extraordinary motion, some part of the body cannot fail to be sensible of it. Experience teaches them, that when the mind, which animates the most robust and best organised body, is violently affected, either by sudden sensations, or by such as are long and painful, the body thereby manifestly suffers. Thus, sudden fright, terror; rage, corroding grief, envy, vehement desire, and every other passion, occasion disorders, sometimes sudden, sometimes slow; such as the apoplexy, the palsy, madness, overflowings of the gall, fevers, languishments, hysterics, and a thousand other diseases of every kind. It here evidently appears, that it is the mind which has affected the body, and occasioned its derangement.

XII. The others who are called *Mechanicians*, and who are headed by a formidable champion, the renowned Hoffman, find the primitive cause of all disorders

disorders in the structure of the body, and the mechanism of its organs. They believe that ideas arise from an infinite number of minute sensations, and that these sensations arise from the manner in which the myriads of nerves, of fibres, and other springs of the body, are moved, agitated and affected. They seem to take the mind to be the result of all these sensations, and believe with M. Montesquieu, that the imagination, the taste, sensibility, vivacity, &c. (and consequently the passions also) depend on them. Experience makes them see quite the contrary to what it has shown their adversaries. They find, that when a noble and essential part of the body is destroyed, or greatly injured, death ensues: that the disorder of any of the viscera causes not only a disease of the body, but frequently of the mind also, in proportion as that part is more or less intimately connected with the faculty of thinking; that intense cold, for example, may occasion a fever as well as a sudden and violent fright; and that a stroke with a mallet, upon the head of a man, is sufficient to disorder the most rational; acute; and vigorous mind. A thousand examples of this kind are to be found in *Man a machine*, by Dr. Mettrie, though the consequences that he draws from them are not those of a close reasoner. Here then we see the diseases, both of the body and mind, visibly occasioned by the disorders of the body: and it is in this manner that the mechanicians every where account for the mechanism of the organs, and explain all their phenomena by this principle:

XIII. These are certainly furious contradictions!

Non nostrum inter vos tantas componere lites.

We shall content ourselves with showing the state of the question, and shall only remark, that man's discernment is not sufficiently keen to discover the principles and primordial causes of any one thing: that we want many senses: that the most subtle anatomy, with all the assistance of the most improved optics, can but imperfectly discover those nerves, fibres,

fibres, and springs which are animated by the principle of life : that the extremities of the nerves are entirely lost to the view of the observer : that we have not absolutely the least knowledge of the nature of the mind, of the principle of life, &c. that all these things are mysteries to us : that we do not know, in the least degree, the manner in which the body and mind reciprocally act upon each other : that therefore it is rational to operate upon that part of man which we know best, rather than on that of which we know nothing : that every physician would do well to follow the system of the mechanicians, and not meanly to bewilder himself with curing the mind, but to apply himself to the cure of the body, to cleanse the organs, to renew and rectify the nourishing juices, to improve the blood, to strengthen the springs of the stomach and other viscera, and to preserve each part of the human body in its natural state, and in that action for which it is destined.

XIV. Not to engage ourselves further in such kind of controversies, which are frequently little better than frivolous, we shall pass to that which is more essential to the disciples of Esculapius, and say a few words on those sciences which are to conduct them to the sanctuary of physic. Besides those preparatory studies, which every man of letters ought to pursue, the young physician should particularly apply himself to the Greek and Latin languages, not only because all the good treatises on medicine are wrote in those languages, and all correspondence among physicians is carried on in Latin, but also, because the technical terms, and the denominations of all the subjects, that are to be met with in each of those particular doctrines of which the science of physic is composed, are almost all Greek, or of Grecian etymology. He, therefore, who already knows that language, has a very great advantage over him that knows it not : each term of anatomy, of physiology, of pathology, of the materia medica, and of botany, will be familiar
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to him: he will know their derivations, the name will immediately show him the part or the disorder that it implies, the signification will give light to the subject, and he will much easier retain the term than if it had been utterly unknown to him: in a word, a physician, who knows nothing of Greek, will travel through the science he professes, like a man who walks in a thick fog; he never sees his way before him; and if he attain his end, it is not till after having gone a thousand times out of his path during the course of his journey.

XV. Natural philosophy is the foundation of all the physician's knowledge, without which he would be no more than an empiric who undertakes the cure of all disorders at a venture: this is a truth that probably no one will deny; but every one does not imagine that the study of the mathematics is so essential to a physician as in fact it is: for without the knowledge of the mathematical principles, he will but badly understand natural philosophy in general, and be but a very imperfect judge of all those various motions that are performed in the human body, *as de motu tonico, de mechanismo motus sanguinis, de motibus humorum spasmodicis, &c.*

XVI. With regard to the particular sciences of which the medicinal art is composed, we shall remind our readers of what is said in the third section of this chapter, and shall here draw the natural consequence, which is, that it is necessary to understand, in order to know

- (a) The condition of the human body in its natural state,
 - 1. *Anatomy,*
 - 2. *Physiology :*
- (b) The condition of the human body under its various derangements,
 - 3. *Pathology,* or the doctrine of diseases :
- (c) The exterior symptoms of interior disorders,
 - 4. *The Semiotic or Indicative,* which treats of the signs and indications of disorders :
- (d) The most proper means to prevent the derangement of the body,

5. The

5. *The Therapeutic* ;
 (e) The most efficacious remedies for each disorder,
 6. *The Materia medica*,
 7. *Botany*,
 8. *Pharmacy or Election*, that is, the preparation
 and mixture of medicines,
 9. *Chymistry*.

To which may be still added

10. *Chirurgery and Obstetrics*,
 11. *The practice of physic*,
 12. *The medicinal prudence, and medicina forensis*.

XVII. We shall proceed to the explication of these different parts of physic in the following chapters. They who would inform themselves more particularly of this science in general, should study the *medicinal institutions*, that have been published by the most able physicians of all ages and all countries: they will find accounts of the best authors who have treated on these matters in the *medical bibliothèques*, of which there are many. Lastly, they will do well to study the *history of physic* in the most celebrated authors who have wrote of it; and to furnish themselves with the best *medical dictionaries*, as those of Castell, Brunon, Blancard, &c.



C H A P. XXVII.

OF ANATOMY.

I. **A**LTHOUGH most authors who treat of the different parts of physic combine anatomy and physiology, we think that we should here separate them, that these two sciences, in themselves very different, may not be confounded in the mind of the reader. Anatomy is employed on dead bodies; physiology examines those that are living; the first observes the viscera and all the parts of the human body in a state of rest, the second considers them when in action; the former finds all the parts flaccid and void of blood and juices; the latter considers

siders them as filled, and all their fluids in action, in circulation and increase: it also investigates, by the principles of natural philosophy and the aid of mathematics, the nature, the force, and effects of the motion of the solids and liquids in the human body; the effects of the air that man respire, and of that with which he is environed; the digestion of the aliments, and the effects which it produces; and a thousand similar matters which cannot come under the consideration of anatomy: but as this leads to physiology, and as it is necessary to begin with the knowledge of the structure of the human body, before we can understand the natural state, the utility, the properties, and the functions of each part, and of the whole system united; and as their structure cannot be comprehended but by the dissection of dead bodies, we shall treat of those sciences, the one immediately after the other, that we may combine them without confounding them.

II. Anatomy is that science which instructs us, by dissection, in the knowledge of the parts of the human body, as well as those of other animals. The ancients understood right well the utility of anatomy, and applied themselves to it with success; as is manifest by the works which still remain of Hippocrates, Democritus, Aristotle, Erasistratus, Galen, Avicennus, Herophilus, and many other authors. This science, however, was oppressed by enthusiasm for many centuries; the dissection of the human body was regarded as a sacrilege, even to the time of Charles V. and Francis I. It was not till the sixteenth century, that men were brought to acknowledge that it was an egregious folly to debar themselves of a knowledge that they might obtain; and anatomy was then re-established. Vesalius a Flemish physician, who died in 1564, was the first who disentangled this science, and has been followed by an infinite number of able anatomists, who have made the most happy, the most accurate, and sagacious observations on the different parts of the human body.

III. *Asestus*

III. *Aelius* discovered the lacteals, *Harvey* the circulation of the blood, *Pecquet* the reservoir of the chyle, and the thoracic ducts, *Rudbeck* and *Bartholinus* the lymphatic vessels, *Wharton* the inferior salivary ducts, *Stenon* the superior, those of the palate, the nostrils and the eyes, and certain muscles, *Wirjungus* the pancreatic duct, *Willis* gave the anatomy of the brain and of the nerves, *Glisson* wrote on the liver, *Wharton* on the glands, *Graaf* on the pancreatic juice and the parts of generation, *Lower* on the motion of the heart, *Tbruffon* on respiration, *Peyer* on the glands of the intestines, *Drelincourt* on the placenta, the membranes of the fetus, &c. *Malpighus*, physician to Innocent XII. of the lungs, the brain, the liver, the spleen, the kidneys, the glands and the lymphatic vessels; and we should never have done, were we to attempt the enumeration of all the discoveries that the able modern anatomists, assisted by the improvements in optics, and the best instruments, have enriched the world and physic. We here remember with admiration and gratitude, the respectable names of *Boerhaave*, *Albinus*, *Haller*, &c.

IV. The anatomists divide their art into several parts, and these divisions are not without their utility: they prevent confusion in a science whose terminology alone requires a considerable study. Anatomy is generally divided into two principal parts, which are,

1. *Osteology*, which treats of the *bones* and *cartilages* of the human body; of their figures, their dispositions, and their ligaments:
2. *Sarcology*, which treats of the *flesh*, and the *flexible parts*. This is subdivided into,
 - (a) *Splanchnology*, which gives the history and explication of all the internal parts, or the intestines, particularly the *viscera*, which are the heart, the liver, the lungs, the stomach, the spleen, the bowels, and other interior parts of the human body:
 - (b) *Myology*, which relates to the *muscles*:
 - (c) *An-*

- (c) *Angiology*, which gives the description of the *vessels* of the human body, which are the arteries, the veins, and the lymphatic vessels ;
- (d) *Neurology*, which treats of the nerves. The art of representing them by graving or painting is moreover called *Neurography*. There are, besides these, many particular doctrines of different parts of the human body, which have each one its name, that is to be learned in the study of anatomy itself. Thus, for example, they call *ophthalmography* that part of anatomy which treats of the composition of the eye, the use of its parts, and the principal effects of vision, &c

V. There are excellent works in almost all languages, but principally in Latin, on each of the different parts of anatomy, which will serve as sure guides to those who shall study them. But as anatomy is founded on matters of fact, which constantly exist, and which we should see with our own eyes, in order to form adequate ideas of them, it is indispensable to frequent the anatomical theatres, to observe the dissections of dead bodies, and even to dissect them ourselves, as well as to attend the explanations of able professors ; and lastly, to apply ourselves assiduously to the operations ; to endeavour to make new discoveries, or to verify such as have been already made. All this depends on the goodness of the theatre, on the bodies that are brought thither, on the ability of the professor, who is to prepare the body for the lectures, on the perfection of the anatomic and optic instruments, and on the professor, who explains what the eye sees.

VI. It is only in the winter months that anatomical dissections can be made to good purposes, on account of the sudden corruption, and insupportable exhalations that arise during the summer, and because this corruption, and fermentation change the figure and disposition of the internal parts, especially those that are minute, delicate and obscure, and consequently are liable to give false ideas of the parts.

parts. For the same reason, the bodies of malefactors, whose bones, and the configuration of their internal parts, have been deranged by tortures, are by no means proper for dissection. For the rest, it is in some respects with anatomy as with geography and heraldry; it requires a keen sight, and a strong memory to retain its terms, which are most numerous: but it is still more necessary to him who would excel in this science, that he have a sound judgment, an acute penetration, ingenuity, an inquisitive disposition, and an indefatigable patience, to follow nature in her most hidden operations, that he may make new discoveries in the human body, and draw solid inferences from such discoveries.

VII. It is for this reason that they distinguish between the *common* and the *sublime* or *refined anatomy*. The one is the ordinary business of professors, physicians, surgeons and students; the other appertains to the Albin, the Boerhaave, the Haller, the Sydenhams, the Lieberkuhns. The student in physic should, however, begin by studying the common anatomy, that he may form a just idea of the exact structure of the human body in general, before he perplexes his mind with the refined discoveries.

VIII. The aids to anatomy, such as works in wax, ivory, &c. drawings, and gravings, coloured, painted, or printed in natural colours, are arts that are every day improving, and cannot be sufficiently encouraged: skeletons real or artificial; mummies that are entire; injections of mercury or wax into the viscera and other internal parts of the body; microscopes, as may be seen by their description in the first volume of the *Memoirs of the Academy of Berlin*; and many other like aids, concur not only to the improvement of anatomy in general, but to enable the student in physic to attain, without difficulty, a solid knowledge of the human body, and that he may not go blindly to work when he undertakes the cure of any of its parts that are injured or impaired.

C H A P. XXVIII.

OF PHYSIOLOGY.

I. **PHYSIOLOGY**, as we have already hinted, considers man as living, and in his natural health and vigour. It is for this reason that many authors call it *Theoria hominis sani*. Anatomy, natural philosophy, and, in some respects, the mathematics, especially mechanics, lend their aid to this science.

II. Physiology, therefore, treats of the entire system of the internal and external parts of the living body, according to the principles of anatomy; of the use, the functions and effects of its various parts, for the conservation, the nourishment, growth and increase of man; that is, of the principles of his existence, and the functions of his life, according to the laws of natural philosophy: it is on these two foundations that physiology, and we may say almost the whole fabric of physic, rest.

III. When we have learned from anatomy the structure and disposition of the external and internal parts of man, natural philosophy examines, on the most solid principles, the cause, the situation, the mechanism, the action, and the effects of the nutritive juices; the fluids, the manner in which they are prepared, separated, and distributed in the human body; that which puts each part in action; and that which supports it. It is here they endeavour to show what is the *natural heat, innate or inherant; the radical moisture; the temperaments; the vital spirit; the nervous juice; the internal and external senses; the acting fibres;* and numberless other like matters, of which we have already spoke in the chapter on physic in general. We cannot refrain from remarking once more, that there is very little probability that the human mind will ever attain a perfect knowledge of the principles of things, and especially of what passes within the human body: and even if they could

could be discovered, we should not be, perhaps, the more advanced in the knowledge of the cure of diseases, which is the object of physic. He therefore, who prudently proceeds in this study, will consider the human body as a machine most artfully constructed, and composed of thousands of acting powers or springs, of which the principal and the greatest part are known: he will be sensible that these springs are delicate and fragile; that they are maintained in their natural action by the juices and liquids; that the solids and the fluids in the human body follow the analogy of other fluids and solids in the rest of nature; that philosophy and mechanics teach their laws; and, moreover, that it is on these laws, joined to anatomical discoveries, that the theory of physiology is founded.

IV. The ancient Alchymists and chymical physicians, men the most addicted of any in the world, first to deceive themselves, and then to deceive others, bewilder themselves incessantly with making of decompositions and mixtures, with creating simple essences and elements, and with making from thence compositions; and these visions they carry even into philosophy. We mention their reveries here merely in order to caution the young physician to be on his guard against them.

V. The celebrated Stahl, who lived at Hall in Saxony, was so great a man, that his systems, even his erroneous systems, became respectable. We cannot here omit relating, in a few words, what was his manner of thinking with regard to physiology. He divides the human body into solid and fluid parts; and by this division he explains all the essential parts of anatomy under the title of the *Philosophical theory*: according to him, all the juices and fluids of the body are of such a nature that they separate and resolve, or corrupt and become noxious, if a living force, an acting power, does not maintain them, by a continual motion, in their order and their perfection. This living power he sup-
poses

poles to be the mind. The life of the body consists, therefore, in the continual mixture of the animal and corporeal parts, performed by this immaterial being, which supports the constant secretions and evacuations: and health is regularly maintained by all these active and animated motions; of which he remarks six: 1. The circulation of the blood: 2. The contractive power of the fibres, which is called *motus tonicus**: 3. Voluntary motion: 4. The action of the senses: 5. The interior motion, of the blood: and, 6. The motion in the evacuation of bodies that are foreign, superfluous, or injurious. By these principles he explains the uses and functions of all the parts of the human body, all the support, nourishment, and the use of those subjects which physicians call *non-naturals*, and to which M. Stahl adds *habit*. The rest of this system may be seen in his works, particularly in his *Physiology*. Might not we reduce this idea to its first principle, by saying, that the *motus tonicus* is a simple attribute, or natural quality, given by the Creator to the parts of the human body; as motion, gravity, and attraction, are given to other bodies?

VI. As it is not possible to dissect a living body, physiology must necessarily be founded, in a great measure, on ingenious and accurate observations, on just and sagacious reasonings, and on a long and extensive practice, which we have made ourselves, or that others have made before us. It is from the result of so many observations, so much reasoning, and on the practice of so many ages, that the systematic physiology is formed; and which the student in physic will hear explained in the chairs of the university professors, and will study in his closet in the works of the most celebrated writers on physiology.

* This contraction of the fibres is worthy of remark: it is, perhaps, what the ancients intended by *robur partium*.

C H A P. XXIX.

O F P A T H O L O G Y.

I. **T**HERE is only one way for all animals to come into life, but there are a thousand ways for them to go out of it. The knowledge of the ways that lead mankind to death, to disease and infirmity; in a word, the knowledge of the nature of all the disorders to which the human body is liable, is the most important, and the true science of a physician; and this science is called Pathology.

II. Before we proceed to its analysis, permit us to make one essential remark on a property, or rather a natural imperfection that attends all the viscera, muscles, vessels, nerves, and, in a word, all the flexible parts, but especially the muscles of human bodies, and of animals in general. In proportion to the time of any animal's existence, the muscles and other soft parts become indurate and inflexible; from whence arise the alterations in the exterior appearance of a man, in his skin, the perceptible muscles, the features of the face, the hands, &c. All these proceed from induration, which changes the figure of the muscles, and consequently the general appearance. If the chyle, the blood, and the juices in a man, are in a proper state, this alteration will happen much more slowly; and they will not only remain longer in vigor, but will also preserve an air of youth: if the contrary happen, he will grow old before his time. But this preservation has its limits, and cannot be extended beyond a certain duration; when all the springs of the body will become inflexible, their action will cease; and, the several parts being no longer able to perform their functions, the aged becomes a sort of automaton, a burden to himself,
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and to those who are obliged to attend him; or he ceases to be, and, as the scripture saith, *returns to the dust from whence he came.* It is more important than it may seem, in the practice of pathology, never to lose sight of this observation on the natural property of animal bodies.

III. May we be permitted to observe also, that this same observation, by proving that immortality is absolutely impossible, gives occasion likewise to violent doubts relative to the assertion of Moses on the subject of the age of the first race of men, and of the patriarchs. For either their muscles, nerves, fibres, &c. were constructed like ours, and in that case it was impossible for them to last almost *a thousand years*, without becoming inflexible; especially as the first men, eat, drank, multiplied, and performed the same functions that we do; or else their viscera, &c. were formed much stronger, more vigorous, more durable than ours; from whence an infallible but a very disagreeable consequence arises; for it appears to a demonstration that a man's disposition for thinking, his vivacity, his ingenuity, his sensibility, depend on the greater or less delicacy of his nerves, his fibres, and the whole of his machine. If therefore, all their parts were sufficiently strong to last almost a thousand years, it is most manifest that the patriarchs must have been mere brutes, infinitely less sensible and alert than modern animals. But as the Hebrews, in the time of Moses, knew nothing of astronomy, and as the year of the patriarchs, and before the flood, certainly could not consist of three hundred and sixty-five days, we are at liberty to understand by the word year, what revolution, what term we think proper, and no inconvenience can result from it, except it be to the chronologists, the most ingenious set of men in the world at building castles in the air. We are obliged to make here another observation, which appears to us very important. The ninetyeth psalm is intitled *The prayer of Moses*; the same Moses, who in his historical book, assures us, that the patriarchs and the

men before the flood, lived to near a thousand years, but does not tell us to what age the women lived, though his account makes them lose a necessary quality for generation about the same time that the women of these days lose it; which proves that nature then acted according to its immutable laws: this same Moses, I say, in the psalm above-mentioned, assures us, that *the days of our years are threescore and ten, and if we attain to fourscore years it is by reason of strength.* The poet here does not agree with the historian; and the objection drawn from what happened before or after the deluge, falls of course by the physical observations we just now made.

IV. Let us return to our work, and to the subject of this chapter. We have still one more reflection to make on the *blood*: that which from the moment of our existence, flows in our veins is not a simple and homogeneous liquor; but it appears by all distillations to be a liquor composed of oil, water, and salts; which render it more or less salt, acid, bitter, acrid, sweet, or tart. These parts, of which the blood is composed, have also a natural tendency to separation, if not kept by another force or power in agitation and continual mixture. Now we feel within us a principle that grows, augments, declines, and diminishes with age, and which augments or diminishes our vigour. Whether we call this principle air, ethereal spirit, vital spirit, principle of life, mind, or by whatever other name, it matters little: but it evidently appears, that this acting principle has not a disposition always to maintain and purify the nutritive juices, and liquids, necessary to the human body, to the greatest degree possible, but to corrupt and destroy them by excesses or defects: from whence we may conclude, that we are born with the principle of death, and that we every day approach it. But this natural disposition is not a state of constant infirmity; which would render man miserable if he were so stationed; for we are not sick, but when
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some part of our bodies meets with an extraordinary attack or injury, and the functions, which our different organs ought to perform are suspended or destroyed.

V. When we consider, moreover, the immense number of parts and springs of which the human body is composed, their tenuity, their delicacy, their fragility, and their use, we are naturally led to make the three following reflections; first, we cannot refrain from admiring the all-powerful art of the Creator, and are tempted to cry out in imitation of Virgil, *Tantum erat molis humanam condere gentem!* secondly, we ought to wonder, that bodies so composed, and of so frail a nature, are able to sustain themselves for so long a time; that they have not every moment some minute part, some spring, broken, injured or destroyed; and consequently, that disorders are not more frequent: in the third place, we ought to admire, with gratitude, the indefatigable perseverance, the sagacity and labour of those able physicians of all ages, who have devoted themselves to the investigation of diseases, of the marks by which they are known, of their variations, and of the seat of each disorder; and to the reducing of all these matters into a regular system, which is called Pathology; and by this mean giving their followers, a solid foundation whereon to erect all future discoveries.

VI. Pathology is again divided into *Nosology*, which is that part of physic that treats of the nature, the seat, the difference, and the effects of disorders; and into *Etiology* (or *Aitiology*;) which teaches the different causes of diseases. We shall not speak here of the *Semiotic*, or doctrine of symptoms, because that forms a separate science, which from its importance and extent merits to be separately explained.

VII. Pathology, therefore treats of the nature of disorders only, and *Nosology* investigates their seat, &c. to which purpose it distinguishes, 1. The exterior maladies from the interior; the latter of

which, 2. reside either in the solid and noble parts, which are all liable to be attacked in various manners, or in the fluids, as in the nervous juice, the nutritive juices, in the lymph, or in the blood.

VIII. As our life and our health depend, in great measure, on the regular circulation of the blood, and all the juices necessary to the support and action of each part, it is evident that all the vessels or ducts, by which the liquids flow and diffuse themselves over the whole human body, ought never to be closed up by any foreign body; but as they are very liable so to be, from their extreme minute and delicate texture, we thence see so many diseases, the causes of which lie in the obstructions of the vessels and the ducts of the viscera: for it is not necessary that an internal part be entirely destroyed, or even greatly injured, to cause a disorder; it is sufficient that it be obstructed, or that a kind of atrophy affect its fibres, muscles or vessels; that their spring, their action be interrupted: in a word, that any one of the viscera no longer perform its functions: and from hence may arise twenty infirmities, twenty different disorders, which it is the business of nosology to explain.

IX. These obstructions are almost always the causes of disorders whose effects manifest themselves on the mind: as for example, melancholy, chagrin, &c. When there is no obstruction in the spleen or liver, or in any of the capital parts of the human frame, these maladies are soon cured, or cannot take place.

X. When nosology has discovered the nature and seat of the disorder, etiology investigates the cause: and this cause it sometimes finds in an unfortunate succession, or hereditary infirmity, as in gouty, asthmatic, and hypocondriac cases: at others, in the bad construction of the viscera; sometimes in the disorder of the mind, sometimes in the redundancy of the humours, as in the case of a plethora, and all that arises from it; sometimes in the bad quality of the fluids, and in peccant humours; or
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in the irregular motions, and injurious disposition of the temperament; sometimes, and very frequently, in a bad regimen; at others, in the properties peculiar to each sex; sometimes in love, and its effects; and at others, from an infinity of other causes.

XI. As the knowledge of diseases is, without contradiction, the principal and most difficult part of physic, and as the patient is commonly half cured when his physician is not deceived in the nature and seat of the disorder, it must be allowed, that a serious and repeated consideration of this matter, an extreme application, great experience, and an assiduous study of the observations that have been made by able physicians, such for example as are to be found in the *works of Sydenham*, in the dissertations of *Stabl de observationibus medicis in historia morborum*, in the works of *Boerhaave*, in the *Pathologico-Therapeutic Tables of D. Wedel*, in the *Medical Institutions of Hoffman*, in the *Pathologies of Stabl*, of *Helmont*, *Sylvius*, *Cornelius Bontekoe*, and an infinity of other learned physicians, with the enumeration of which we shall not pretend to swell this work; it must be allowed, I say, that this study, these profound reflections, must furnish physicians with lights that are unknown to the rest of mankind, and justify the precept of the son of Sirach * with regard to the honour that is due to the physician, and the utility of his art.

* Ecclesiasticus Chap. xxxviii.

C H A P. XXX.

THE SEMIOTIC.

I. **W**E have already said, that the semiotic, or indicative, is the art of knowing by exterior symptoms, what passes in the interior parts of the human body; and this important part of physic consequently treats of the signs and indications of disorders, as its name, which is derived from a Greek word which signifies *sign, index, or indication*, sufficiently shows.

II. The foundations on which this science rests, are, 1. The look or aspect of the sick person. The sagacious physician acquires, by experience, an acute, and sometimes an infallible discernment of the eye in this respect. There are, moreover, many disorders that extend themselves even to the epidermis, and over all the exterior parts of the body, as the jaundice and the purples: the eyes of the sick likewise discover what passes within him; the lips, the tongue, the features of the face, all concur to inform the physician; who ought of all men, best to understand physiognomy.

III. Secondly, The history of the disease, which the physician should learn from the mouth of the sick himself, or at least from some attendant who is well informed in it. The least circumstance forgot, or wrong represented here, occasions considerable alterations, seeing that it is only by the symptoms that a just indication can be made—absolution is the consequence of confession.

IV. Thirdly, The pulse is the barometer of health: its beatings more or less quick, more or less slow, reiterated, strong or weak, show the degrees of activity, of quickness or slowness of the blood's circulation. The equality or inequality of its motion indicates a fever. Violent, confirmed, quotidian, periodic, or continued fevers, are manifest by the simple touch of it to those who have the
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least experience: but there are slow, hectic fevers, that proceed from some small ulcer, or slight disorder in the lungs, which are sometimes imperceptible to an able physician, and require a very sensible touch to discern them.

V. Fourthly, The urine also furnishes many signs of the state of the disease, of its progress, its crisis, and decline. But away with those empirics who pretend to see in this evacuated fluid, clear, as through a crystal, the nature and seat of each indisposition, imposing on the vulgar by that grave, important, and mysterious air with which they make their inspection. The separations from the blood, and other juices and fluids, being, however, clearly manifest in the urine, it is certain that an able physician may frequently draw from thence very strong indications.

VI. Fifthly, The congealed blood, after phlebotomy, also affords very useful observations. Its substance, and very frequently all its peccant qualities, are very visible. All its inflammations are there manifest. It is frequently viscous, slimy, covered with an inflammatory greenish pellicle; as in quinries, pleurifies, peripneumonies, and numberless other like maladies; from whence the physician receives great information.

VII. Sixthly, The excrements, the sweat, the spittle, and, in a word, all the evacuations, serve also to indicate diseases, their progress, and their decline. Seventhly, The respiration, the sleep tranquil or disturbed, the tone of voice, the presence of mind of the sick, and an infinity of like symptoms, should all guide the physician in his indications: he ought not to neglect any one of them, but to unite the whole in one system; and at all times not only to consult nature, but follow her in all her various operations, and all her changes.

VIII. Eighthly, It is evident, that discernment, reason, but above all great experience, are the principal requisites in the semiotic. There are,

however, guides that will conduct the young physician in this course: his able predecessors of all ages have left the valuable monuments of their observations; for we find in the ancients, as well as in some celebrated moderns, such exact and minute descriptions of most diseases, as well as their symptoms, that we cannot sufficiently admire their labours, nor acknowledge their sagacity and experience. The greatest part of the indications of known diseases are to be found in the treatise of *Doctor Bohn, de officio medici clinici*, in different chapters, and these are founded on a long practice.

IX. The title of this book reminds us here of an admirable institution at the university of Hall, to which the orphan-house of that city, founded by the celebrated Doctor Franck, has given rise, and by which alone it can be sustained. The dispensary of that house, the most complete and best furnished of any in Europe, gives to the sick poor of the town and its environs, all the most excellent medicines gratis; but these sick are obliged either to appear in person, or to send some one thoroughly instructed in the history and present state of their disorder; and also to make their report in the auditory of a very able professor in physic, at a stated hour. It is there that a crowd of the disciples of Hippocrates assemble, and fill the benches of the amphitheatre, while the professor sits below and examines the sick, or they who appear on their account. After hearing from them the history, the actual state and symptoms of the disorder, the professor demands of the assembly, *Gentlemen, what is the name and nature of this disorder?* If one of the students discovers the truth, and makes a proper reply, he receives commendations; if he mistake, his opinion is rectified; if nobody answers, the professor explains the disease, and describes its nature. He then asks what are the proper remedies. The students write prescriptions, which he examines, and analyses, rejects or approves, constantly pointing out the reasons that induce him to think

think and act as he does. The prescription is then given to the sick or his representative, who receives from the dispensary the medicines prescribed without paying the least matter in consideration. If the patient be confined to his bed, and his disorder appear dangerous, the professor dispatches two students to visit him, and to report the state of the disease. It is thus that the young physician carries with him, from this university, after one year's residence, the practice on at least two thousand patients; and this first experience is acquired under the sight and by the direction of a guide consummate in his profession.

X. The infinite utility of such an institution is easy to be conceived. This course is called in the language of the art a *clinical course*, *collegium clinicum*, from the ancient Latin word *clinare*, which is to be found in Lucretius; and the term *clinic* now signifies *one kept in bed by indisposition*. In fact, it is by the side of a sick bed that the physician acquires the art of distinguishing symptoms, and of forming a sound judgment by exterior indications of the interior state of each disease; for nature affords no other mean of knowing what passes within the human body.

XI. It must not be imagined, moreover, that all signs, all symptoms are infallible. There are disorders so ambiguous, that the greatest physicians have named them *morbi compositi, mixti, corrupti*; and in which the most experienced are liable to be deceived. The symptoms themselves are frequently so equivocal, so complicate, so various and contradictory, that it requires a sagacity more than human, never to be mistaken. They pretend, however, that the celebrated Boerhaave, that truly great man, was never totally deceived in this respect but three times in a practice of forty years. The fact is scarce credible.

C H A P. XXXI.

THE THERAPEUTIC.

I. **I**T is to little purpose that the physician understands the state of the human body in health and in sickness, if he do not apply himself to acquire the knowledge of the art of healing. This undoubtedly is the most important part of his science, and even that in which all the rest center. *Hic Rhodus, hic salta.* The doctrine that teaches this art, is called *Therapeutic*; and its business is to give rules for preventing disorders, and for curing them: it investigates remedies, and teaches to apply them conveniently, opportunely, and with efficacy.

II. The therapeutic, or therapy, is therefore the practical art that is exercised on the diseased themselves: for which reason some authors call it by the name of *Praxis medica*, and divide it into *therapy* and *chirurgery*; comprising under the former, the method of treating internal disorders; and under the latter, that of curing external parts when injured. But we shall have occasion to treat of chirurgery and obstetrics, after we have finished the analysis of the particular parts of physic.

III. Who is there that does not know, that the therapeutic is the common rock against which the greatest part of young physicians rush? An opinion of his own ability, a deceitful confidence in that learning which he has acquired by so much study; the theses that he has so victoriously sustained *pro gradu doctorali*; the applause he has received from his professors and his fellow students; the doctoral habit with which he is decorated; all inspire the young doctor with a confidence frequently rash and fatal to society. The pilot who has learned only the theory of navigation in the schools, hazards himself on a tempestuous sea; he conducts the ship by the principles of his science, he consults the stars, he follows the winds, he considers all that is above and round about him; but he does not perceive

ceive the shoals and the rocks that the waves cover ; and at every instant his vessel is in danger of becoming a wreck. It is not but by a number of errors, by virtue of his having depopulated the earth, and replenished Heaven and Hell, that the young physician acquires the knowledge of the therapeutic. What is to be done however ? After having finished his studies, his practice must have a beginning. It must so ; but woe be to them that are his first patients ! The wise physician, however, will interrogate himself ; he will become his own Aristarchus ; he will examine if the science he has acquired be justly founded ; he will exert every faculty of the mind ; redouble his attention ; and when he launches on the sea of practice, he will keep the sounding lead constantly in hand. He will be directed by conscience, by honour, by ambition.

IV. After the physician has put in practice all the precepts of pathology and the semiotic, he begins by making a just indication, and forms a rational system of the cause, the seat and nature of the disease. He prescribes to his patient a regimen agreeable to his state ; he examines the aliments he is to take, the place he inhabits, the bed on which he lies, the cloathing with which he is covered, and the air that he respiras : all these matters taken together concur, more than is imagined, to the efficacy of the remedies and the recovery of the sick. In the disorders, for example, that attack the skin, as the small pox, the measles, purples, &c. they formerly heated the apartments to excess, and stifled the sick. The most fatal experience has convinced mankind of this error.

V. Tranquillity of mind in the sick contributes also, in a very great degree, to his cure. The physician should employ all the art of persuasion to calm his temper, and to exhort him to patience ; and should never let him know all his danger, but still leave him hope, and endeavour to procure him sound sleep ; which are the two greatest consolations in all evils.

VI. The

VI. The examen of the temperament, or natural constitution of the patient, is one of the most essential points in the cure. A body robust and vigorous requires to be treated totally different from one that is delicate and feeble. A lady of the court, or a man of study, cannot sustain the same method of cure with a ploughman or collier, a soldier or sutler. A sound judgment must here direct the physician.

VII. When, by the aid of the semiotic and pathology, the physician has learned the nature of the disease he is called to cure, he should endeavour to discover if the malady be not incurable or mortal; if the parts of the body be not so attacked, or even impaired, that all the efforts of nature and art will be vain and useless; in which case the patient is not, however, to be refused all consolation, and every lenient and palliative remedy possible, leaving the event to Providence, and sometimes to an uncommon accident, or kind of miracle.

VIII. But when there is room to conceive any hopes of a cure, it is then the physician should employ the most efficacious remedies, and form a good plan of *the method of cure*: but, alas! it is this method that makes so many poor mortals take the road to dissolution, so much sooner than the decay of nature would have led them to it. His heirs and his physician comfort themselves, provided that the sick man has died according to the rules, that is to say, *methodically*. There are a thousand cases however, where it is by no means eligible to persist in following a fixed method, but to consult nature, as we have already hinted on the chapter on physic in general, and cannot too often repeat. There are a thousand cases where the physician is greatly embarrassed in the part he is to take in the method of cure, and where it may be said, with Moliere, *Hippocrates says YES, but Galen says NO*. The most sagacious and most experienced physicians have transmitted, however, to their successors, rules to direct them in their choice; some of which, as they appear

appear to us the most universal and best supported by sound reason, we shall here mention.

IX. The first of these rules is, that the physician ought never to lose sight of the path that nature points out to him; still varying the remedies as the revolutions and symptoms may daily arise; and sometimes even give no medicine at all, but let nature alone work, according to her ordinary course; sometimes, on the contrary, though the effects may not answer the expectations, still to continue in the method first adopted, at least to repeat the same medicines after some time, and wait the success with patience and perseverance.

X. Secondly, The method of cure should not be too long continued: the patient should neither be put to the torture, nor his constitution totally enervated, in order to cure him of an indisposition, or accidental disorder. 3. The physician, in making choice of what he thinks the most proper medicines, should constantly remember, that in entering the stomach they pass into another world; that they do not produce the same effects in the human body that they do out of it: a drug that is dissolvent, corrosive, &c. is not always dissolvent, or corrosive, &c. in the intestines, where its nature is changed, its action is weakened, or its points blunted, by the heat, by the action of the viscera, by the viscous and fluid matters that presently surround it, &c. 4. That the part, where the malady resides, is often distant from the stomach and the primæ viæ, and the canals that lead to it are so minute, so subtle and delicate, that the medicines cannot reach it, or if they do, their nature is changed, and consequently they do not produce the effect expected: 5. That the stomach should be always considered as the primary organ in the human frame, where the juices and fluids are prepared, and from whence they are distributed to each part of the body, according to its wants: 6. That consequently in all disorders whatever, it is, at all times, advantageous to evacuate and lightly cleanse the stomach
and

and primæ viæ, that they may regularly perform their functions, their distillations, and digestion : 7. That the cause of the disorder seldom lies in the same part where its effects appear ; that it frequently happens, for example, that an apoplexy is occasioned by an obstruction in the intestines, &c. 8. That the temperament should be sometimes strengthened and sometimes weakened, and the activity of nature sometimes diminished and sometimes augmented : 9. That it is not prudent to give too many remedies nor medicines of too composite a nature, for the proverb, *quo majores receptæ, eo minores virtutes*, is very frequently verified.

XI. For the rest, all the histories of diseases, of the good or bad success of medicaments that physicians have employed to cure them ; of the salutary or injurious effects that the different methods of cure have produced, are so many therapeutical lessons for a physician. There are moreover, numberless works wherein this matter is thoroughly investigated, and in its fullest extent, as in the *Therapeutica universalis*, Fernelli ; *Medicina practica*, Sennerti ; &c &c. or where some parts of it only are considered, as in the *aphorisms* of the illustrious Boerhaave, &c.

XII. We have already said, that notwithstanding the most solid theoretic knowledge, the most extensive, the most assiduous, and the most consummate practice, the art of physic still frequently militates against nature and her laws. It is impossible to render man immortal, or always healthful : *Non est in medico semper relevetur ut æger.*

C H A P. XXXII.

O F T H E M A T E R I A M E D I C A.

IF the Creator in his wisdom has thought proper to afflict the human race with an innumerable tribe of diseases, his goodness in return has furnished them, from the three kingdoms of nature, with an infinite quantity of remedies against these maladies. Animals, plants, minerals, stones, fossils, in a word, every object concurs to produce some medicament salutary to man in the infirmity, and the languishments of his constitution. The number of these remedies is so immense, that the most comprehensive memory is not able to contain their names alone: and not only centuries, but thousands of years of study and observation would be requisite to discover the virtues and uses of each plant and mineral. It requires, moreover, the concurrence of many sciences, and many arts, thoroughly to investigate the nature and properties of all the bodies that compose the universe; to resolve them, to observe the effects that result from their mixture, and those which they produce upon the human body. It requires, likewise much knowledge and reflection to determine what are the particles that enter into the composition of each body, whether they consist, for example, of parts of sulphur, nitre, salt, iron, oil, acid, alkali, &c. and to know what remedy is applicable to, and can produce the most salutary effects in each kind of disease. The knowledge of all these matters, the general system of all remedies that it is possible to draw from the three kingdoms of nature, is comprised in physic, under the Latin determination of *materia medica*, or the medicinal matter.

II. The *observations* of the greatest physicians and naturalists of all ages; *botany*, or the knowledge of plants; *chymistry*, or the art of resolving bodies; and *pharmacy*, or the art of preparing remedies.

medies, are the foundations, the guides, and support of the materia medica. The three following chapters serve, therefore, to elucidate this subject; and we think that we should not anticipate any reflections that may there arise, in order to avoid repetitions as much as possible, and that we may not confound these subjects.

III. But with regard to the medicinal matter in general, which is the doctrine that results from botanic, chymic, pharmaceutic, and practical observations, we shall only remark, that from the time of Hippocrates, Theophrastus, Paracelsus, Galen, and other celebrated physicians of antiquity, down to our days, the greatest of men in this art have left us the invaluable monuments of their observations on the properties, the natural virtues and effects of medicines or remedies; and that the more we study their works, the more we enrich ourselves from their discoveries; the more we appropriate their sagacious labours, the more knowledge we shall attain in the method of applying the most efficacious remedies to the cure of each disease.

IV. Secondly, all remedies should be divided into *simple* and *compound*. We should begin with the knowledge of such as are simple, and their virtues; and then proceed to the study of those that are compound, and their virtues. And here are two rocks to be avoided, which are incredulity, and too great credulity. It is still far from being the case, that philosophy, aided by optics, by chymistry, and all the arts that contribute to its improvement, has discovered all the properties and virtues of every substance: therefore, although we do not know the virtues of a medicine, and are not able to demonstrate its efficacy *a priori*, we are not authorised absolutely to reject it; the opinion and testimony of the most able ancient and modern physicians, confirmed by daily experience, are sufficient to justify the use of it sometimes in cases of necessity. On the other hand, it is an extreme weakness to confide in the fallacious accounts that empirics

empirics give of their drugs; and of the numberless chimerical virtues which they attribute to some favourite remedies. Reason must direct the physician in the course he is to steer between these rocks, as well as in every other part of his practice, which it must be confessed, is oftentimes wrapt in a darkness, that it is not possible to elucidate by the torch of demonstration; seeing that he is obliged to make use of remedies, of which it is impossible for any man to know all the properties, against disorders that are hid from his sight, and of whose nature he can only conjecture by external symptoms.

V. Perhaps we shall find no place more proper than this, to speak of *sympathetic cures*. Those of which we every day hear, are unworthy the attention of any one who pretends to the least share of reason: sympathy in general, taken in its usual sense, is the greatest chimera that fanaticism ever conceived: to think that an effect may be produced without a cause, or that one body can act upon another at an extreme distance, when there can be no reciprocal attraction, or where the particles, which are emitted from them, cannot rencounter by reason of the immense distance; when, in a word, all direct communication between them is impeded; in short, to imagine that the Almighty performs a miracle in each sympathetic cure, at the intreaty of a mountebank, as must be supposed, is to entertain a most shameful extravagancy.

VI. But since it is certain, as we just now observed, that the most improved philosophy cannot discover all the qualities, the virtues and effects of divers bodies, nor their reciprocal action and reaction, chance may sometimes discover effects of which the cause is totally concealed from us; and consequently when the communication between a body that acts, and another on which it acts, is not entirely interrupted, we may find phenomena and effects in nature highly wonderful, without being able to comprehend their principle. This kind
of

of sympathy is very possible; this is no more than a natural operation, whose cause is unknown to us, from our want of sensations sufficiently refined to discern them. But it is apparent also, how uncertain these sorts of cures are, in consequence of our ignorance of their principle: the most minute, imperceptible alteration in the nature or position of the two bodies, may naturally alter their effects; and from this incertitude, sympathetic cures become almost equal to a chimera.

VII. Let us return to something more substantial. As we know not in theory the composition of all the parts of each body, nor the effect that each body produces upon every other body, nor the manner in which these effects are produced, it is almost morally impossible that we should know, and be able to demonstrate *a priori*, the virtues and effects of each remedy, and consequently we ought to adhere, as we have said, in the doctrine of the *matéria medica*, to the observations of our predecessors, and judge of remedies *a posteriori*. Not, however, that in this matter all is founded on experience alone; for there are numberless medicines whose virtues may be demonstrated by philosophical principles; as mercury, for example, is known to operate by its specific gravity; antimony, or the emetic tartar, by the configuration of their pointed particles; other remedies by their causticity; others by their oily and balsamic parts, and so of the rest: but this is not the case with regard to all medicaments, and more especially such as are of a very compound nature.

C H A P. XXXIII.

B O T A N Y.

I. **BOTANY** is that science which teaches the knowledge and denomination of every kind of plant whatever. The word *plant* is here taken in its most extensive sense, and signifies all vegetables without exception; trees, shrubs, flowers, culinary and officinal herbs, &c. &c. The essential resolution of plants appertains to chymistry; the knowledge of their medicinal virtues to the materia medica; and their preparations to pharmacy: botany is only concerned in distinguishing them, in naming them, and understanding their cultivation.

II. The number of known trees, plants and vegetables, is so numerous, that the most happy memory cannot retain all their names; especially if we add to those that are natives, such as are produced in other parts of the world. We are assured that botany already describes more than twenty four thousand plants, of which the botanist should know the names and etymologies. This number is prodigious, and sufficiently shows the necessity of inventing systems in order to range them in their different classes, to determine the distinguishing marks of each class, and by that mean to aid the botanist, not only in acquiring the knowledge of plants themselves, but to enable his memory to retain, if possible, all their names and qualities; which is the intention of all systems whatever.

III. Physicians and botanists, as well ancient as modern, have tortured their imaginations to find out the characteristics of plants, that they might distinguish the one from the other, and consequently range them in their respective classes. *Paracelsus*, *Porta*, *Carriocher*, *Grollius*, and numberless others, have imagined that they discovered a kind of relation and harmony between the make, the configurations of plants and those of the parts of the human

human body: but these relations or resemblances are too vague and uncertain; they lie frequently less in nature than in the head of the observer; who resembles those visionaries that see, in the dusk of the evening, battles in the air, armies of Moors and Turks among the clouds, and a thousand such chimeras. To this former fantasy they have added a second, and they imagine, that as we can discover the mind, the interior part of man, by his speech, his aspect, his features, his proportions and physiognomy. they can, in like manner, discover the occult virtues of plants, and their effects on the human body, by the harmony of their exterior forms and configurations; and this is what they call the *signature of plants*. In consequence of this system they pretend to know, therefore, those plants which have the signature or mark of the members of the human body; others that have the marks of certain human infirmities; others again that have a perfect resemblance to the several diseases, &c.

IV. The world is not, at this day, without adherents to this ridiculous system. Those men of real ability, who invent or follow a more rational method, they call mere nomenclators, *i. e.* such as know nothing of plants but their names. To which these reply, 1. That we ought not to confound the sciences; and that the virtues of plants, like every other remedy, belongs to the *materia medica*: and 2. That the whole system of the *signature* is built upon the sand; that the signs, which they suppose to be indicated by the plants never correspond with the virtues they promise; and that the ancient distinctions, about purgatives, attractives, corroboratives, &c. are the most frivolous chimeras in the world.

V. *Cæsalpin, Morrison, Herman, Boerhaave, Ray, Sloane, Amman, Rivinus, Knaut, Ruppins, Plumier, Feuille, Buxbaum, Dillen, Michel, Magnole, Vaillant, Scheuchzer* *, and above all, the illustrious *Tourne-*

* To these may be added many ingenious authors on this subject, such as, Blair, Miller, Gerard, Hill, Evelyn, Hudson, Parkinson, &c.

fort, Haller, and Linnæus, have invented, followed, extended, and perfected a system, which is the most natural and most rational, and which they derive from the generation or propagation of plants, and which they name, in the term of their art the *fructification*: and this system it is, that we think we should here explain in the most concise manner possible.

VI. According to them, the object and the foundation of botany consist in *a regular and systematic division, and in a just denomination of plants, according to their genera and species*. This division is derived from fructification; and nature proves that this propagation is the basis of botany. There are two principal parts which essentially belong to fructification, *the flower and the fruit*; and these two principal parts are subdivided into seven particular parts, in the following manner:

I. The flower is formed by,

1. The calix or cup, which is composed of the receptacle, the rind or husk, the ligament, the sheath, the capsula or case, and the cap or cover:
2. The crown, which is composed of the leaf, the flower, and the nectarium or reservoir of juice:
3. The stamina, which are composed of the filament and the apices that contain the seed:
4. The pistils, which are composed of the style or needle, and the stigmata or tokens.

II. The fruit, which is formed by,

5. The pericarp or reservoir of the seed; which is composed of the capsula, the reservoir or the shell, the pea, the nut, the olive, the apple, the berry, and the pine:
6. The apices, which are composed of the seminal grain, the crown, and the tuft:
7. The receptacle or border, which is of three kinds, for the flower, the fruit, and the parts necessary to fructification.

VII. The

VII. The principal object then in plant is fructification; in fructification, the flower and the fruit; in the fruit, the grain or seed; in the flower, the stamina and the pistil; in the stamina, the apices; and in the pistil, the stigmata. Each fruit is preceded by a flower; and the essence of the flower consists in the apices and the stigma. All modern botanists of any eminence agree, that the apices and the stigmata constitute the two sexes of plants. The apices form the parts of generation in the males, and fructification takes place when these shed their fruitful dust in the stigmata, which are the female parts of generation. It follows, therefore, that the flowers which have only the apices are the *males*; those that have only the stigmata are the *females*; and such as are provided with both are *hermaphrodites*. The plant, therefore, which only bears male flowers is called *masculine*; and that, which only bears female flowers, *feminine*; that, which bears those of both sexes, is called *androgynæ*; that which bears hermaphrodite flowers, is called also *hermaphrodite*; and lastly, such as bear regular flowers of both sexes, and at the same time hermaphrodite flowers, are called *mixt*.

VIII. It is according to these principles, that modern botanists divide all plants into different genders, and place each in that class to which it belongs, according as they discern their several qualities, whether it be by the inspection of the naked eye, or by the assistance of a common magnifier, or by the microscope. These classes are founded on the several manners in which different plants conjugate or marry with each other; from whence arise the several classes of triandres, tetrandres, pentandres, &c.

IX. The particular denomination of each flower, herb, shrub, plant, &c. occasions likewise great difficulties in botany; for in the first place, the same plant does not always bear the same name in every country; and, secondly, modern botanists have changed many names that the ancients gave to

to plants, which is a very considerable inconvenience to this science, from the great confusion it occasions. The knowledge of the Greek and Latin languages is almost indispensably necessary to the student in botany.

X. What remains is to be learned by the study of the science itself. We shall only add one word on the properties and general virtues of plants. Botanists pretend to discover by the exterior senses, and 1. *By the taste*, that the sweet plants are nourishing; the unctuous, mollifying; the salt, irritating; the acid, refreshing; the rough, astringent; the bitter, alkaline; the biting, corrosive; the nauseous, venemous: 2. *By the smell*, that the agreeable are salutary; the sweet, cordial; the aromatic, resolvent; such as have the smell of the goat, provocative; the disagreeable, suspicious; and the disgustful, venemous: 3. *By the colour*, that the red colour every where denotes a sharpness and acidity; and when a plant inclines to a bright yellow, and is disagreeable to the sight, it constantly becomes suspicious.

XI. They, who would extend their knowledge in this science, may study to advantage the botanic works of the celebrated *Boerhaave*; the *Institutiones Herbarias* of *Tournefort*; the botanic principles of *Linnaeus*; the treatise of *Amman*, intitled *Character plantarum naturalis a fine ultimo, videlicet fructificatione desumptum*; and many other excellent works of this kind. The prints, and coloured plates which are every day publishing, the collections of dried and preserved plants, the *herbaria viva*, and especially the botanic gardens that are to be met with in well regulated countries, and the daily researches and observations that he will himself make, will perfect the botanist in this science, as far as it is capable of perfection.

C H A P. XXXIV.

OF CHEMISTRY.

THIS may not be thought, perhaps, the proper place to treat of Chymistry, as this art, taken in its full extent, seems to belong more properly to natural philosophy, seeing that it requires much sagacity and accuracy in its observations, many philosophical principles in its operations, and strict arguments in its inferences; and, moreover, far from being confined to medicaments, it embraces, so to speak, the whole frame of nature. But as the general system of sciences, of which physic is composed, would be incomplete, if we did not mention the assistance it receives from chymistry; and, to say the truth, the greatest utility, which mankind receives from this art, consists in the salutary remedies which its operations produce: as it appears to us, moreover, equally eligible to assign it a place here as elsewhere; and as we think that we should make the analysis of each science together, in its complete universality, according to the diversity of its operations and effects, the reader will not wonder that we here offer him a general sketch of chymistry, in all its various divisions.

II. *Chymistry in general is the art of resolving and uniting bodies, principally by the aid of fire.* We have already said, that all bodies are of a compound nature; and without embarrassing ourselves here with enquiring what may be the essence, the qualities, the figures of the particles, the original elements, the monades (or however else they may be called) by whose union bodies are formed, it is clear, 1. That by changing that first essential composition of bodies, their nature, in a certain degree, must be also changed: 2. That by so resolving bodies, we ought likewise to discover and extract those particles of which they are compounded:

pounded: 3. That it is the only method of making a true and succinct analysis, and of throwing useful lights on the substance, and on the virtues of each body: 4. That the result of this decomposition may be usefully employed in favour of mankind, as well with regard to medicines, as to other purposes: and, 5. That by re-uniting divers bodies, and reducing them to one and the same mass of matter, this new composition may produce the same advantageous effects as the decomposition of which we just now spoke

III. All this is performed by chymistry; and considered from this point of view, it is not surprising that so many sensible men apply themselves to the study of it: but when carried beyond these bounds, chymistry becomes a rock to the dupe and the covetous, the ruin of families, the passion of visionaries, and the resource of adepts and knaves, terms that are synonymous. To justify this assertion, which to many readers may appear too rash, we shall resolve chymistry itself, as that resolves bodies; and by this analysis we shall see what it contains, what it promises, and what it performs; how far its solid limits extend, and where its chimeras begin.

IV. The judicious and rational chymist will confine himself to the consideration of chymistry, as an art that teaches to separate different substances that are found mixed in nature, as vegetables, minerals and animals; to analyze natural bodies, and to restore them to their first principles; to discover their hidden virtues; to demonstrate their interior harmony, and the center in which all corporeal substances concur; to make the anatomy of bodies, so to speak, by the mean of fire; to separate the useful matter in each mixture from the useless; to extract the juices of plants and animals; to liquify the most solid substances, and to put them in fusion; to make accurate observations on all the effects that these different metamorphoses produce, and to employ them to the improvement of arts, and the

welfare of mankind; as by enriching the materia medica with new discoveries; by the invention of new colours; by new compositions of argil, glass, porcelain, &c. &c. By these means, I say, the chymist will pursue a useful art, and will merit the encomiums, and the acknowledgments of his fellow citizens.

V. But when this chymist erects himself into an empiric, and becomes either an enthusiast or impostor; when he imagines that there is a sublime, or rather a miraculous chymistry; and adds the Arabic particle *al* to it, because, in short, the genius of an Arabian is here necessary, and calls it Alchymy; when he amuses himself with the chimerical notion that the first elements of which bodies are formed may be changed, or that he can produce in his crucible what nature produces in the bowels of the earth, by a generation as regular as that of a coach horse; when he does not consider, that to every generation, to every essential production, there is required a vivifying spirit, a principle of life and activity, and the concurrence of a thousand other matters a thousand virtues, that are hid from mortal eyes: when he does not see that a real transmutation of metals is naturally impossible, and an apparent transmutation is an illusion and imposture: when he will not fairly confess, that the extraction of the particles of gold, which may be found in other metals, or any other bodies whatever, is much too expensive; that such extraction costs more than the particles are worth; that there is already enough, and too much gold in the world, for the real advantage of mankind, without destroying, at a great expence, other bodies more necessary or more useful, such as wood, coal, quicksilver, and other minerals, &c. when he does not see, or pretends not to see the truth of all this, he will always appear, in the eyes of the philosopher, as either fool or knave.

VI. When the same adept imagines, therefore, that it is possible to discover the philosophers stone,
or,

er. what is still more absurd. a panacea, or universal remedy for all diseases, it is time that he were locked up for his own benefit. It is the height of extravagance to believe, that there is in nature any one body, or any composition of different bodies, which contains, at the same time, particles that are salt, caustic, acid, corrosive, balsamic, sweet, oily, &c. &c. and, if this were possible, that these particles would not destroy each other by their respective specific virtues: that the different diseases of the human frame do not require medicines that contain bodies of different properties and different effects: that one and the same medicine can reach the seat of every disorder, and there exercise its operations, and produce its effects; and so of the rest. I am not ignorant that the alchymists suppose, with the appearance of truth, that the human body contains a principle of life, a moving spirit which animates all its springs; and that they pretend to cure this principle by their panacea: but this pretence is still more absurd than all the rest. They would cure something of which they have no knowledge, of which they cannot form the least idea! They would cure something that they believe to be ethereal or immaterial, by elixirs and other remedies which are entirely corporeal! As well or better might they cure this principle of all its disorders by music, as the bite of the tarantula is cured. It is this which has occasioned the sagacious Mr. Harris to say, where he distinguishes alchymy from chymistry, that the former is *an art without art, whose beginning is falsehood, its continuance labour, and its end beggary*. It was for this reason also that ancient Rome banished those who exercised this profession, and that the canons of Christian Rome have since thundered their censures against it. There is one advantage, however, that this dangerous madness has produced, which is, that the searchers after the philosophers stone, and the universal remedy (at least those of the most judgment and ability) have discovered in their pur-

suits several matters both useful and curious; as new colours, remedies, the compositions of glass, porcelain, and many other like matters.

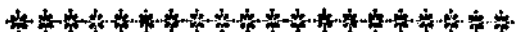
VII. The terminology of alchymy is altogether as absurd as its object; and the books, which have been wrote on this pretended science, are a disgrace to the human understanding. Expressions constantly dark, without ideas, and without connexion; barbarous terms to express things the most simple and natural; a ridiculous jargon, and mystic explanations, at which good sense perpetually stumbles, compose the essence of these works; and it would be for ever vain there to seek, either demonstration, reason, or the appearance of evidence.

VIII. Let us return to common chymistry; to which are also given the names of the *Spagyric* and *Hermetic Art*, *Pyrotechny*, &c. This art is incessantly occupied in *separating* and *uniting*; according to its motto *Solve & coagula*. The means that it employs are the air, earth, water, and especially fire. It is subservient sometimes to alchymy, sometimes to philosophy, sometimes to the liberal or the mechanic arts, but above all to medicine: for which reason some authors have divided it into metallic and medicinal; others into philosophic and medicinal; and the late M. Stahl said, that it had three parts: 1. *Zymotechny*, which treats of fermentation: 2. *Halotechny*, which treats of salts: and, 3. *Pyrotechny*, that describes its operations on metals and minerals by means of fire. An honest and judicious chymistry may be said to be the foundation of a good philosophy and a good pharmacy; as will appear to all such as shall attentively consider what we have here only just mentioned.

IX. They, who would apply themselves to this laborious and seducing art, will do well to furnish themselves with a good dictionary of its technical terms, as that of *William Johnson*, or some other such: 2. To procure a good catalogue of the principal natural bodies: 3. To begin by the simple composition or mixture of bodies, and to proceed naturally, and without too much speculation, up
to

to the double, triple, quadruple, &c. mixture of bodies. The chymist should observe, 4. The time, and the order in each operation: and, 5. Carefully consider what each process is intended to promote by the aid of chymistry. In this manner he may pursue his enquiries and operations by insensible degrees, till he arrive at its most complicated labours, and most important enterprizes.

X. The cabinets, the libraries, and booksellers shops, swarm with treatises on chymistry. A judicious catalogue of them is to be found in the *Chymical Bibliothegue of Albinus*. A good choice in the works that are to be read, and a good method in the operations that are to be pursued, are above all things necessary. The student in the course of this science will find fallshood, enthusiasm and extravagance, constantly pursue, and too closely approach, truth and reason. After he has formed a good system, he should consult the professors, and chymists of known ability, unite himself with them, and observe their operations: and lastly, he must employ himself assiduously to this business, labour at the furnace, resolve, unite, refine, and constantly think and reflect.



C H A P. XXXV.

O F P H A R M A C Y.

I. **W**E are now come to Pharmacy; the last part of physic in general, and of the materia medica in particular. This art teaches the conservation, the preparation and mixture of medicines; and forms, at the same time, the knowledge, and the practice of the apothecary. The physician should understand by the study of the medicinal matter, as well as by daily practice, the good medicines, together with their effects; and should be able to point out to the apothecary all

the ingredients which enter into the composition of salutary remedies: the latter is to furnish his shop with them, to know their qualities, how to prepare them, and to compound them according to the prescription of the physician, or the wants of such as may require them. The physician should have a rational and philosophical judgment of remedies; but to the apothecary a mechanical knowledge of these matters is all that is necessary.

II. From these considerations arises the custom, that is received in the most civilized countries of Europe, for the Superior college of physic, or the Senate of health, to issue an ordinance, or general dispensatory, containing an account of all the drugs, medicaments and compositions that privileged apothecaries are to have in their shops. In consequence of this dispensatory (so called from the technical term *dispensatorium*), every apothecary is obliged to furnish his shop with the remedies there prescribed, and is forbid to have any that are not therein mentioned. The medical faculty of Paris have published a medicinal code under the title of *Codex medicamentarius, seu Pharmacopœia Parisiensis*, which is a rule to all physicians, chirurgeons and apothecaries of that capital, and of all other towns also in that kingdom.

III. The faculties or colleges of physicians should use their utmost precaution not to suffer any drugs or medicaments to be inserted in their dispensaries, but such whose safety and efficacy have been attested by physicians of the greatest ability, and the longest experience. On the other hand, all medicines of a doubtful, dangerous, hurtful, or venomous nature, ought to be proscribed under severe penalties. It appears from hence how ridiculous it is for common people to imagine, that apothecaries fill their shops with a thousand unknown plants, insects, animals, bones, &c. of which they know the occult virtues, but carefully conceal them from the vulgar. Nothing is more false than such an opinion: every thing is prescribed to the apothecary,

apothecary, even to the preparation of medicines, and all that enters into their composition: and every physician knows, or should know at least, every plant and every drug that is *official*. From what is here said it appears, moreover, how dangerous it is to permit empirics, vagabond mountebanks, and hawkers of medicaments of every kind, to carry about their murdering nostrums in cities, and more especially in distant countries. Who can tell what pernicious ingredients are contained in those pretended remedies; when, at the same time, the most celebrated faculties of physic employ so much pains and care in the composing of good dispensatories? The faculties or colleges of physic, should also visit frequently, at least annually, the shops of the principal apothecaries, and examine, if they be provided with the medicaments prescribed by the dispensatory, and if they be of proper qualities; and should likewise take care that the apothecaries do not vend such as are forbid, as poisons, &c.

IV. All remedies or medicaments are, as we have said, either *simple* or *compound*; pharmacy, therefore, is divided into two parts; which are, 1. The preparation; and, 2. The composition or mixture of medicines: and we find it so divided in the treatise of Dr Wedel, *de Pharmacia in artis formam redacta*. The methods of performing these different preparations and compositions are to be learnt by the practice of pharmacy itself. We shall not enter into this labyrinth, nor undertake to reconcile those two pharmaceutic axioms, one of which assures us, that *contrariorum contraria sunt remedia*; and the other, that *familia curantur familiis*; nor to explain the virtues of *narcotics*, *purgatives*, *emetics*, *precipitants*, *astringents*, and other powers which are attributed to divers medicaments. Many learned men have also divided all medicines into *corroboratives* (*consortantia*) *alteratives*, which change the active powers in the human body (*alterantia*), and *evacuants*, which discharge the body of super-

fluors or peccant matter, by the excrements, perspiration, urine, &c. (*expellentia sive purgantia*). But these distinctions, although they were not pedantic, belong rather to the doctrine of the materia medica in general, than to pharmacy in particular.

V. *The artificial preparation of medicines is either mechanical or chymical.* These different kinds of preparations have given occasion to some authors to divide pharmacy into *Galenical* and *Chymical*; each of which methods have their advantages and inconveniences. The former leaves the medicaments most in their natural state, not altering the original property of the medicine; the latter concentrates, in a greater degree, the virtues of the medicaments, and by separating such parts as are foreign or useless, diminishes the mass or quantity of the remedy, and consequently renders it less liable to weaken the stomach.

VI. In the *composition or mixture* of remedies there are three things to be considered: 1. If it be necessary to augment the force, the virtue, or effect of one ingredient by adding another to it: 2. If a medicine by doing good one way may not do harm another, and if by composition the pernicious effect may not be prevented, by taking away some natural property of that body, or by enveloping its points in some oils or syrups: 3. If the disgust of the sick may not be prevented by rendering the medicines less disagreeable and repugnant to his taste, or by conveying it in some vehicle. In all these cases the apothecary should take great care not to destroy, in his mixture, the virtues of one body by another, and by that means render their effects abortive. For the rest, all depends, in preparations as well as in compositions, on the several drugs and medicaments being fresh, pure, and of a good quality; as a small quantity of such as are good will have a quicker and more powerful effect than a very large quantity of such as are bad.

VII. Many

VII. Many authors have wrote on pharmacy; among which are *D. Rivini Disp. V. de medicamentorum officinalium censura*; *Helmontii Pharmacopol. et dispensatorium modernum*: as also the Pharmacopœia of *Bauderon, Quercetan, Zwelfer, Charras, Lemery,* and many others.

VIII. The signs or characters of which physicians and apothecaries make use, not only to express the medicines themselves, but also their quantities and preparations, form a kind of occult science for the profane vulgar: there are, however, many books in which these signs are described and explained. We cannot sufficiently recommend, as well to physicians as apothecaries, carefully to attend to these signs, and not to use them without a most scrupulous precision, as a very slight inadvertence in this case may have a fatal consequence. The most easy and certain method is, not to make use of them in prescriptions, especially to express the quality of the ingredients, but to write their names at length; which is the method now used by cautious physicians, in order to prevent every possible ambiguity.



C H A P. XXXVI.

O F C H I R U R G E R Y A N D O B S T E T R I C S.

I. **C H I R U R G E R Y** is that branch of the therapeutic art which is exercised on the external parts of the human body when they are injured; and physic sometimes resigns the internal parts also to its care, as in lithotomy, the trepan, venereal disorders, &c. The limits of many parts of physic and chirurgery are so intimately connected, that it is impossible precisely to distinguish them, and to assign to each of them the exact ground on which it ought to exercise.

II. But

II But as chirurgery is principally concerned in external operations, we shall only consider it here from that point of view, having already sufficiently explained what relates to the cure of internal diseases. Chirurgery, then, is divided into *speculative* and *practical*: the first describes what the second executes. All its operations are reduced into four classes: 1. The first, named *synthesis*, is employed in what are called *solutions of continuities*, that is, the rejoining of such parts as have been separated: 2. The second, named *decreasis*, divides those parts whose union is incompatible with health: 3. The third, called *exerefsis*, takes from the human body that which is foreign and useless, or injurious to it; and that by two methods, either by extraction, in taking from the body that which is formed therein, or by detraction, which is the taking away that which has been introduced without: 4. The fourth, named *prothefis*, supplies that which is wanting.

III. Opportunities frequently offer in France, in England, Germany, and elsewhere, of making a complete course in chirurgery, and of attending the explications of all its different parts by a professor: but as these opportunities are neither so universal, nor so frequent as could be wished; and as lectures merely verbal and theoretic are not sufficient, seeing that the student should apply to operations, and should acquire, besides knowledge, a great dexterity of practice, what follows shows nearly the method that we think the most eligible to make him an able proficient in an art that is so useful, so indispensably necessary, and consequently so important to mankind.

IV. He, who devotes himself to chirurgery, and desires to excel in it, should early apply himself to the study of the liberal arts, and especially to the knowledge of the Greek and Latin languages, as not only all the terms of his art are taken from those languages, but the best treatises on anatomy and chirurgery are wrote in Latin. He should then
bind

bind himself to the study and practice of the art under the immediate inspection of some able surgeon or operator, and apply himself as soon as possible to its manœuvres. The motto of every surgeon should be *sculoque manique*. In the course of his study, he should frequent the anatomical theatres, and the schools of chirurgery, where lectures are delivered, and operations performed, by professors and able masters in the art.

V. *Anatomy* and *physiology* are the principles and foundation of chirurgery; without which it cannot well and safely perform even the operation of phlebotomy. To these the student cannot too assiduously apply; and of these the master should never lose sight in his operations: each of them should also be acquainted with the *materia medica*, and especially the nature and virtue of those drugs which enter into the composition of ointments, plaisters, balsams, injections, and other external remedies, of which they make daily use. The *therapeutic* science they will find not less necessary.

VI. The student should next acquire the knowledge of all the *instruments* necessary to his art; of which the number is not only very considerable, but daily encreasing, by the inventions with which France, England, and some other countries, are continually enriching chirurgery: and the greatest part of these instruments are also still susceptible of further improvement. The application of the fungus or excrescence of trees that has been made, of late years, to amputations and other large hemorrhages, is a discovery of no small importance; for formerly they were obliged to employ the tourniquet, which was not in many cases at all applicable, and which therefore rendered amputation in those cases impracticable. We cite this single example merely to show the importance of numberless like inventions which all tend to the perfecting of chirurgery. The professors or masters should carefully explain to their pupils all the different sorts of instruments.

VII. The

VII The *bandage* is an object of much greater importance in chirurgery than is commonly imagined: it is a part of the art that requires a good deal of address and practice; and professors and chirurgeons should well explain to their pupils the rules and methods to be observed in applying it.

VIII. The *charitable and military hospitals* form also admirable schools for the young chirurgeon. It is there that the evils of wounds and infirmities promote the good of mankind, who are all liable to like accidents. It is there that the speculative chirurgeon plans, extends, and confirms his system; it is there that practical chirurgery forms the judgment, the eye, and the hand of her disciples: and it is there that these make their first essays, and perfect their experience.

IX. There are yet many arts, trades or professions, that relate to physic or chirurgery; such as oculists, dentists, bleeders, cuppers, &c. but as the art of each of these is founded, more or less, on the principles of the different parts of physic, which we have already explained, we shall refer the professors of these arts, and our other readers to those parts, that we may not disgust the latter by useless repetitions.

X. But we cannot entirely pass over in silence the *obstetric art*, which not only forms a distinct branch, but is an art of the highest importance to the human race, although it be neglected in many countries of Europe, even among those which are the most civilized. It is an art, moreover, that is, above all, interesting to that delicate sex, who, to promote our happiness, and to provide the world with new inhabitants, are exposed to the greatest inconvenience, misery, and danger; which the ingratitude of men, and the negligence of legislators have not diminished by taking proper measures to promote this art, especially in places far distant from the capital. We can treat, however, but very superficially on a subject where it is so difficult to speak

ſpeak without giving offence to modeſty; eſpecially as we have not, like the author of the *Philofophical Venus*, the art of conſtantly placing the hind in the room of Iphigenia.

XI. Whatever they may tell us of ſome people in America, where the huſbands are delivered inſtead of their wives; or of the women of Peru, who never keep their beds on theſe occaſions; or of the men of Bern, who formerly took to their beds when their wives were delivered, and ſent them to the plough; and notwithstanding the prodigies we daily ſee of this kind, among the wives of ſoldiers and ſuttlers who follow the army, it is nevertheless certain that every birth, even the moſt regular, is a kind of miracle: it is true, that it is a miracle which is every day performed, and for that reaſon is not regarded as ſuch: it is true, likewise, that nature herſelf takes ſuch proper meaſures, that in happy and regular deliveries, a common female peaſant can do the office of the midwife; but in difficult labours, or irregular poſitions, which are moreover very frequent, the moſt able man-midwife ſometimes finds himſelf greatly embarrassed.

XII. It is for this reaſon, that wiſe and humane legiſlators have eſtabliſhed ſchools for the operators of both ſexes in this art, where they are inſtructed by able profeſſors, who explain to them the anatomy of the generative parts; teach them *that dexterity of hand* which they are to praſtiſe; and make them acquainted with the inſtruments which they may have occaſion to uſe, the manner of uſing them, and the caſes in which they may and ought to be uſed with ſucceſs; the rules that will be convenient to obſerve from the time of conception, to and after delivery, as well for the mother as the child; the ſigns of pregnancy; and, in a word, every thing that relates to lying-in, and to thoſe whoſe profeſſion it is to expedite and facilitate its operations.

C H A P. XXXVII.

I. OF THE PRACTICE OF PHYSIC. 2. OF MEDICINAL PRUDENCE. 3. OF THE DECISIONS OF THE FACULTY.

I. **I**T would be to engage in repetitions equally disagreeable to our readers and ourselves, were we here to repeat all the detached reflections we have made on the practice of physic, in the chapter on physic in general, in those on pathology, the semiotic, and the therapeutic, to which those subjects naturally led us: but there still remains a number of observations to be made on this head, and which we shall endeavour here to range in a natural and systematic order.

II. The art of physic has two objects; 1. The preservation of man's health; and, 2. Its restoration when banished by disease: and from these arise its two practical doctrines, which are, 1. The *dietetic*, which is also called the *hygiæna* or *methodus tuendæ sanitatis*; and the *therapeutic*, of which we have already made the analysis. The first of these is founded principally on physiology, and the second on pathology, which form the two grand principles of physic in general.

III. The doctrine of the diet may be considered from different points of view. 1. It is either *general*, *natural*, *special*, or *particular*: 2. Its object is *man*, either in *health* or *disease*: 3. It is founded on *theoretic* maxims, or on *simple experience*.

IV. The disinterested physician must be persuaded, that it is much better to prevent disorders than to cure them, and will act in conformity to this opinion, with all those who shall seek his advice. With regard to *diet in general*, as it relates to the whole race of mankind, it is an universal maxim, that man may make use of all the earth produces, but that the least abuse, the least excess is detrimental to his health: even the most pernicious

icious poisons are converted into salutary medicines, when taken in small quantities; as the passions become useful to the human body, when their effects are moderated. Sobriety is the basis of health, but with this it is impossible to associate intemperance.

V. *The national diet* is founded on the prevailing temperament of a people, or on certain diseases with which they are afflicted, or on the climate, &c. The ancient Jews, for example, were filthy lepers, and addicted to inebriety. Abraham enjoined them circumcision, and Moses forbade them the use of several sorts of foods, prescribed them a salutary regimen, and inculcated frequent purifications: but we do not find that this legislator prescribed any precautions, or regimen, against a disorder to which whole provinces of their descendants in Palestine were subject, and which was, to be possessed by the Devil. Mahomet forbade the use of wine and strong liquors to the Arabs and Saracens, to which they were too much inclined, in a country so hot as Asia: the northern nations, the Russians and the Swedes, make much use of brandy and intoxicating wines: in Italy, in Portugal and Spain, the beggars ask charity to purchase a pound of ice or melted snow, as our beggars ask for a morsel of bread: in Denmark the people subsist principally on oatmeal, which is a preservative against the diseases of the skin: the English are great eaters of flesh: the French live almost entirely on bread. All these matters, and a thousand others of the same nature, are founded on the natural diet, necessary to each people and each climate. The physician should have a due regard to this, and not imagine that the mode of living, the aliments or the medicines, should be constantly the same in all countries.

VI. *The special diet* is founded on certain infirmities and disorders, with which it is the lot of many men to be afflicted. One regimen, for example, is proper to asthmatics, another to hydropics, to the gouty or to the hypochondriac, to those who are

are afflicted with the gravel or the cholic, &c. The physician should likewise be able to give salutary advice, founded on theory and experience, to every man, who without being absolutely sick, finds the first attack of a disorder

VII. The *particular diet* is founded on the temperament of each individual, on the essential constitution of his several organs, and of his whole united frame. Now as the constitutions of men are infinitely diversified, each one should know, by daily experience, what regimen is agreeable to his particular temperament, what are the aliments that do him most good, or cause him least injury; if moderate or violent exercise be best adapted to his state; if he can support the cold, or find more advantage from warmth; and so of the rest. It is from hence that arose the proverb, that at the age of thirty, every man should be his own divine, lawyer, and physician. An able physician however, who has thoroughly studied his art, and makes it his daily practice, is capable of giving important advice relative to diet, and to direct such as deviate from the right path by ignorance, by prejudice, or caprice.

VIII. With regard to the second distinction, it is natural, that a body either attacked or debilitated by disease, should require a very different regimen from one that is in health and vigour. We have already made (in the chapter on physic in general) some observations on the diet of the sick; and we shall only add here, that a strict regimen is proper for such only as are really disordered, and that, with regard to those who are in health, a too rigid diet is worse than a debauch. There is a midway, however, between a great intemperance and a scrupulous regimen; and it is this mediocrity that a reasonable man will follow, and not imitate the imaginary sick, who is unable to determine, without consulting his physician, whether he should traverse the length or the breadth of his chamber.

IX. Lastly,

IX. Lastly, the diet is found on philosophical principles and theory, or merely on experience. A physician, for example, may make so just and accurate an analysis of tea, coffee, tobacco, liquors, &c. as will enable him to draw infallible consequences relative to diet, either general or particular. Practice also may have given him occasion to make such judicious observations on these objects as are almost equivalent to a theory: and enemy as I am to mere empiricism with regard to physic, yet I readily confess, that I place great confidence in the long practice of a physician, who is capable of making judicious reflections. There are several authors, who have made the hygieina or diet their particular study, and have wrote entire treatises thereon. Among these, the maxims of the school of Salernum (a city of the kingdom of Naples, where there was formerly a celebrated faculty of physic) are very well known; but they are also very ludicrous, and consequently in many places trifling.

X. *The medicinal prudence*, in the practice of the art, relates principally to the esteem and confidence which the physician should endeavour to obtain, as well of the public as of his patient; and is an object of much greater consequence than is commonly imagined. He should therefore banish from his behaviour and conversation, especially in his practice, every thing that has the appearance of quackery or pedantry: there is a just mean to be observed, here, between a morose and assuming taciturnity and a loquacity that confounds and fatigues the sick. The prudent physician will not garnish his discourse with the technical terms of his art, nor will he affect scrupulously to avoid them: he will not discover danger in every incident, nor will he endeavour to inspire his patient with unconcern when he sees him on the point of death: he will not perpetually exclaim, *so much the better* or *so much the worse*: nor will he place an unbounded confidence in his art, or imagine that he has it always

ways in his power to recall his patient from the gates of death; nor on the other hand, will he discover tokens of despair on every unforeseen and unfavourable appearance: but he will be constantly prudent, and constantly prepared for every accident; and when he has formed a good indication, he will accustom himself to come to a speedy resolution; for there are certain revolutions in diseases, where it is necessary to seize the lucky minute, and where an opportunity once lost, is lost for ever.

XI. *The decisions of the faculty* in general, and of able physicians in particular, are matters of some consequence in the practice of physic. Sometimes the legislature consults the body of physicians, and sometimes particulars among them, relative to laws that it proposes to establish: sometimes the tribunals require their advice in difficult cases: and sometimes there are councils of health appointed, as in times of public calamity by plagues, or other contagious disorders; or in matters of public concern, as for example, in the case of inoculation: their opinion is also consulted in doubtful murders; in determining whether a child were born living or dead; in the affair *de partu legitimo*; on suspicions of poison; and in a thousand like cases, especially among such as belong to the canon law.

XII. Individuals likewise, who labour under painful, and dangerous or inveterate diseases, frequently require the united advice of several physicians of distinguished ability, or sometimes of the whole faculty, on the nature of their disorders, and the methods of cure; and these form what are called *consultations*.

XIII. All these matters, taken in their full universality, form a doctrine that is called *juridical phys.* (*medicina forensis*) and it is sufficiently evident, that these *medico legal decisions* ought to be founded on the general practice of physic. Many authors have wrote distinct treatises on this subject, to which we refer our readers, such as *Valentini Pandeetæ*

Pandectæ medico-legales, and the *Novellæ medico-legales* of the same author: *Bohnii medicina forensis*: *Littmanni medicina forensis*: *Amman de vulnerum lethalitate*, and the same author in his treatise intitled *Irenicum Numæ Pompilii cum Hippocrate*, &c.

XIV. It is an important article in the clinic or practical part of physic, and especially in juridical physic, for every physician incessantly to consult his talents and his conscience, and not to be guided in his practice or in his decisions by ignorance, and much less by malice: it is scarce possible for man to commit a crime more atrocious, and more displeasing to God, than this.

XV. We cannot conclude these observations on physic in general, without mentioning two works that will be of the utmost utility to such as devote themselves to the study of this science: the one is the *Medicinal History of M. le Clerc*, physician of Geneva, and the other, the treatise of *M. Vander Linden de scriptis medicis*, which contains an admirable catalogue of all such books as have been hitherto wrote on physic.

OF PHILOSOPHY.

I. **T**HAT desire of happiness which is so natural to mankind, that it becomes the motive of all their labours, and the spring of every action, it was that desire, I say, which alone gave birth to philosophy in the earliest ages of the world. Each mortal, by following this instinct, doubtless endeavours to render his condition more advantageous, that is, to render himself happy; but as all men have not either sufficient discernment, or sufficient opportunity, to discover the path that leads to felicity, some among them have arose, who have persuaded others that they had discovered that path, or, at least, they applied themselves expressly in the search of it; and have established celebrated schools, where they might point it out to their fellow citizens. These new guides, in the career of good fortune, have called the science that leads to happiness by the name of *wisdom*; and consequently their doctrine the *love of wisdom*; which is expressed by the Greek word *philosophy*.

II. It is naturally and morally impossible for all mankind to behold the same object from the same point of view; and consequently there soon arose, among these masters in philosophy, different opinions concerning happiness, and the road that leads to it: from hence came the different systems in philosophy, and those famous disputes, which at this day appear to us so insipid and frivolous. All that there is of certainty in this matter is, that none of these philosophers perceived that the happiness of each individual resides in his opinion; and it is with reason that *opinion* has been called the *queen of the world*. *Passion*

is nothing but a vehement desire we have to satisfy our opinion in what we think capable of procuring our felicity. Every man derides and censures his neighbour for his bad taste in this pursuit, and for the choice of the object that is to render him happy. The covetous blame the prodigal; the scholar, retiring to his study, condemns the courtier immersed in the dissipations of the world; the petit-maitre, in return, laughs at the scholar; the connoisseur in paintings, in antiquities, or natural curiosities, cannot account for that excessive love which the miser has for his money; the usurer shrugs his shoulders, and is astonished that any one should mispend his time in the pursuit of learning; the man of sanctity, lifting his eyes toward heaven, laments the wretched taste for earthly enjoyments; and the man of the world, in his turn, ridicules the enthusiast: in a word, each one is unable to account for his neighbour's taste; and no one is satisfied, but in proportion as he is able to gratify his favourite passion, that is, what in his opinion constitutes human happiness. It is apparent that we do not speak here of eternal happiness, for that is the object of theology, but of temporal felicity; which the meanest bauble is as able to procure as any thing of real use. It is pleasant enough, however, to hear a philosopher cry out, *Mortals, you cannot be happy but by such and such means, and by such and such maxims*; but he forgets that the happiness of a woman frequently consists in a diamond or trinket; and that of a courtier in a title or riband.

III. The inquiry after happiness alone, and the duties which result from that inquiry, is far from being an immense affair; the subject is soon exhausted. The matter in philosophy, however, must live, and to live he must have pupils: these pupils must be employed and amused, and for that reason new subjects must be provided. To this first motive a second was added: the desire of happiness necessarily produced a desire of instruction; and by that mean curiosity and utility were both gratified at the same

same time. The philosophers were a set of men who devoted themselves by profession to the exercise of reason; and it is not surprising that they extended by degrees their ratiocinations to all objects that were susceptible of it, and especially to such as had any affinity with their first institute, or that required a complicated, deep, and difficult investigation. Insensibly, therefore, they extended their inquiries to the cause of all things; ascended to the first principle of all beings; and placed true felicity in that profound knowledge, according to the expression of Lucretius.

Felix qui potuit rerum cognoscere causas.

IV. The philosophers amongst the most ancient people of the world were called *sages*, or wise men, as appears from history both sacred and profane. *Thales* and *Pythagoras* in Greece were the first among those that made an open profession of this science, who thought the title of sage too fastidious, and took the more modest name of *philosophers*, or *lovers of wisdom*. *Thales*, who was a native of Miletus in Ionia, and the first of the seven sages, was the founder of the *Ionic sect*; his most illustrious disciples were *Anaximander*, *Anaximenes*, *Anaxagoras*, and *Archelaus*. *Anaxagoras* employed himself entirely in the contemplation of the stars, and when he was asked if he had no concern for his country, replied, pointing to heaven with his finger, *I incessantly regard my country*. *Pythagoras* founded the sect that was called *Italic*, because it was settled in that part of Italy which was called Great Greece, and which now makes part of the kingdom of Naples. He borrowed from the Egyptians a mysterious manner of teaching by *numbers*; and to that he added a certain *harmony*, by which he explained the perfection in all objects. He believed the world to be animated, intelligent, and round. Not knowing what to do with the soul after its separation from the body, he invented the doctrine of the *metempsychosis*. His disciples of greatest note were *Ocellus* of Lucania, *Archytas* of Tarentum, *Philolaus* of Croton,

Croton, Parmenides and Zeno, both of Elea, and Melissus of Samos. Zeno was the inventor of the dialectic; the others applied themselves closely to the study of natural philosophy, and to the investigation of its principles.

V. *Socrates* followed the career of these first philosophers, but turned almost all his studies toward *morality*. His master was Archelaus the Pythagorean. He was the first who began to reduce the confused ideas of those who had gone before him into method; for which reason he is called by Cicero the *father of philosophy*. His life was a model of frugality, moderation, and patience; and his doctrine abounds with wisdom.

VI. *Socrates*, discovering a greater genius in *Plato* than in any of his other disciples, had a particular attachment to him, and his labours were not lost; for, among all the celebrated men who came out of the school of *Socrates*, *Plato* was, doubtless the most renowned. He taught at Athens, and had, in a short time, many disciples. He established his school in the Academy, which was a place without the town, and from thence his followers were called *Academics*. According to *Plato*, the soul of man is only a ray from the Divinity: He believed that this particle, united to its principle, knew all things; but when united to a body, it contracted ignorance and impurity by that union: He did not entirely neglect natural philosophy, like *Socrates*, but enquired into many questions which relate to that science. He believed that all things consisted of two principles, *God* and *matter*. He likewise cultivated astronomy. His morality was the same in substance with that of *Socrates*.

VII. The disciples of *Plato* formed also many new sects. That, of which *Aristotle* was the founder, is doubtless the most illustrious. This philosopher was the first who formed, from the several parts of philosophy, a complete system. No one before him had treated separately, and from principles, the different parts of this science. He did

not regard logic as a part of philosophy, but as a proper method whereby to dispose the understanding to discover the truths that it contains. The *morality* of Aristotle is the most perfect of all his works. His *physics* consist of notions and terms that are vague, and as trifling as obscure. His disciples and their followers were called the *peripatetics* of Lyceum, where he had fixed his school.

VIII. Aristotle was not the only disciple of Plato who deviated from the sentiments of that great man: there were others who likewise placed themselves at the heads of different sects. *Arcefilas* was the author of a sect that was called the *Middle Academy*. He declared that there was nothing either certain or true: and that the positive and negative might be maintained in all sorts of subjects. *Lacydes*, who taught in the same school as Plato, fifty-six years after Arcefilas, was the chief of another sect that was called the *New Academy*. He acknowledged that there was a degree of probability, but that we could not assuredly know that any thing was absolutely true. *Pyrrho*, about the same time, placed himself also at the head of a sect. He improved on the dogma of the Academics; and maintained, that it was impossible to comprehend any thing: but Pyrrho could not comprehend himself. He believed that there was nothing true, nothing but what might be said to be either this or that. His followers were called *Pyrrhonians*, or more commonly *sceptics*, because they searched without ever being able to discover any one thing.

IX. About the same time arose two sects, who, with principles diametrically opposite, rendered themselves highly celebrated, and divided at first the wits of Greece, and afterward those of all the rest of the world; and these were *Zeno* and *Epicurus*. *Zeno* was of Citium, a city in Cyprus. He taught in the porticoes of Athens, from whence his disciples were called *Stoics*. The most famous dogma of *Zeno* and the stoics consisted in the principle of morality,

lity, which was, *to act in conformity to nature*, that is to say, according to the object of our desires: on this principle, and on divers others, they formed the idea of a philosophy altogether extravagant, and insensible to all external objects. The physics of Zeno had nothing new but the terms. The other sect, which flourished at the same time, was that of *Epicurus*; and they were called *Epicureans*. This philosopher taught publicly at Athens, his native country, at the age of thirty-two years. He rejected all the chicaneries and subtilties of logic, and sought the truth by means of the senses. He attached himself greatly to morality, to which likewise tended all his other studies; and his morality was as consentaneous to the nature of man, as that of Zeno was contradictory, seeing that his first principle was, that pleasure is the pursuit of man, and that it consists in health of body and tranquillity of mind; and that it is the source and the end of a happy life, &c. Epicurus was also engaged, but with less success, in the labyrinth of metaphysics, and in physics: he adopted the system of atoms, of which Democritus was the first author. In short, malgré the evil interpretations and calumnies of his adversaries, he inculcated by his doctrine, and by his example, frugality and sobriety; and according to him death is not an object of terror: *For, says he, it is nothing so long as life subsists; and when it arrives life is no more; no man has ever felt his death.*

X. It is evident, that these ancient systems of philosophy are at great variance with each other; and as truth is constantly uniform, it follows, that the greatest part of these opinions cannot be true. This consideration engaged *Ptolemy*, of Alexandria, under the emperor Augustus, to select all that he found most rational in the doctrines of all the other philosophers, whereof he composed a system, and founded a sect; and he, for that reason, gave to his doctrine the name of the *eclectic philosophy*, from a Greek word which signifies *to select*.

XI. The doctrine of Plato was at first in greater estimation than any of the others; and there were many celebrated Platonists under the Roman emperors down to Julian the apostate, who was himself one of them. The first Christian doctors likewise declared for this philosophy, as Justin Martyr, Tatian, Athenagoras, Origen, &c. But at length the philosophy of Aristotle, perhaps of all others the most absurd, took the lead; and truth was no longer sought for but in the writings of that philosopher. This violent fondness for his reveries began about the twelfth century; at which time a philosophy was formed, that is commonly called the *scholastic*, and which is borrowed, in great part, from the writings of the Arabs, whom the scholastics, who were all attached to Aristotle, imitated in their subtle, ambiguous, abstract, and capricious manner of reasoning, by which they never hit the truth, but constantly went on one side, or beyond the mark. Toward the end of the fourteenth century, their spirits were extravagantly heated by logical distinctions, relative to that furious emulation, which was formed on the doctrine of Aristotle, between the *Nominalists* and *Realists*. The former had, for their chief, *Osbam*, an English cordelier, and a disciple of *Scotus*. They maintained that the universal natures were nothing but words: and the others, who supported themselves by the authority of *Scotus*, maintained that the same universal natures were beings strictly real. These disputes divided all the universities of Europe: philosophy was no longer employed but in *operations of the intellect, conceptions, abstractions*, and such like vain subtilities; and became a mere jargon, a confused heap of unintelligible ideas.

XII. At length, in the sixteenth century, philosophy began to deliver itself from the chains of terminology; men accustomed themselves to philosophize by reason, and not by verbal contention: they began to throw off the yoke, and without entirely despising Aristotle, they no longer believed him

him on his word. *Nicholas Copernicus*, who was born at Thorn, in 1473, and died in 1543, had already borne the torch of reason in the mathematics and astronomy: he had rejected the system of the world that was invented by *Ptolemy*, and which the Greeks called *most wise and divine*; and had published his book *de motu octavæ spheræ*, and his treatise *de revolutionibus*, in which he established his system of the sun's being immoveable, and of the motion of the earth. *Galileo*, who was born at Florence in 1564, adopted the system of Copernicus, confirmed it, and improved it by new observations. This discovery of the truth cost him five or six years confinement in the prison of the inquisition. He introduced a new and excellent method of reasoning in philosophical subjects.

XIII. *Peter Gassendus*, professor of mathematics in Paris, also practised, in the beginning of the seventeenth century, a new method of philosophizing, which contributed greatly to the progress of that science. Lastly *René Descartes* appeared, almost at the same time; and, by a method that had been but very imperfectly understood before, discovered more truths in philosophy than all the preceding ages had produced; although, from that weakness which is natural to the human understanding, he has frequently mixed error with truth in his different systems. He treated on almost all the parts of philosophy, especially the mathematics, physics, and metaphysics. Every one is acquainted with his famous system of the *plenum* and *vortices*.

XIV. Before *Descartes*, *Francis Bacon*, baron of Verulam, chancellor of England, had exposed the errors of the philosophy of the schools, and the wretched method that was there pursued. He was one of the greatest men that has ever appeared upon the earth. It was he who lighted that torch with which all his successors have illuminated philosophy; and in his writings are to be found the seeds of every new discovery, and of every new hypothesis.

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XV. After

XV. After this golden Aurora, the philosophic horizon was at once enlightened by three grand luminaries, which dispersed many of those clouds that hid the truth from mortal eyes, and diffused great lights, at least, on many objects that lay buried in obscurity. It is evident that I here speak of *Newton*, *Leibnitz*, and *Locke*, all contemporaries, and all living in the seventeenth century. All the world has heard of the renowned system of Sir Isaac Newton on space and attraction; and every one knows with what sagacity he has established his principles, and with what force he has deduced their consequences, by calling to his aid all that the mathematics, that the most acute and most sublime calculations, could furnish to form manifest demonstrations: all the world has heard of the Theodicee of Baron Leibnitz, of his system of monades or atoms; of the most perfect mundane system; of the sufficient reason; and of the pre-established harmony: all the world knows his superior talents in the mathematics, how greatly he has contributed to the inventing and the perfecting of the arithmetic of infinites, and with what facility he has resolved problems the most difficult and most important. Lastly, all the world is acquainted with that true anatomy, founded on reason and experience, which Mr. Locke has made of the human understanding; with those most sagacious, and most certain discoveries, which he has made in the course of his enquiries; and with those just bounds which he has assigned as the extent of human knowledge.

XVI. After these great names, I shall mention only that of the late Baron *Wolff*, to whom philosophy owes the new method, or rather the application of the method of mathematicians to philosophical subjects. He has likewise elucidated and extended all the hypotheses of M. Leibnitz, and has also wrote very considerable works on all the parts of speculative philosophy, and the mathematics. His mathematical elements form, moreover, the best work of that kind that there is in any language,
for

for beginners in those studies. It cannot be expected, when the narrow limits of this work are considered, that we should here give an account of a great number of modern philosophers, who are all perhaps of equal ability, though of less renown; and which we the more readily decline, as we are fearful of offending the modesty of many living authors, whom we must admire in silence.

XVII. They, who shall read with attention the principles that we have laid down in the first and second sections, and the slight draught we have here given of the history of philosophy, may without difficulty draw with us the following consequences: 1. That philosophers, in their researches concerning the causes of all things, have found themselves obliged to reduce ratiocination into a system; to confine it to certain rules, and form it into an art, which they have called *logic*: 2. That by endeavouring to explain to mankind the nature, the causes, and effects of happiness, the investigation of these objects has produced a science that is called *morality*, to which are connected the doctrines of *natural theology*, *the laws of nature*, *ethics*, *politics*, &c. 3. That from their endeavours to investigate the nature of those sensible and palpable objects which surround us, has resulted a science that is called *physics*, or natural philosophy; which in like manner consists of several branches that all concur to its perfection, such as *optics*, *chymistry*, *hydraulics*, *mechanics*, and their dependant arts; with many others: 4. That by advancing still further, and by endeavouring to comprehend the nature and properties of subjects that are not discernible by the senses, but whose existence is the result of speculation and of a train of reasoning, a science has arose that is called *metaphysics*; which has also many branches, as *ontology*, *psychology*, *cosmology*, *pneumatology*, &c. 5. That from a desire to know the extension, the figures, the measures of all bodies, and their distances from each other, &c they must necessarily have recourse to calculation; from whence result

the *mathematical sciences*, whose principal branches are *arithmetic, geometry, algebra, astronomy, &c.*

XVIII. It is to these five capital objects that we shall here restrict philosophy; without regarding the opinion of such as include therein, grammar, rhetoric, chronology, history, and superior sciences, and many other like matters: for it is to confound the sciences, and to occasion confusion instead of regularity, to introduce matters that do not essentially appertain to a doctrine; and not to distinguish between such objects as belong to the imagination, the judgment, or the memory. There is no art or science whatever, but has some affinity, either direct or indirect, with philosophy, and that may not consequently be ranged under that science, by a small extension of its limits: it would not be difficult to write a treatise on *the art of shoe-making*, according to the method of mathematicians; and grammar, in like manner, belongs much less to philosophy, than brick-making does to architecture. Those tables, or trees of genealogical sciences, which the pedants find so admirable, and with which they are so delighted, to ornament the frontispieces of their learned labours, are, in fact, childish inventions, and only fit to amuse, or rather puzzle the boys of the first classes or forms.

XIX. Let us here rather make some farther remarks that are essential to philosophy in general. The essence, the soul of this science, consists in the investigation of the causes of all things; and the grand principle of this inquiry consists in that fundamental maxim, that *no effect is produced without a cause; that nothing is done without a sufficient reason.* This system of the sufficient reason is, therefore, the basis of all philosophy, and without it nothing is philosophical. To consider the outside of things, is to know them historically; to resolve them, in order to know their principles and their causes, is to learn to know them philosophically; and, in this manner, even history may be philosophically studied. This admirable system of the sufficient
reason,

reason, by diffusing the spirit of philosophy in the world, has already purged it of numberless dangerous superstitions: the fables of magicians, sorcerers, spectres, ghosts, the absolute sympathy, and a thousand like reveries, have disappeared from among men of sense, to the very great advantage of the human race.

XX. Philosophy may be again divided into *speculative*, which includes the subjects of metaphysics, morality, &c. and *demonstrative* or *experimental*, which principally regards physics: seeing, that by the improvement of the human mind, by ingenious observations, and the assistance of numberless admirable instruments, modern philosophers have discovered the means of explaining the principal phenomena of nature by experiments, and of demonstrating their hypotheses to the sight, and to the touch: which afford proofs much more evident than those of our ancestors, which were drawn merely from logical inferences.

XXI. Finally, The true philosopher is not he who has all the terms of the art at the ends of his fingers; nor he who is profoundly versed in all the various systems ancient and modern; nor he who has gone through a complete course under some learned professor, and who blindly adopts his opinions, and swears by the faith of his master; who has learnt historically, and so to speak by rote, the philosophy of Aristotle, Descartes, Newton, and Wolff. No: the true philosopher is he that has philosophy within himself; who reasons, reflects, and of *himself* investigates the cause of all things, and who has a spirit sufficiently strong to discover it, without devoting himself to any particular system whatsoever.

C H A P. XXXIX.

O F L O G I C.

I. **B**Y the word *Logic* is to be understood that science which teaches to reason justly and methodically; whose end is the improvement of the understanding; which shows the right exercise of the judgment in the knowledge of things, and in the inquiry after truth, as well with regard to our own information, as for the instruction of others; and which gives, for that purpose, judicious rules to enable us to define, divide, infer, and conclude. It is easy to perceive, that all these rules must be deduced from nature, and from good sense; and consequently, that logic only restores to human reason what it has drawn from human reason: that the precepts of this science are merely those of reason reduced into a system, and that its sole business is to present us with a clue to guide us in the labyrinth of argumentation.

II. It is on this account also that logic is distinguished into *natural* and *artificial*. The first is that operation which the mind of itself performs, without the assistance of art, in all its reasonings; and of which we find traces even among animals, whose actions evidently prove that they are continually forming of syllogisms, though we are unable to determine how far in this matter we are capable of excelling them. The second is, the same operation of the mind or understanding ranged into a system, which is directed by certain rules, and elucidated and improved to the greatest degree; in short, reduced into a regular art; as it is necessary among men, especially among learned men, that every thing be in a methodical manner.

III. Among the ancients, logic was the intellectual art of tilting: the logicians were ever ready for the combat, and constantly armed at all points; but these arms were nothing more than barbarous.
and

and empty terms, which, however, drove away reason, and consequently usurped her place in every dispute. The logic of Aristotle, afterwards adopted and followed by the schools, abounds every where with jargon, and consists of a mere jumble of unintelligible expressions and absurd terms, that tend much more to obscure than elucidate the truth. Modern philosophers have indeed cleared it of many of these scholastic pedantries, and have reduced it to a method more explicit and intelligible. Logic, however, still remains a school of arms, where youth are taught to attack, and to parry the thrusts of their antagonists. It frequently but unluckily happens, that the most able masters of these schools are attacked by the cudgel of strong sense; and while they amuse themselves with thrusting tierce and quart, in a scientific manner, are knocked down by the strength of their adversary's arm; that is, by simple reason. These colosses of common sense are sometimes met with in life, who without mercy crush the proficients in this art: and artificial logic has sometimes, though rarely, the unlucky fate to dash against and destroy itself by natural logic. Notwithstanding these inconveniences, every man of letters ought to understand this art, not only as an ignorance of its terms is justly thought disgraceful, and a sign of great want of learning, but because there is no better method to improve our reason, than constantly to observe a close methodical manner in the exercise of that faculty. But on the other hand, they who shall expect to find any marvellous discoveries in artificial logic will be much deceived.

IV. The object of inquiry, in the exercise of logic, is the *truth*; and the mean that it employs to find it is the *human understanding*; and that term is to be taken here in its greatest extent. As it is quite natural that each science should explain,

1. The object of its inquiry,
2. The instruments it makes use of in that inquiry, and,
3. The manner in which it employs those instruments, Logic

is therefore divided into three parts; of which the first makes, so to speak, the anatomy of the *human mind*, and the analysis of its operations: the second that of *truth*: and the third explains in what manner this knowledge of the truth may be attained, and what are the character and qualities of this knowledge.

V. This science begins, therefore, by explaining what is meant by the *human mind*, and the *human reason*; two objects that are not always sufficiently distinguished in common discourse. It then examines what are the faculties of the human mind, which, it restricts to those of *perception* and *thought*. In the next place, it describes those mental faculties that are called *invention*, *judgment* and *memory*; which it explains and derives from their true principle, and deduces certain consequences from the three modes of thinking which result from invention, judgment and memory. From thence it passes to the examination of *ideas*, and of the *judgment*: it then shows what is a *proposition*, and what are its properties. In the last place, it arrives at the grand operation of the understanding, which is that of drawing *conclusions*, and of forming *complete syllogisms*. And it then finally considers the human mind in its *natural state*, and in its greatest *improved state*.

VI. The second part of logic determines what is to be understood by the word *truth*; and investigates the sources from whence it is derived. It distinguishes those truths which arise from simple *ideas*, from such as result from *judgment*: it likewise distinguishes *absolute truths* from *probable truths*; such as relate to the *essence* of an object, from such as relate to its *qualities*. It then passes to the examination of *probability*; which is either *historic*, *hermeneutic*, *physical*, *politic*, *practic*, or *moral*. It moreover distinguishes those truths that relate to the *existence* itself of an object, from those of its different *modes*, or properties of existing.

VII. The third part of logic teaches the method that the human understanding employs in the discovery

very of truth. Now according to logic, the knowledge of the truth is obtained either by *invention* or by *judgment*, which is the result of combinations: and the one and the other are applied not only to the different classes of truths, but also to the different degrees of probability. It distinguishes likewise between *perception*, *appearance*, *probability*, and *certainty*; and explains their several gradations. It then shows in what manner, in the search of truth, thoughts proceed one from the other, in what order they arise, and what ought to be the concatenation of thoughts in order to form a *demonstration*. Lastly, logic describes the artificial *methods* that are made use of to arrive at the knowledge of the truth, and which are either *theoretic* or *practic*. The former consist in the *rules* to be observed in the art of reasoning, and in *useful cautions* whereby to distinguish the true from the false: and the latter consist in the *application* and the *practice*. On this occasion, certain precepts are laid down relative to *meditation*; which is either *synthetic* or *analytic*. In synthetic meditation they endeavour to discover some new truths, and to combine them with others already established. In the analytic meditation they compare the conclusions with the principles, the principles with the definitions, and these with the simple ideas.

VIII. Such are the outlines of the three essential parts of logic. In order to render this part of philosophy more interesting, they have added other arts and sciences, and which in fact seem naturally to belong to it; such as, First, The art of communicating and demonstrating to others, in a manner clear and succinct, such truths as we have discovered or confirmed; and which is done either by *instruction* or *controversy*: and for the conduct of which logic furnishes the rules.

IX. Secondly, The *heuristic*, or *art of invention*, receives also assistance from logic, which furnishes it with precepts, rules, and directions, to guard with caution against the rocks that are to be avoided:

ed: although the principle, the origin of invention lies in the natural disposition of the mind itself, or in an aptitude of the genius.

X. Thirdly, *Methodology*, which teaches the manner of arranging ideas and matters in an order proper to make them perspicuous, determinate, and agreeable. It is here that they examine and explain the method of reasoning used by mathematicians; which the late M. Wolff has so happily applied to philosophy in general, and without which it appears very problematic, not to say impossible, to ascertain the truth in any subject whatever. Although we ought to be sensible of the utility, to approve and admire this method, we must not imagine, however, that thereby the human understanding acquires a degree of infallible certainty; or that a methodical demonstration constantly implies an indubitable proof: and that after having established majors, minors, drawn conclusions, and added corollaries, &c. &c. we have clearly demonstrated the truth, and that our proposition must appear to all the world equally evident and irrefragable.

XI. Fourthly, The philosophic *hermeneutic*, or the art of discovering the truth in the writings or discourses of others, by a just discernment, and a judicious interpretation of their words,

XII. Fifthly, *Mnemonics*, or the art of cultivating and extending the memory; which furnishes many salutary rules for the exercise and improvement of this faculty of the mind, without which all the sciences would be useless to mankind; and we should even hope that the Supreme Being will continue it to us in eternity, seeing that the eternal happiness of man depends on this property of the mind which forms the reminiscence, and without that all future happiness or misery would be the same as to our present state.

XIII. All these matters are to be learned by the study of logic itself, and for that reason we esteem it as highly worthy of recommendation. For, con- sider:

fies the doctrine of manners, or the science that teaches the right conduct of the actions of life. Now, as all those actions, whose series forms our life and characterises our manners, ought to be regulated by our duties, and as there are duties which we owe to the Supreme Being, to ourselves, to other creatures, to men our equals, considered as individuals, and to societies of men in general, it follows, that this science has several branches or particular doctrines, which are each of them of such extent and importance as to demand a distinct consideration. These doctrines are, 1. *Natural Theology*: 2. *Moral Theology*, properly so called, and which the Greeks and Latins name also *Ethics*: 3. *General policy, or common prudence*: 4. *The policy of nations, or the science of government*: 5. *The law of nature*: and, 6. *The law of nations*.

II. The more we consider, examine, concenter, and refine our ideas, the more we are convinced that the principle of all human actions is uniform, and that it cannot but be uniform. This principle is at all times the *desire of happiness*, the desire of bettering our condition; expressions that are here synonymous, and which we use the better to express and elucidate one and the same thing. The idea of happiness includes that of some *good* which we ought to pursue, and of an opposite *evil* that we ought to avoid. Every object, that can contribute to the perfection of a being, is good; and every object, that has the contrary effect, is an evil. Now, as the perfection and imperfection of man may be produced by various means, it follows that there are also many goods and many evils. From the efforts that man exerts to procure these goods, arises personal or self-interest, which is the basis and motive of all his actions.

III. As these goods are not only different in their natures, but also in their degrees of excellence and utility, it follows that there is a supreme or first good, and consequently a first or supreme happiness. The possession of all these different goods forms felicity; and the true means of obtaining them are
taught

taught us by morality. Moral philosophy has no other rule than that of human reason; but moral theology borrows likewise the assistance of revelation, to lead us to eternal felicity.

IV Every human effort has an *end*, and every action is a *mean* to arrive at that end. Reason provides us with rules, which determine the justice and utility of the end, and explain to us the means of obtaining it. These rules are called *laws*, and the instructions for the means *counsels*. The laws are either dictated by the Supreme Being in revelation, and are called by way of excellence *divine*; or by reason, or nature, and are named *natural*; or by legislatures to whom the right of their institution is ceded by conventions, and are called *civil*, or *political*, or *arbitrary*. Man is furnished with counsel either from his own proper intelligence, or by the lights he receives from those he consults. *Chastisement* is an evil or pain that is inflicted on transgressors of these laws.

V. Morality, therefore, in its divers doctrines, teaches man the means of obeying the laws, by fulfilling his duties toward God, himself, other creatures, and society, from whence results his felicity: and to this purpose it considers the nature and situation of man, as well as the nature and effects of his actions, as his faculty of thinking, his liberty, his desire of happiness, his conscience, &c. what are the necessary, accidental, or voluntary actions of man; those which are called duties, and indifferent actions; those that are named moral actions, good or bad, wise or foolish, decent or indecent; and so of the rest.

VI. It is to elucidate all these objects that morality lights the torch of reason in our minds, and endeavours to guide us by those rules which are the result of the reflections of the greatest of men of all ages, and of reiterated experience, from the creation of the world to this day. From the diversity of all these objects have arose the divers doctrines or sciences, by whose union is formed morality in general, and which we have enumerated in the first section.

section. In treating on the sciences that belong to theology, we could not avoid including that of moral theology; and, as it would be both useless and disagreeable to make repetitions of those matters in this place, we must refer the reader, for that part, to the fifth chapter of this book, and shall now pass to the analysis of natural theology, moral philosophy, policy or general prudence, the law of nature, the law of nations, and the science of government; of all which we shall treat in as concise a manner as possible, following the precept of Horace,

Quidquid præcipies, esto brevis.



C H A P. XLI.

NATURAL THEOLOGY.

I. **W**E have already said, in the first section of the first chapter, that the object of theology is the knowledge of God, and of the manner in which he is to be worshipped. We therefore name the doctrine, of which we here treat, Theology; because it is employed in inquiries concerning the existence of God, his essence, his essential qualities, his attributes and perfections, into the relations we have to that Supreme Being, and our duties and obligations that result therefrom, and consequently the worship that we are to render him: and we add the epithet *natural*, to distinguish it from that theology which is founded on revelation; and because, in the inquiries which we shall here make into these subjects, we employ only the natural lights of that right reason, with which it hath pleased the Almighty to endow the human mind.

II. Every thing in nature is compound, because every thing is dissoluble, and the most invisible point may still be divided. That which is compound must have parts of which it is composed: these parts could not join and unite themselves with
order,

order, regularity, harmony, and to a rational purpose. Neither could chance have united them, for the word chance is in itself void of all meaning: and if we should annex ideas to it, chance according to those ideas cannot operate with a design, and with order and regularity, with a constant and uniform plan; for in that case it would no longer be chance. And though we should suppose that there are in nature simple particles, monades or atoms, small incomposite bodies, it is impossible that these particles should have joined themselves, and that they should also have joined the parts of which other bodies are composed, in such a manner as to concur to the support of the general system. There must therefore be an Omnipotent, Intelligent and Wise Being, who has united these particles, has ranged them, and has caused all the modifications of matter, or the parts of nature; who has given soul and life to all that is animated, and who maintains all things in the order his wisdom has once prescribed; and it is this Being which we comprehend in the idea that is expressed by the name of God. It matters little which principle we admit, provided we conceive of this first principle as of a Being that is Omnipotent, sovereignly Wise, and in every possible sense, Perfect. When we ascend in idea, as by a chain, to the first class of all beings, we there constantly find a beginning, an origin, a point where they have been composed of different parts: it is in vain to attempt to mount further; we must for ever stop here; this unity, this point, cannot be passed; it is the instant of the creation. We may say, with M. Montesquieu, "That they who have alledged *that a blind fatality has produced all the effects we see in the world*, have asserted a great absurdity; for what can be more absurd than to suppose that a blind fatality could produce intelligent beings!"

III. We here produce this kind of demonstration merely to give our readers an idea, an example of the

the manner of reasoning in natural theology. We do not propose to produce this as a new proof of the existence of a God, and still less as a proof to which there can be no reply, and against which there has not already been made many exceptions and oppositions. Perhaps it may be asked, do they deserve any regard? I think not. Be that however as it may, natural theology has many arguments, many demonstrations, to prove the existence of a Deity. The late M. Maupertuis has furnished one that is new, and drawn from the principle of least action: this demonstration appears to me very strong, explicit and comprehensive, but ought not however to exclude all others. The arguments drawn from final causes, from refined physics, from the organization of our bodies, &c. are also of very great validity. To this crowd of proofs will it be permitted to add one, which perhaps will not strike and convince all men equally, but requires a metaphysic mind to comprehend it? Whether we admit the system of innate ideas, or suppose that ideas are formed in our minds from images which are conveyed thither by our exterior senses, it is still equally certain, that we can have no idea, no conception of a being that does not in any manner exist, and that never has existed. We can indeed represent to ourselves all sorts of chimeras; our imagination can form a monster, with the head of an eagle, the body of a lion, the tail of a serpent and the feet of an ostrich: but it is proper to observe, that these monsters, these chimeras, exist in our imagination only as compounds of beings that exist in nature, but that it is impossible to form an idea of a being that has no affinity with any that ever existed. It follows, therefore, either that the idea of God is innate, and then it is the immediate operation of the Creator; or that we have conceived this idea by means of the exterior senses, by seeing or considering all those objects that surround us, and by ascending through a necessary series of reasoning to the origin of all things. So that, in either case,

this

This argument seems evidently to prove the existence of that first Being which we name God.

IV. When this great truth of the existence of the Deity is well established, by following the light of true reason, we cannot represent that Being but as *an assemblage of all possible perfections*. To attempt to search out his essence, is to make efforts equally vain and rash; it is to attempt to fly without wings, or to know what passes in another planet; in a word, it is to attempt impossibilities. But God has given sufficient power to the human mind to know, and to comprehend, by a series of reasoning, some of his essential qualities, his attributes and perfections. Thus natural theology teaches us the nature of the infinite Being, as well with regard to extent as duration of existence; and that he is powerful, just, good, wise, &c. in a supreme degree. The natural rule is, that we ought to attribute to God every quality that can enter into the idea of the most consummate perfection, and nothing that can anywise derogate from that most perfect idea. Neither philosophers, nor divines, have had this rule constantly before their eyes; for by confining their ideas within too narrow a sphere, they have sometimes imagined that the virtues of God could not be formed but after the model of human virtues; and that a Being so infinitely perfect could have passions like man, such as wrath, vengeance, sorrow, &c. that is, be susceptible of human imperfections: which occasioned M. Fontenelle to say, in his dialogues of the dead, *that men were very desirous that the Gods should be equally fools with themselves, but were not willing that the beasts should be equally wise.*

V. By comparing the idea of the goodness, the wisdom, and omnipotence of God, with the idea of all the beings in nature as composed of parts, such as man is in particular, and by considering that nothing less than a supreme being could have produced this composition, general and particular, that nothing less than a supreme Being can maintain the universe in constant order and harmony; by comparing

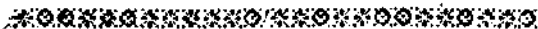
paring all these ideas, I say, reason leads us to suppose, and even distinctly to perceive, a divine Creation and Providence.

VI. From the idea of God, as a Being supremely perfect, from his essential qualities, and from his particular quality of Creator and Conservator of the universe, arise the general relations between God and his creatures, and the particular relations between God and man, as a creature endowed with a high degree of intelligence. These relations enjoin duties to all creatures, and above all to men; and the performance of these duties form their primary virtues.

VII. The principal of these duties are, 1. A desire to know God, and to admire him in his infinite perfections: 2. A desire to know and fully to discover that natural law which he has engraved in the heart of man, by endowing him with reason: 3. A desire to serve him agreeably to the apparent will of his supreme wisdom; that is, to render him a rational adoration: 4. Gratitude for his benefits: 5. A reverence for his supreme Majesty: 6. A fervent inclination toward him: 7. A boundless dependance on him: 8. A desire to fulfil the designs of his wisdom in general, and that destination in particular, for which he seems to have formed us: and many other similar duties, which all necessarily flow from the incontestable principle of the existence of the Deity.

VIII. The proofs of the existence of a supreme Being; the inquiries into his qualities and perfections; the explication of the relations there are between God and man, and the duties of these that result therefrom, are the important objects of natural theology, and which it demonstrates at large, with all the evidence that it is possible for the human mind to comprehend. He who would study theology in general, ought by preference to apply himself to this theology: for it is the principle and foundation of all positive theology; and we may boldly say, that every religion which in a direct
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and demonstrative manner opposes natural religion, is false and absurd; as there never was, nor ever will be any man upon earth, with sufficient authority to teach mankind dogmas, that are manifestly repugnant to that right reason which proceeds from God.



C H A P. XLII.

E T H I C S

O R,

MORAL PHILOSOPHY.

I. **T**HE word *morality* appearing, to the most part of the philosophers, as presenting an idea of too complicate and too extensive a nature, they have sought another term whereby to express *the determination of the will of man to virtue*, and they have thought that they found it in the word *ethica*, whose origin is Greek. Ethics may be justly called *the school of virtue*, as it teaches man the rules by which he is to conduct himself in order to become virtuous, and, by a necessary consequence, happy. It is divided into three parts. In the first it considers the *nature* of man, and principally his *will*: In the second, it examines the moral *aptitude* and *inclination* that the will ought to acquire to determine it to virtue: And in the third, it inquires after the *means* that are the most proper to give the human will this aptitude and inclination.

II. The will is a natural faculty of the soul, by which it determines in favour of what appears to it either true or good, and rejects that which appears either false or bad. We designedly say that which *appears* true or false, good or bad, and not that which *is* so. For the understanding examines and presents all

all objects to the will, and according as that presents them, this accepts or rejects them: for the will has not absolutely any power of examining and judging, its sole quality is that of determining. Now, as the human judgment is sometimes false, and sometimes feeble or prejudiced, it happens too frequently, that it presents objects the reverse of what they really are, and consequently the will is determined to that which is false or bad, without knowing it, and without intending it. A will, for example, that shall determine a man to kill his father, is manifestly badly determined, but it is the judgment that is the cause, which has presented to the will the evil of committing that horrible action, less than the apparent good that shall result to him from it. It is the judgment that errs, and the will that embraces the error. For if the will could freely determine, either for good or bad, it must have the faculty of reasoning, comparing, and examining; which is the business of the judgment. It is therefore to perplex ideas the most simple, and injudiciously to confound every thing, or not to understand the signification of the terms, to attribute this faculty to the will. It is for this reason an improper expression of Christian moralists, when they pretend that the will of man is inclined to evil from his infancy; for the contrary is manifestly true: but the word will is here combined with the operations of the understanding. All the speculations, that moral philosophers make in the same sense on the will and its operations, are therefore equally frivolous. All, that is necessary, is to present to the understanding that which is good or bad, true or false, and the will at all times will follow the judgment as its guide: and with regard to the effect, the matter remains absolutely the same, and the whole dispute is in fact nothing more than trifling with words.

III. The object of the will is therefore the good or evil, and the act of the will is the approbation of the former, and the rejection of the latter:
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From the approbation arises *desire*, and from the re-
 jectment *aversion*. There are desires *natural* and *ar-*
bitrary, good and bad. From the desires arise *in-*
clinations, which are also either virtuous or vicious,
 according as they tend to good or evil. Morality
 here examines the nature and effects of ambition,
 avarice, and intemperance, and all the various in-
 clinations that result from them, or that can be
 comprehended under these three classes. From the
 different degrees of inclinations they degenerate ei-
 ther into *propensities* or *passions*. They are also either
natural, that, is, they result from the natural dis-
 position of the human frame, as love; or from the
 constitution, as vivacity; or they are habitual, and
 arise from use, as the inclination to music. Moral
 philosophy, by extending its researches to their ut-
 most limits, distinguishes also the primordial pro-
 pensities, which form what may be called the root
 from whence the others spring, and which only
 compose the branches. Thus, love is a primordial
 propensity, of which friendship is a branch; and
 the taste for a garden, or the affection for a bird or
 a dog are derived from it, and form a sort of love
 for an inferior object. From all this result also the
movements of the mind, and the *passions*; as hope,
 fear, pleasure, sorrow, joy, despair, chagrin, &c.
 Lastly, They consider the movements of the mind,
 and the exercise of the passions, when they are ac-
 companied with an earnest inclination to obtain the
 good that we desire, or to avoid the evil that we
 fear; and it is here that morality explains the na-
 ture of wrath, courage, valour, emulation, com-
 passion, envy, shame, curiosity, jealousy, and ma-
 ny other like motions of the mind.

IV. With regard to the second part of ethics, as
 we think we have already proved, in the second
 section, that the will of man is at all times natural-
 ly inclined to virtue, we are to suppose, that when
 morality speaks of the *aptitude* which the will ought
 to acquire to determine it to that which is good or
 true, it thereby means *the will combined with the*

judgment; and by which it is often seduced. According to this collective idea, and in no other sense, the will of man may be said to be in a state of impurity, vice, weakness, &c. But we must here make an important observation: We have what are called the senses, or more properly *one sense*, which is that of feeling, and which naturalists have divided into five, according to the seat where it exercises its function, as the sight, hearing, touch, taste, and smell. All this is manifestly corporeal; and this sense or feeling may be affected in a manner either agreeable or disagreeable, according as the delicate extremities of the nerves are agitated. We have moreover corporeal wants, as those of eating, drinking, sleep, love and its consequences; whose gratifications constantly give us pleasure. Now, the will, which is always determined by what appears to it to be good, is consequently naturally determined to that which affords pleasure, and regards pleasure as a good: from whence arises the natural propensity of the will to satisfy the wants of the body, and that which can give agreeable impressions to the senses; and it is here that right reason ought to convince the will that the excess of pleasures is as prejudicial to our being, as the right use of them is beneficial, in order to prevent the will from incessantly consenting to pleasure. It is perhaps this propensity of the will to pleasure, that is, though very improperly, called a propensity to vice and imperfection an evil propensity; but which is, in fact, quite the reverse.

V. From the desire of happiness, from the propensity to please the senses, and from the natural inclination to satisfy agreeably the wants of the body, arise therefore the passions, and in the first place *self-love*, which is either rational or irrational, according to the limits with which it is indulged. From self-love proceed ambition, avarice and intemperance. From the propensity to these passions arise the *vices*, which are nothing but a continued inclination to actions that are unjust or irrational.

tional. There are reckoned three principal vices from whence all others flow; these are impiety toward God, intemperance toward ourselves, and injustice toward our neighbour. From thence are derived, 1. Atheism, idolatry, superstition and hypocrisy: 2. Inebriety, gluttony, luxury, debauchery, lasciviousness, sloth, dissipation, avarice, indiscretion, impatience: 3. Infidelity, incivility, obduracy, implacability, malice, vengeance, cruelty, and ingratitude, with all their unhappy relatives.

VI. The principal concern therefore, in this second part of ethics is, to show in what manner the will, guided by the judgment, may be enabled to avoid these vices, and to acquire an inclination for their opposite virtues: and it is here that morality proves that man cannot attain this end, but *by living according to the rules of sound reason.*

VII. Reason prescribes to man two rules, one of which takes its source from the *laws*, and the other from *prudence*: from whence consequently result a *moral virtue* and a *political virtue*. Moral virtue consists in a desire and aptitude to conform our actions to the rules of the natural law. There are reckoned three principal virtues; which are piety, temperance, and justice: from whence arise, 1. The love of God, our duty towards him, and our confidence in him: 2. Sobriety, chastity, diligence, œconomy, urbanity, patience, courage, magnanimity, &c. 3. Equity, meekness, the love of peace and concord, sincerity, candor, humility, fidelity, veracity, beneficence, charity, generosity, humanity, placability, gratitude, and all those other virtues which form the genealogy of justice; the mere contemplation of which is capable of inspiring a most pleasing sensation in a virtuous mind.

VIII. From the moral virtues are distinguished the *political virtues*, which arise from a happy disposition in the mind to direct its actions according to the rules of prudence, in order to obtain just and rational benefits, and to avoid that which is prejudicial. With regard to political virtues, *prudence*

is the only source from whence they are all derived. Although from the incidents and occasions in life, in which prudence may be exercised, the number and names of the political virtues are infinitely multiplied, yet have philosophers endeavoured to reduce them into a system, and to form of them a particular discipline, under the name of common prudence or policy (*ars bene vivendi*,) of which we shall have occasion to speak hereafter.

IX. The third part of ethics (see sect. I) considers more particularly the *means*, by which this happy disposition to virtue may be excited in the mind. The philosopher is not a creator, he cannot remake the mind, or change the nature of a corrupt judgment: it is his duty, however, to hold up the torch of reason and of truth to every understanding, to every mind whatever. He proposes, therefore, to the will of man, conducted by judgment, *two sorts of means* whereby to correct and improve it; which are, the *universal means*, and the *particular means*. The former endeavour to inspire mankind with a general inclination to a rational life; the latter tend to correct the particular desires, inclinations, propensities and passions. The first is, moreover, divided into means that are either *principal* or *accessory*.

X. The principal universal means consist in describing, in a true and ingenuous manner, the good and evil of each action, and their consequences; sometimes by abstract reasonings, sometimes by rules, and sometimes by examples. The accessory means consist in diverting man from his ruling passion, by another passion that is less dangerous; or in gradually withdrawing him from a vice, or by depriving him of the opportunity of indulging his passion, &c. It is, in general, an excellent mean of reforming a rational man from a vicious passion, to convince him that every vice is attended by its proper punishment; and that to deliver ourselves up to our passions, is totally to abandon that happiness we so much desire (see sect. I.); and that, on
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the other hand, each opposite virtue carries its own reward always with it. Impiety, for example, is constantly attended by anxiety, dread, and remorse; as piety is by tranquillity of mind, hope, confidence, and consolation. Debauchery draws after it a thousand evils; and temperance, sobriety, and moderation, chase away those evils, and preserve that health of body and mind wherein consists true pleasure. Injustice is the source of every anxiety, remorse, and infelicity; whereas justice spreads a calm over the mind of man, and procures him the esteem and confidence of his fellow citizens, as well as contentment, frequently prosperity, and always true happiness. Morality in this manner runs through all the virtues and all the vices; and applies the same arguments to vanity, to pride, and to a laudable ambition; to debauchery and to a rational pleasure; to avarice and to a wise œconomy; in a word, all those virtues and vices which are the consequences of our desires, our inclinations, propensities and passions. For whenever morality attempts to destroy, to root out of the heart of man any vice, it endeavours, at the same time, there to implant and to cultivate its opposite virtue. To attain this end, is doubtless the most glorious effort of the human mind; and proves, without a demonstration, the excellency of moral philosophy.

XI. It is our business to present to our readers the sciences and doctrines in the manner in which they are treated by those learned men who make them their profession; and we think that we have sufficiently acquitted ourselves of our duty with regard to moral philosophy. But we are by no means answerable for the truth of the principles on which these sciences are founded; and consequently we do not set ourselves up as defenders of him who makes the correction or rectification of the will the object of morality. There are in the world philosophical reasoners who say, *What is this will? Has it been sufficiently proved that we have a will? That the will is a distinct faculty of our mind?* We believe

lieve nothing of the matter. The determination of the mind, for the true or false, and the determination of all our actions, is a necessary and absolute consequence of the judgment and its operations; nothing but the mere result of that, without any other faculty of the mind participating or concurring to promote it. Our judgment sees and examines all things, and decides for that which appears to it good or bad, true or false. If it judge wrong, the fault is in itself; it is because the judging faculty itself is corrupt, or that it cannot sufficiently distinguish. It is, therefore, the judgment itself that we must correct to produce actions that are true, rational and just, that is, virtuous actions: and this it does by means of a sound logic. To desire to correct the will, is to desire to correct that which does not exist; and to which, if it did exist, it would be necessary to attribute a particular intelligence, independent of the judgment; which is a mere chimera.

XII. These philosophers proceed to say, It is true that we have sensations or natural feelings, which are agreeable or disagreeable, and that we are naturally determined in favour of that which excites in us agreeable sensations; but there is no power, doctrine, science, or argument in the world, which can change these natural sensations, and make us find that agreeable or disagreeable which is not so in fact; and that can correct or alter the natural sensation, or the eternal and immutable laws of nature in this matter.

XIII. This hypothesis destroys all the disputes about liberty; about the question, if God can be the author of evil, &c For if we have no will, it is absurd to ask if our will be free or not. We ought only to ask if our judgment be true or false. Evil is as necessary in nature as good, seeing that it is absolutely necessary that there should be an object of determination for the judgment, as well as for every other thing possible; and that an object, which
is

is true, just, good, &c. cannot be so but by the opposition of that which is false, unjust, bad, &c.

XIV. When God granted to Solomon the permission to ask a gift, that king, so sagacious and so well instructed, did not ask for the correction of his will, but he asked *wisdom*, that is, an enlightened and just judgment, as the source of every good, and every virtue. The same thing is to be understood when men, but little acquainted with philosophy, speak of the *heart*, of a good or bad, a virtuous or corrupted heart, &c. which are poetical expressions that frequently lead men far wide of the truth. What is to be understood thereby? Is it that mass of flesh which anatomists call the heart? Or is it a moral faculty within us, which is distinct from the mind, and different from the faculty of thinking and reasoning?

XV. God forbid, however, that we should decide in this affair: the matter is too delicate, and deserves the repeated consideration of the most profound philosophers. For if the last of these hypotheses be true, morality, *which teaches the correction of the will*, will become a chimera, a creature of the imagination; and, to speak in the language of mathematicians = 0.



C H A P. XLIII.

GENERAL POLICY, OR COMMON PRUDENCE.

IN the eighth section of the preceding chapter, we spoke of the political virtues, and promised to explain that matter with more precision; it is proper that we now acquit ourselves of that promise, not only with a view to complete the plan of this work, but because this part of practical philosophy is that which most directly tends to the emolument of mankind. All the different sorts

of doctrines, and especially those of philosophy, are, in general, nothing more than reason reduced into a system; a summary of what common sense, and what men of the greatest genius teach from experience and reflection on any subject, for the use of those of moderate capacities, or for all such as want talents or opportunity to reflect, and to draw from their own fund of reason all the necessary lights relative to such subjects. It has therefore been found expedient to reduce general policy also into a particular science; and it is useful to mankind to make it their serious study; as their understanding will thereby always become more enlightened. They ought not, however, to put too great confidence in this study: reason is the guide that they should constantly follow in the career of life. Unhappy is he, who, to guide himself wisely and justly through the world, is obliged to have incessant recourse to the systems of natural law, of morality, and politics, and to recollect what Cicero, Grotius, Puffendorff, Thomasius, Wolff, and others, have said, in such or such a chapter, on the divers incidents that occur in the course of his life.

II. Happiness is the goal to which all human mortals press, and policy, in general, is *the art of obtaining our end*. In order to obtain happiness, man should constantly direct his actions in such manner that they may be *just, decent, and useful*. Natural law, and morality or *ethics*, teach us what is just and decent; and policy furnishes us with rules for that which is useful. As the objects, or ends, that men propose to themselves in the career of life, are very different, and as the different situations in which they may be found are infinitely various, it is impossible to foresee all cases, and to furnish particular rules. Policy, therefore, confines its enquiries to the principal situations in life of which man is susceptible, and proposes general principles of which he make a useful application to particular cases for the just regulation of his conduct.

duſt. Cicero, in his treatiſe of duties (*de Officiis*), has furniſhed a great number of admirable precepts. He ſeems to have made a very true and accurate diſtinction between the juſt, the decent, and the uſeful, by inceſſantly recurring to what he calls, *honeſtum, decorum, et utile*: but he has not treated this matter in a manner ſufficiently ſyſtematic: he, like all the ancients, is ſometimes ſublime, ſometimes low; like flaſhes of lightning that iſſue from a dark cloud.

III. From what has been ſaid the reader plainly ſees, that the general policy is, in fact, the ſame as common prudence in the courſe of life: the art of conducting all our actions in ſuch a manner as to make them truly uſeful; and we may add, ſo as to merit the approbation of the wiſe and good. This is a moſt extenſive field, of which it is poſſible to trace the principal diviſions, but not the limits.

IV. There are four objects to be conſidered in every action: 1. The *end* that is propoſed: 2. The *faculties* or natural diſpoſition of every man to obtain that end: 3. The *means* by which it is to be obtained: 4. The *obſtacles*, whether natural or incidental, that may occur, and the method by which we are to endeavour to remove them. The treatiſes on policy explain theſe objects, and preſcribe the general rules that are to be obſerved for theſe purpoſes: and, as in moſt of the actions of life we have need of the aſſiſtance of others to obtain our ends, it points out to us the means of knowing mankind, and if they are diſpoſed to promote our enterpriſes: for which purpoſe it teaches us to diſcover their views, their talents, characters, humours, inclinations or propenſities, their abilities, their virtues, and their vices: in a word, it enables us to turn all their good, and even their bad qualities and imperfections, to our own advantage; and this is not one of the leaſt important parts of general policy.

V. After theſe general obſervations, policy examines what are the principal ſituations in life in

which man may be placed, and in which he will have occasion to employ a particular prudence and policy. Thus every one passes from the state of infancy to that of youth, where his reason begins to expand itself, and he becomes influenced in his actions by his own ideas: and in this state it is, that his inclination, or natural disposition, should direct him in the choice of his future state or profession in life; and then it is that he should lay the foundation of his fitness for that state; that he should make the necessary preparatory studies, or put himself under the tuition of a proper master. Policy here furnishes him with salutary counsels relative to the manner in which he is to conduct himself in the schools, academies or universities, and in his travels; in society in general; with his superiors and inferiors, and with persons of both sexes; in the ordinary intercourse of life, and in the state, the army, and the church; among men of commerce, letters, artists, &c. as a magistrate or a citizen, as a father or a member of a family, as a master or a servant, and as married or celibate; as a minister employed by a government; or as the subject of a government; and so of the rest. In a word, there is no end to general policy when we enter into the detail of the various stations of life; for each of which it prescribes such maxims as are founded in wisdom.

* VI. Policy, moreover, does not only consider man as having not yet fixed his station in life, and as at full liberty to act in what manner he thinks proper, but also as in a state to which he may not have been determined by prudence. It teaches him the method of repairing his faults and his injuries, and so to manage them that he may receive the least prejudice possible from them, and even sometimes to turn them to great advantage: in a word, to conduct himself prudently, as well in prosperity as adversity. It instructs him, moreover, not only in the general and particular means of attaining each end that he proposes, but also how to obviate such difficulties

difficulties as may impede his success. Lastly, it teaches him wherein consists the *ridiculous*; and shows him how easy it is for man to become so, if he be not constantly on his guard against those rocks which it points out to him; it makes him sensible of his danger, and of the noxious qualities that frequently result from ridicule, and which are sometimes more prejudicial than even those of vice itself.

VII. *Counsel* is also a very important part of general policy. We do not here mean that prudent advice which a man gives himself for his conduct in life, but that which he gives to his friend, his fellow citizen, to every man who may consult him, and whom he ought to regard as his brother. It furnishes him with maxims relative to the candor and sincerity he ought to observe, and the prudence and circumspection he should employ with regard to the situation of the person who asks his counsel, and to the circumstances that attend embarrassing cases, and to every other object that relates to this important business. In a word, general policy is a rational theory, a complete course of science for the right conduct of life; that teaches us to guide our bark through a sea that is constantly agitated, and frequently tempestuous; that directs us so to pass through life, that we may live in this world with security and integrity, religiously and agreeably, and in expectation of that true felicity which the divine mercy has prepared for us in eternity.

C H A P. XLIV.

THE POLICY OF NATIONS.

I. **A**S we some years since published our *Political Institutes*, in which we have faithfully included all that we know of this matter, we might dispense with ourselves from here making a new detail on this subject, and refer our readers to that work; but as it has swelled under our pen to two quarto volumes, and as we have there treated all these matters in their full extent, whereas we here propose to trace the outlines of science only, in order merely to show of what they consist; and as it is not our design to engage our readers in the particular study of national politics, nor in so considerable an expence and application; and lastly, as it would be to leave this work incomplete, totally to rescind so important a science, we rather submit to the disagreeable office of having recourse to our own work, and of making an extract from it, in order to inform such as are desirous of having some acquaintance with the elements of science, with what relates to the general principles of national policy.

II. We have said in the preceding chapter that policy in general is the art of obtaining our end: it follows, therefore, that national policy is *that science which furnishes rules to those who govern nations, for the attainment of the various ends that they ought naturally to propose*; or, in other words, it is *the science of government, the art of ruling, &c.*

III. The ends of every state, nation or body politic, are naturally, 1. Its preservation or duration: and 2. The happiness of all those who are its members. The greatest perfection in the constitution of a state, doubtless, consists in that which can procure its long duration; and, as long as that duration continues, can procure to its members all the advantages that they are capable of enjoying, and can defend them against all the evils to which they are liable.

IV. To

IV. To obtain these two ends, a state should propose to itself five fundamental articles, which are,

1. That it should polish the people whom it is to govern.

2. That it should introduce a proper order in the state, encourage society, and enforce the observance of the laws.

3. That it should establish a good and strict police in the state.

4. That it should make the nation flourish, and render it opulent.

5. That it should render the state formidable in itself, and respectable among its neighbours.

From these five subjects flow, as from so many fruitful sources, all the particular rules that politics teach, and from the union of which is formed the science of government.

V. No nation or body of barbarians, how numerous soever they may have been, were ever happy or formidable, for any long time. All the savage nations, without manners, without police and civility, have been, without exception, conquered by the civilized nations. If the Tartars are not yet entirely subjected, it is because they have not been thought worth the conquering, any more than they are, at present, by the Turks and Russians. Ferocity, which is a necessary consequence of barbarism, can never produce a real happiness, unless it be in the brains of some visionaries, who assuming the name of philosophers, imagine there is a great merit in producing paradoxes, and put themselves to a ridiculous torture to maintain them.

VI. To polish a nation, we should begin by taking the greatest care in the education of youth, by the means of public schools, academies and universities, and by instituting all sorts of establishments that are instructive, and capable of improving the mind of youth, and of giving them talents, not only for the sciences and liberal arts,
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but for such as are useful, as trades, manufactures, &c. In the next place, *urbanity* should be encouraged in the state, the manners should be refined and softened, the printing art should be properly supported, travelling should be permitted and encouraged, a rational luxury should be introduced, a brilliant court should be maintained, decent theatrical exhibitions should be promoted, public entertainments should be given, agreeable walks should be provided, the abuse of strong liquors should be suppressed, debauchery, ferocity and brutality should be utterly banished.

VII. A perpetual harmony is to be maintained among all the parts, all the branches of a body politic or nation; no one part should destroy or impede the operations of another: and this is what is called *good order*. There is a general society consisting of all mankind, on whom are enjoined the duties of *humanity*: but they, who make part of the same nation, are bound by a much stricter connexion, from whence result those relations which are comprehended under the name of *society*, and the duties that arise from the offices of society. It is this good order, these relations of society, that every sovereign ought to maintain in his state. It is here that politics examines the difference of conditions, and the utility that may be drawn from thence. It is here that it establishes, as a first principle, that the prosperity of a state arises from its population; that is, from the multitude of members in every class or condition of its inhabitants. It furnishes maxims for the encouragement of this population, and the conservation of its members. It treats of orphan-houses, hospitals, charitable institutions, colonies, senates of health and physic, precautions against epidemic disorders, &c. Lastly, it considers religion, incredulity, superstition, toleration, and non-toleration, the improvement of manners, and useful establishments; the communications between the capital and the towns and provinces; the posts, the stages, the inland navigation,

navigation, the public roads; and to all these it adds the different departments that are to be established in a state, for the regulation of its several branches; and from the union of which is formed its government.

VIII. Politics, in the next place, consider the important article of the laws and legislation: and as the prosperity of a state depends entirely on the goodness of its laws, it points out the ways of making such as are just and useful. It treats moreover, of the legislative and coercive powers in matters spiritual, civil, military, public, and private. It shows the division of the laws; and makes a digression on the insignificant and *prejudicial* nature of fiefs and feudal laws: it gives rules for the construction and style of laws, and treats of jurisprudence, the tribunals, judges, ministers of justice, sentences, penalties and chastisements.

IX. The *police* of cities, and of a country, is an object of very great extent and importance in a state. Politics prescribe the rules that relate to their *security, convenience, and elegance*; and which the inhabitants have a right to expect for the preservation of their lives and their health, of their honour, and their property; and from whence arise their tranquillity, and the means of executing their functions, their trades and offices in society, without trouble or obstacle. This subject is of an immense detail; and they, who would instruct themselves in it more particularly, may consult the seventh, eighth, and ninth chapters of the first part of our Institutes.

X. Policy next turns its views to the *opulence* of the state and its members: it demonstrates the necessity of it, and points out the most efficacious means of attaining it; explaining, at the same time, wherein true opulence or the riches of a state consist: and here it treats of the precious metals, and of money, and of the representatives of money or bills of exchange, bonds, &c. of public funds and banks: of agriculture, and all that depends
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on it : of the natural productions of a country in the three kingdoms of nature, and of the manner of drawing advantages from them : of industry, or arts and manufactures : of commerce in general, and particularly of mercantile navigation, &c. Lastly, it examines in what manner the general opulence of the members of a state may be rendered useful to the state itself, by the mean of contributions or subsidies that the inhabitants may furnish for the maintenance of government : and here it enquires into the business and the departments of the finances, and the manner in which they ought to be regulated ; what ought to be their fundamental principles ; the contributions real or personal ; the taxes natural and invariable or arbitrary ; the duties on provisions and merchandize ; and a thousand other like subjects which we have distinctly explained in the tenth, eleventh, twelfth, thirteenth, fourteenth, and fifteenth chapters of our Institutes.

XI. In order to render a state formidable, besides its pecuniary resources, it must have real forces, that is, an *army* and *marine*. It is part of the business of politics to determine the force of an army and navy, in proportion to the grandeur and opulence of a state ; and to prescribe rules for the formation of troops, and their maintenance, as well as for a naval force ; for the arrangement, uniform ; and discipline of the several corps ; for the construction of vessels ; for the military and naval hospitals ; and for numberless other objects relative to this matter, as may be seen in the sixteenth chapter of the Institutes.

XII. Hitherto politics has considered the state only as it concerns itself ; that is, its peculiar constitution. In the second part, it regards the state from a different point of view ; that is, as occupying a certain part of the earth, as making part of the general society of mankind, and having connexions with other nations either proximate or remote, friends or enemies, From this point of view, therefore,

therefore, it begins by prescribing the necessary rules, 1. For the political conduct of sovereigns in general: 2. For the formation of councils: 3. For the choice of ministers: 4. For the arrangement of the departments of foreign affairs, &c. It then examines, 5. The power of different states relative to each other: 6. The particular system of each state: 7. The reciprocal engagements of sovereigns in general: 8. Particular treaties and alliances, and their utility or inutility: 9. Peace and war: 10. Negotiations in general: 11. Public ministers: 12. Instructions, credential letters, authentic vouchers, and other writings necessary to negotiations: 13. What relates to the attendants on a public minister, and to his house: 14. To the political conduct of a public minister: 15. To a congress: 16. To ceremonials; and many like matters which relate to the exterior state of the body politic.

XIII. We have used our best endeavours to reduce the chaos of these important matters, to establish certain principles, and to give rules equally just and useful, relative to these different objects, in the thirteenth chapter of the second volume of our Institutes. We have there added the principles of political arithmetic, which relate to population, its increase and diminution; to the subsidies or contributions of the subject; to most of the operations of the finances; to the public funds, lotteries, annuities, tontins or annuities with survivorship, and many objects of the same nature, which are either necessary or useful, or curious and agreeable, and always instructive. Lastly, we have devoted the fifteenth and last chapter to the investigation of the political causes of the decline and destruction of states: and we have had the satisfaction to see that our efforts have not only merited the public approbation, but that the maxims which we have drawn from sound reason, and supported by experience, have been adopted and followed, either in whole or in part, by many wise governments: that politics, thus reduced into system,
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make every day a happy progress in the more civilized parts of Europe; and that also some able and celebrated professors have made it the subject of their public lectures: All this must be no small encouragement to those who would make it their study.

XIV Let us finish this subject with a few remarks. If a minister, who is placed at the helm of government, is not endowed with a sound discernment and a firm mind, he will sink under that opposition which is constantly made to a political conduct. Every old woman encroaches on the province of the physician, and pretends to cure disorders by simples or specific remedies: every discontented old man rails at the government, and pretends to reform the state: a thousand adepts, political mountebanks, offer themselves every day, who would persuade the world that they are possessed of some wonderful secrets relative to the finances, commerce, the police, &c. and they are sometimes hearkened to, and destroy the best concerted schemes of an able minister, who has planned a sagacious system of administration, in which every branch of government has its general end, like the radii of a circle that all meet in one common center. Sometimes a minister is even dismissed from his employments in the midst of his career, at the very moment that he was going to see all his designs accomplished; instead of which, he sees them all destroyed by his successor, that he may form a new plan. This is one of the greatest evils that can befall a state. Sometimes the inhabitants of a country condemn the government because they are placed too near the springs of action; like those spectators who are placed behind the scenes at an opera, who discover every little fault in the machinery, and in the dress or conduct of the actors, and are continually criticising and condemning; while those who are placed at a just distance, and see the effect of the whole together, find the performance highly excellent, and testify their approbation by loud applause.

C H A P.

C H A P. XLV

THE LAW OF NATURE.

I. **W**HENEVER we reflect on *man* and his *duty*, we should consider him from two different points of view ;

1. *As solitary, and in a state of pure nature.*
2. *As living in society with his fellow beings.*

The first is a speculative and ideal state, the second a practical and real state: the one a state that is possible only, the other that which actually exists. All the celebrated authors who have wrote on the law of nature, which results from these two states, have given themselves inconceivable trouble to discover the origin of societies: and, at the same time, have had that constantly before them which they have gone so far to seek. It is the state of man in society that is his natural state; and if there are to be found, any where on the earth, men that live in perfect solitude, it is on the origin of that state that they should employ their learned researches. And for these reasons:

II. Love, the first principle of the universe, and of all that is in the universe, inspires all beings with a natural inclination to unite. The birds that hover in the air, the animals that inhabit the earth, and the fish that possess the waters, all live in a kind of society, that has laws which are proportionate to their nature and their wants. Beasts, birds, and the inhabitants of the floods, assemble at the approach of danger; the bees assist each other in their exigencies; and a cock, in a farmer's yard, will defend the hen of his fellow cock: It is only necessary to observe the face of nature, in order to be convinced that the idea of *property* takes place among all animals; and this property is the necessary and absolute consequence of self-love, of
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the desire of preservation, and of happiness, which is natural to every being that exists. To abridge this argument, let us return to man, and consider him as in a state of perfect solitude. Will not the first question be, How came he there? Is not his very existence a proof of a previous society? But let us consider him again as perfectly unconnected, if it be possible, and without any regard to his origin: Will he not constantly feel a natural impulse to propagate his species? And will he not incessantly seek a companion to satisfy that desire? And if he find one, is not this the commencement of society?

III. But let us go still further. From this first society a third human being is produced. In what state does he come into the world? Without the least power to provide for his wants: he would perish at the moment of his birth, if nature had not given his parents a love toward him, an inclination to nourish and support him. The author of nature has given milk to his mother, for his sustenance, and force to the father, to protect the mother and the child, and to procure them subsistence. Are not these manifest proofs of the natural and absolute necessity of society? But from the same father and mother are born several children; and these form a family. These children render to their parents, in old age, what they have received from them in their infancy; they defend them from injuries, and supply them with necessaries, when their strength has forsaken them. Is this innate love, this attachment, or, if you please, instinct, which men and brutes have for those beings to which they have given existence, a matter of no consideration? Do not the smallest of the feathered tribe, who pursue through the air those birds of prey that have robbed them of their young, and endeavour at the risk of their own lives, by incessant efforts and lamentations to regain them; and these very birds who rest unconcerned, or even hide themselves in their nests, when the bird of prey passes by with other young ones of the same tribe

tribe in his talons (an object that the country daily affords) do not these, I say, prove that property is a natural and inseparable attribute of the existence of every being? Does not the mother in this instance cry out, *it is my child?* And is man formed differently? Is he born without love and without interest? Has nature no concern in the formation of societies? You ridiculous inventors of paradoxes! will you never hearken to her voice? If a family is in want of necessary sustenance, or is threatened with some danger, in either case it seeks the aid of some neighbouring family; these families become by these means united: love performs the rest: by love a great number of families are united. Here we see the origin of all society. But societies must have laws, that is, relations which arise from the nature of things. The idea of a society naturally implies, therefore, that of property and of laws; for to imagine a society without property and natural laws, is to conceive a chimera, an impossibility. And from hence arises the origin of the laws of nature.

IV. We may therefore say, that there are, 1. Natural laws for a man who lives in perfect solitude; but these laws are only ideal and speculative; of no use, as they do not admit of any application: 2. Natural laws for man, as living according to his natural state in society; and these are the natural laws which are real, effective, and of daily application. It is proper, however, to know the speculative laws, as well as the real laws, seeing that the principles of the latter are frequently founded on the former. The assemblage of all these laws, and the duties that result from them, form what is called, by the general title, the law of nature, and which we shall here explain in as concise a manner as possible.

V. We are obliged to repeat, perhaps too often, that *love* is the principle of all things, and consequently of the law of nature. *Behold man and his*

his law, says the poet, it is enough; and God himself has vouchsafed to teach us all our duty toward him, by saying Love. Now, as love consists not only in a lively joy, excited by the contemplation of the perfections of an object, but also in an earnest desire to become possessed of that object, or at least to render it propitious to us, it follows, that all love supposes *duties* to be performed by him that loves. Therefore, as man ought not, or rather cannot refrain from the love of God, of himself, and of his fellow creatures, it is manifest that he has therefore duties to perform,

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| 1. Toward God ; | } As living in the state
of nature : |
| 2. Toward himself ; | |
| 3. Toward other men ; | |
| 4. Toward God ; | } As living in society. |
| 5. Toward himself ; | |
| 6. Toward other men ; | |

And these are duties that the science of the law of nature explains to us in their natural order, after it has made the previous enquiries concerning human actions in general, and the human faculties that are to produce them; as the understanding, and the conscience; doubt, error vincible and invincible, ignorance, the nature of good and evil; the disposition of the organs, and the passions; actions voluntary and involuntary; the imputation of actions, that is, to what degree the agent may be lawfully considered as the author of his actions, and to what degree he is responsible for them; concerning omission, the nature of laws, justice, equity, punishments in general; the nature, degrees, and proportions of particular punishments; and lastly, concerning the law of nature and its particular properties: reflections that all tend to determine, not only the true meaning of expressions, and to avoid all possible ambiguity, but also to elucidate the objects themselves, and by that mean
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to prepare the mind to receive adequate and just ideas concerning the duties imposed by the law of nature.

VI. No man is born into this world in a state of absolute freedom. Every law contains duties, and every duty takes away a part of our natural liberty: the law of nature, therefore, determines how much of it remains to man; 1. In the state of pure nature; and, 2. In the state in which he lives in society; from whence new natural duties are enjoined him. We must not, however, confound here the duties which result from the law of nature with the moral duties; and to render this distinction the more manifest, it is necessary to remark, that all the duties of mankind may be reduced to three classes. Those of the first, whose observance is of an *absolute obligation*, such as, not to murder our brethren, to pay or restore what we have borrowed, &c. arise from the law of nature, and may be enforced by public justice. Those of the second, whose observance is of a *mixt obligation*, are such, as to be diligent in procuring necessaries for our family, to be grateful for benefits received, to be charitable, temperate, &c. These are derived from morality, and a man living in society may be constrained to the observance of them, but not with the same rigour. Those of the third, whose *obligation is imperfect and conditional*, are such as to be generous, liberal, to live with a dignity that is agreeable to our circumstances: to be indulgent to our debtors, &c. These are derived either from a less rigorous morality, or from general policy, received opinions, the particular customs of a people, &c. but to these, no man can be restricted by public authority. It is highly necessary properly to remark, and well to remember, this essential distinction in the study of the sciences that compose practical philosophy, that we may not confound those *absolute duties*, which arise from the law of nature, with the *necessary duties*, which are the result of strict morality, and the *merely useful duties*;

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that arise from conveniency, accustomed manners, and opinions, &c.

VII. Man being a creature who owes his existence to God, who is dependent on him, and is destined by his Creator to live in society, the law of nature teaches him likewise, to what degree he is obliged to obey, not only the *light of reason*, but also the *divine law* (seeing that he cannot avoid being persuaded, that it has in fact proceeded from God), and the *civil laws*, which are dictated by a lawful sovereign. All the absolute duties of mankind take their source, therefore, either from the light of reason, from revelation, or from the civil laws; and the science of the law of nature traces their limits.

VIII. It is by the study of this law itself, which has been so clearly and so solidly explained by Grotius and Puffendorff, and, above all, by the illustrious Wolff, that man learns the particulars of each of these absolute duties toward the Supreme Being, toward himself, and toward other men; not only in that state in which he enjoys the greatest natural liberty of which he is susceptible, but also in the state of society with his fellow beings; that state which is so natural to him. And seeing that as long as he breathes upon this earth, he is surrounded by a multitude of other beings, animate and inanimate, which the Creator has there placed, and maintains for the support of the general system, according to the designs of his infinite wisdom, it is evident that man has also duties, either absolute or imperfect, to observe towards all these other creatures; duties that the law of nature points out to him, and the necessary obligation of which it fully proves.

IX. The explication of the general system of the law of nature has produced two large volumes, in quarto, from the pen of M. Puffendorff, and from that of M. Wolff, eight volumes of the same form. The first of these celebrated authors has given a very succinct extract of his work under the title of
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Duties of a man and Citizen, which nevertheless makes a book of near 500 pages in duodecimo. So vast is this single science! It will not be expected, that we should extend this chapter beyond its natural proportion, in order to give here the detail of all the duties that result from the law of nature. We shall content ourselves with having pointed out the source from whence they arise, the objects to which they relate, and the degrees of obligation that they impose. The rest is to be learned by the study of the law of nature itself. As to what relates to the rights, privileges, and duties of men formed into nations or political states, and that are derived from the law of nature, they constitute the *law of nations*,* of which we shall trace the outlines, and explain the principles, in the following chapter.



C H A P. XLVI.

THE LAW OF NATIONS.

EVERY one talks of the *law of nations*, but few conceive a just idea of it. Some suppose it to be the mere law of nature; others imagine that it is a written code; others again believe that there are conventions and treaties that the different nations of the earth have made among themselves: but all these opinions are equally erroneous. M. Vattel, enriched with all that Grotius, Puffendorff, Burlamacqui, Wolff, and other philosophers, had already wrote on the law of nations, is the author who appears to us to have treated this subject in the best and most systematic manner, and whose excellent work may be studied to great advantage.

II. According to him, and to truth, *the law of nations is a separate science, and consists in a just and rational application of the law of nature* (and we may add also, of certain ancient customs universally received) *to the affairs and the conduct of nations or sovereigns.* The law of nations, therefore, supposes a law of nature, societies, states, nations, and sovereigns, and also a communication between these nations and their sovereigns. *Love*, which is the principle of all things, produces self-love, and self-love produces interest. Nations or states ought to be considered as moral individuals, and therefore have an interest: this interest, natural and particular, is their preservation and increase; and these cannot be obtained but from a reciprocal observance of the law of nature, by all the nations who compose the human race, whether it be to facilitate their mutual communication, or not to give another nation the right of reprisal, and the liberty of violating, with regard to us, that natural equity which we have violated with regard to them; which would be repugnant to our true interest. The maxims and precepts of the law of nature, which are applicable to nations, are comprised under the general title of the law of nations, which is therefore a natural and necessary law, and that state, which violates its precepts, transgresses *the natural, necessary and universal law of nations.*

III. There is, moreover, a law of nations which is called *arbitrary*; and is a kind of *customary law* of nations, consisting of tacit conventions between civilized states, relative to customs that time has established, which are founded in the natural law, and which they observe toward each other for their common interest. This law of nations has been held sacred among the most ancient states. The Romans themselves, those notorious violators, and sophistical interpreters of the law of nations, where their own interest was concerned, acknowledged, however, that there was such a law. Their *secial law* was no other than a law of nations that related

related to public treaties, and particularly to war. The *faciales*, or heralds, were the interpreters, guardians, and in a manner the priests of the public faith: and, unhappily, they frequently made those oracles speak according to the inclinations of their sovereigns.

IV. As we have treated, in the preceding chapter, of the study of the law of nature, it is proper to show here how, and to what degree, the precepts of that law are applicable to civil societies, to nations or states, and their sovereigns; and what are the arbitrary maxims and rules that nations have established among each other, by a tacit and unanimous consent.

V. The science of the law of nations teaches us, therefore, the knowledge of the nature of civil societies, of sovereign nations or states independent of others; of the natural prerogatives of sovereignty, and of the rights of the body over its members; the form of government; the states united by unequal alliances, or by treaties of protection; states tributary and feudatory; states forming a confederate republic; and states that have passed under the dominion of another, &c. It next passes to the examen of the general principles of the duties of a nation toward itself; of the constitution of the state; of the duties and the rights of a nation in that respect; of the sovereign, his rights and obligations; of states elective, successive, or hereditary; and of those which are called patrimonial, &c.

VI. After having properly unfolded and well explained these important subjects, it remains to examine what are the principal objects of a good government; but as we have already treated amply on these matters in the chapter on the policy of states, we must refer our reader to that part, only constantly reminding him of what we cannot sufficiently repeat, 1. That politics teach only what is *useful* to a state, but the law of nations teaches what is *just* between one state and another: 2. That we

are of opinion, that whatever is unjust cannot be truly useful, and only imposes on mankind by a momentary or specious advantage. Now, as the law of nations establishes the rights, the obligations, and the duties of one people toward another, these rights and duties naturally extend to all those objects which a good government ought to propose to itself, as the public security, commerce, public roads, rivers, the right of tolls, both by land and water, the monies and exchanges, the objects of religion, public justice, the police, and the glory of a nation likewise; all objects to which nations have rights and duties to observe one toward the other.

VII. The whole body of a nation, or a part of that body, or even a simple individual, may likewise have particular relations to other states, from whence result mutual rights and duties. It is here, that the law of nations considers the case of protection that is sought by a whole nation, or by some of its members, or even by an individual; and the voluntary submission to a foreign prince: in what manner a body of people may separate themselves from a state of which they are members; or renounce their obedience to a sovereign when he no longer affords them protection: the establishment of a nation, a colony, or of an individual, in a country either inhabited or uninhabited: the rights that result from the connexion to a country: emigrations; the right of naturalization; that of habitation, &c. To these matters the science of the law of nations joins the examination of public properties, common and particular, and of the manner of acquiring them; of the principal domain, of the alienation of public estates or effects, or of part of the state; of waters, rivers, and lakes, and of the right of alluvion; of the sea, its shores, bays and ports; of the right of tolls; and of ship-wrecks; of the jurisdiction of its coasts and borders; and of many other objects

jects which either naturally appertain or relate to these matters.

VIII. The law of nations furnishes, moreover, rule; for the common duties of one nation toward another; for the offices of humanity to be observed between them; for the necessary security of different religions; for the mutual commerce of nations; for the treaties of commerce; for agents and consuls; for the rights of security in general; for the rights that result from the sovereignty and independence of nations; for the observance of justice between nations; for the concern that one nation may have in the actions of the subjects of another; for the matter of domain among nations; for the jurisdiction and the violation of territory that result from it; for the general and particular conduct that a nation ought to observe with regard to strangers; for the rights that remain to all nations after the introduction of property and inheritance; and for those rights of which men cannot be deprived; for the manner in which a nation ought to use its right of territory, and at the same time, to perform its duties to other nations, with regard to innocent utilities, as the inoffensive passage of men and merchandise; for *usucaption* and prescription among nations, &c.

IX. It is also from the law of nations, that are deduced the solid principles of treaties of alliance, and other public negotiations; the validity or nullity, the continuance, obligation, and violation, the dissolution and renewal of treaties; the qualities which they ought to possess who have the right of making or dissolving them; and what relates to all other public conventions; those which are made by inferior powers; the agreement called in Latin *sponsio*; and the agreements between the sovereign and his subjects; the important object of the faith of treaties; securities given for the performance of treaties; the comprehensive subject of the interpretation of treaties; the collision or opposition of laws and treaties; the manner of determining

termining the differences between nations; what relates to articles of agreement, mediation, arbitration, conference, congress, the law of retaliation, the retortion of rights, reprisals, &c.

X. After considering the objects which relate to the reciprocal rights of different states during the time of peace, the law of nations lays down the rules that they are bound to observe with regard to each other during the time of war, in order to prevent that plague, and disgrace of human nature, from becoming more baneful to mankind than is absolutely necessary. It treats, therefore, of war in general, and of its several kinds; of the right of making war; of that which is the support of a war; of the legal or unjust levy of forces; of their commanders or the subaltera powers in a war, and of hiring soldiers; of arms that are prohibited, as poisoned weapons, balls, or other instruments of war; of the just causes of a war; of the declaration and form of going to war; of the enemy, and such matters as relate to the enemy; of the allies of an enemy; of the associations in war; of auxiliaries and subsidies; of neutralities and the passage of troops through a neutral country; of what is right and allowable to do in a just war against the person and the property of an enemy, and of such things as are to be exempt from all injury; of pillage, burning, devastation, spoil, contribution, protection, &c. of faith among enemies; of stratagems and the subtilties of war, and of spies; of the sovereign who makes an unjust war, and of the right that results from it; of acquisitions made by war, and principally by conquests; of the right of postliminy, by virtue of which, persons and things taken by the enemy are restored to their primitive state, when they come under the dominion of the nation to which they belong; of the right of individuals in a war, as privateers, volunteers, &c. of the different conventions that are made during the course of a war; of convoys or escorts, and of passports; of the ransom of prisoners of war;

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of civil wars; of the re-establishment of peace; of the obligation of cultivating peace; of the treaties of peace, of an amnesty, &c. of the executing of a treaty of peace; of the observance and rupture of a treaty of peace; of the rights of an ambassador or envoy, and of the reception of public ministers, and of their several ranks; of the representative character, and of the privileges of public ministers; of the judge of an ambassador in civil matters, and of the house, the family and attendance of an ambassador.

XI. This rough draught shows the objects that appertain to the natural, universal and necessary law of nations, and for which it furnishes rules drawn from the law of nature. But as there are still some articles for which it is impossible for the law of nature to furnish rules, these matters belong to the *voluntary law of nations*. Thus, for example, the law of nature can make no definitive determination concerning *rank* in general; concerning the *nobility* and their prerogatives; or the regard that is to be paid to each *state* in society; concerning *titles, dignities, and marks of honour*; and those of *ambassadors and public ministers* in particular; the *honours* that are assigned to these, and the *conveniencies* that we should endeavour to procure them; their *privileges and immunities*; and that *representative character* which is allowed in a certain degree to every class of ministers; concerning the security which is granted to *trumpets and heralds of arms*, and the respect that is to be showed them; concerning the respect that nations mutually pay to their *flag*, by sea; the manner of *striking the flag*, and manner of saluting it, whether by sea, or by ports and fortresses; concerning the *degree of humanity* with which we ought to treat prisoners of war; the *respect and civility* with which officers who are prisoners are to be treated, and the facility with which we ought to grant them *releases on parole*; on the exchange of prisoners; and a hundred other like matters,

which cannot be determined by the precepts of the law of nature applied to these situations, but which relate to the customary and arbitrary law of nations; that is to say, which relate to customs received from time immemorial among civilized nations, and often, likewise, to general conventions.

XII. After having thus treated on all the doctrines that are comprehended under this part of philosophy, which is call'd moral, and which have any connexion with it, we might here also mention the *statistic*, seeing that it makes a part of politics; but as this science, which teaches the knowledge of the arrangement of all the political states which compose at this day the whole human race, or rather that part of the human race which inhabits Europe and its colonies, we shall refer this enquiry to the sciences of the memory, which are explained in the third part of this work.

C H A P. XLVII.

M E T A P H Y S I C S.

I. **I**T was by accident that the title of *Metaphysics* was given to that part of philosophy which considers the nature of immaterial beings and spirits. Aristotle, after treating on physics, begins his next book, in which he pretends to elevate the mind above all corporeal objects, in order that it may be enapt in the contemplation of God, of angels, and of things spiritual; and may be able to judge of the principles of sciences by abstraction, by considering them as detached from all material objects: he begins, I say, this book with the Greek words *μετα τα φυσικα* (*meta physicam, post physicam, that is, after physics.*) His disciples, and all philosophers after them, have formed, of these two, one word; and by combing the preposition *meta* with the substantive *physica*, they have composed the word *metaphysics*, by which they intend that science of which we have just given the definition: although there are some authors who pretend, that by the preposition *meta* is here meant *by and* or *above*, which is not only contrary to the Greek idiom, but to common sense, and conveys an idea that is ostentatiously ridiculous.

II. If we suffer ourselves to be dictated by the pride of the human mind, and by the rash assertions of the greatest part of philosophers as well ancient as modern, and believe that metaphysics is a science which treats all its subjects in a demonstrative manner, which constantly premises incontestable axioms, and, proceeding upon evident principles, draws undeniable consequences, we shall find ourselves far wide of the truth. In the matters on which this science treats, we may say with Mon-

tagne, *that the truth lies at the bottom of the well,* and no mortal, ~~no~~ human mind, has yet been able to draw it out; and we may add, that the weakness of the human understanding is such, with regard to those objects which are not discernable by the senses, and consequently do not directly relate to the judgment, that metaphysics may be compared to a romance, where every thing has the appearance of probability, and at the same time nothing is true. The source frequently appears to be clear, true, indubitable, while all that seems naturally to flow from it is manifestly false. He who comes the nearest to the truth, who conjectures with the greatest appearance of probability, and who gives the clearest explication of his ideas, is the best metaphysician. This opinion will appear to many as a kind of blasphemy, for which reason we think we should at least support it by the authority of one of the greatest geniuses of the age: as we are in many respects of his opinion, we shall make use of his own words, and the rather as it is difficult for any one to express himself so well on this subject, or indeed on any other. They are as follow:

III. "The divine Plato, master of the divine
 " Aristotle, and the divine Socrates, master of the
 " divine Plato, say, that the soul is corporeal and
 " eternal. It was the demon of Socrates without
 " doubt that taught him the nature of it. There are
 " people indeed who say, that the man who boasts
 " of having a familiar spirit is certainly either a
 " fool or a knave; but such sort of people are too
 " nice. With regard to the fathers of the church,
 " many of those of the first ages have believed
 " the soul to be human; the angels and God cor-
 " poreal. But the world is continually improving.
 " After these came thousands of scholastics, as the
 " irrefragable doctor (Hales) the subtil doctor
 " (Scot) the angelic doctor (St. Thomas) the seraphic
 " doctor (St. Bonaventura) the cherubic doctor,
 " &c. who were all very sure that they understood
 " the nature of the soul perfectly well, but who
 " have

“ have spoke of it, however, in such a manner as if
 “ they were not willing that any body else should
 “ know any thing of the matter. Descartes came
 “ into the world, not to expose the errors of anti-
 “ quity, but to substitute his own, and seduced by
 “ that systematic spirit which deludes the greatest of
 “ men, imagined that he had demonstrated that the
 “ soul was the same thing as thought; as matter,
 “ according to him, is the same thing as extensi-
 “ on.—Father Mallebranche, in his sublime illusi-
 “ ons, admits of no innate ideas, but does not
 “ doubt but that we see all things in God, and that
 “ God, to use the expression, is our soul. After
 “ so many reasoners had wrote the romance of the
 “ soul, a wise man came, who modestly wrote its
 “ history. Mr. Locke has explained to mankind
 “ the human understanding as a skilful anatomi-
 “ st explains the several parts of the human bo-
 “ dy. He has guided his steps every where by the
 “ touch of physics: he sometimes dares to speak
 “ in an affirmative manner, but he dares also to
 “ doubt.”————

“ IV. Mr. Locke, says this author further on,
 “ has modestly ventured to advance the following
 “ words: *perhaps we shall never be able to know, if*
 “ *a being, purely material thinks or not.* This saga-
 “ cious reflection appeared, to more than one di-
 “ vine, a scandalous declaration, which implied
 “ that the soul was material. Some devout English-
 “ men, after their manner; sounded the alarm.
 “ The bigots are in society what poltrons are in an
 “ army; they conceive and communicate panic
 “ terrors. They exclaimed that Mr. Locke would
 “ overthrow all religion; religion, however, was
 “ not at all concerned in the affair; it was a ques-
 “ tion purely philosophic, and altogether inde-
 “ pendent of faith and of revelation: it was only
 “ necessary to examine coolly, if there was any
 “ contradiction in saying, that matter might think,
 “ and that God could communicate thought to mat-
 “ ter. But it is too much the custom of theolog-
 “ ana

" ans presently to cry out that God is irreverently
 " treated, if he be not considered according to
 " their notions; for they too much resemble those
 " wretched poets, who said, that Despreaux spoke
 " evil of the king, because he laughed at their ver-
 " ses. If I dared to speak after Mr. Locke, on so
 " delicate a subject, I would say: Men have dis-
 " puted for a long time concerning the nature and
 " immortality of the soul; with regard to its im-
 " mortality. it is impossible to demonstrate it, see-
 " ing that the nature of the soul is still a matter of
 " dispute, and certainly we should be thoroughly
 " acquainted with the nature of any created being
 " in order to decide if it be immortal or not. Hu-
 " man reason is so little able of itself to demon-
 " strate the immortality of the soul, that religion
 " has been obliged to reveal it to us." Add to this
 argument of our author this reflexion: Is it more
 impossible to God to annihilate a created spirit
 than a created body? " The common interest
 " of all mankind requires that we should believe
 " the soul to be immortal, and faith enjoins it to
 " us; nothing more is necessary. It is not the
 " same with regard to its nature. It is of little
 " import to religion of what substance the soul be,
 " provided it be virtuous. It is a watch given us
 " to regulate, but the maker has not told us of
 " what the spring of this watch is composed."

" V. *I am a body, and I think.* I know nothing
 " more. If I were only to consult my own weak
 " lights, should I attribute that to an unknown
 " cause, which I could so easily attribute to the
 " only secondary cause, of which I know a little?
 " Here all the philosophers of the schools interrupt
 " me with their arguments, and say, There is no-
 " thing in body but extension and solidity, and it
 " can have no properties but those of motion and
 " figure; but motion, figure, extension and soli-
 " dity cannot produce a thought; therefore the soul
 " cannot be material." Add also here this questi-
 on: Do we know, can we distinguish what is a
 thought?

thought? May it not altogether as well proceed from a certain disposition, a certain arrangement of matter, as from spirit? " All these profound reasonings, continues this author, which are so often repeated, may be reduced simply to this: I know very little about matter; I discern imperfectly some of its properties; but I am entirely ignorant whether or not the faculty of thinking may be joined with these properties; therefore, because I know nothing of the matter, I assert positively, that matter cannot think. This is precisely the manner of reasoning in the schools. Mr. Locke says to these gentlemen very plainly: Confess at least that you are as ignorant as I am; neither your imagination nor mine can conceive how a body has ideas; and can you better conceive how a substance of any kind whatever has ideas. You cannot comprehend either body or spirit, and how can you pretend to be certain of any thing? Of what signification is it to you, whether the soul be one of those incomprehensible beings which are called matter, or one of those incomprehensible beings which are called spirits? What! cannot God, the creator of all things, either eternize or annihilate your soul at his pleasure, whatever may be its substance?"

VI. We insert these reflections merely to show the great difficulty that the study of metaphysics still has, and it is probable ever will have, to surmount. The efforts of Leibnitz, Locke, Wolff, and of all modern philosophers, have been successful in this pursuit, it is allowed; but the result has not been infallible, and it is far from being the case to this day, that any mortal, who has ever lived upon the earth, has given us a demonstration on this matter that did not admit of some objection, or has proved any one metaphysical truth that bears the marks of perspicuity and full conviction, and that does not admit of any rational doubt. In the best metaphysical treatises that have been produced, there are not perhaps three definitions that are strictly just.

just. The imperfection of the discerning faculty in the human mind, the imperfect extent of its views, which cannot embrace, at the same time, all the properties of beings, and the imperfection of all languages in the world, are the reasons that we never can expect to see perfect definitions: and without these, how trifling is it to attempt to reason!

Vii. However, we must not suppose that so many great men of all ages have founded their labours altogether on the sand, or have merely amused themselves by throwing stones into the water that circles might succeed. No: they have employed all the sagacity of the human understanding, all the most subtle arguments to discover what was susceptible of discovery; and these operations have produced the science that we call metaphysics, and of which we shall now make the analysis, by briefly explaining the particular parts or doctrines of which it is composed. We have thought it our duty, as an impartial author, so far to set down the *pro* and *con*, for the information of the reader; but we are very far from intending to discourage those who are desirous of completing the full course of philosophy: on the contrary, we think that we cannot sufficiently exhort them to persevere; that they ought never to despair of the human understanding; that no man knows how far its powers may extend; and that great discoveries in metaphysics, as in every thing else, are frequently made when they are least expected.

Viii. Metaphysics then is divided, according to the objects that it considers, into six principal parts, which are called, 1. Ontology: 2. Cosmology: 3. Anthropology: 4. Psychology: 5. Pneumatology, and 6 Theodicy or metaphysical theology. We shall examine, in a few words, what is the end of each of these particular doctrines, and what are the means that it makes use of to attain that end, leaving the rest to the study of metaphysics itself.

IX. The

IX. The doctrine, that is named *Ontology*, is that part of metaphysics which investigates, and explains, the nature and general essence of all beings, as well as the qualities and attributes that essentially appertain to them, and which we ought to assign them by abstraction, as considering them *a priori*. Hence it appears, that this doctrine should proceed in its operations from the most simple ideas; such as do not admit of any other qualities of which they may be compounded. These simple ideas are, for example, those of being, of essence, of substance, of mode, of existence as well with regard to time as place, of a necessary cause, of unity, the idea of negation, the difference between a being that is simple or compound, necessary or accidental, finite or infinite: the idea of essential and abstract properties, as of the greatness, perfection, and goodness of beings, and so of the rest. The business therefore of ontology, is to make us acquainted with every kind of being in its essence and abstract qualities, and such as are distinct from all other beings. This knowledge being once established on simple principles and eternal truths, just consequences may from thence be drawn, and those things proved, after which metaphysics inquires, and which is its business to prove.

X. It is easy to conceive, that even a clear knowledge of beings, and their essential properties, would be still defective and useless to man, if he did not know how to determine and fix his ideas by proper denominations, and consequently to communicate his perceptions to those whom he would instruct, or against whom he is obliged to dispute, as they would not have the same perceptions that he has. It is, by the way, perhaps one of the greatest advantages that we have over other animals, to be able so to determine our ideas by signs or denominations, either of writing or speech, as to refer each particular perception to its general idea, and each general perception to its particular idea. To render therefore our ideas intelligible to others,

others, we must have determinate words or denominations for each being, and the qualities of each being; and ontology teaches us those terms which are so necessary to fix our ideas, and to give them the requisite perspicuity and precision, that we may not dispute about words when we endeavour to extend the sphere of our knowledge, or when we debate concerning the essence of an object, or endeavour to make it more evident. It is for this reason that ontology was formerly regarded as a barren science, that consisted of technical terms only; as a mere terminology; whereas the best modern philosophers make it a more substantial science, by annexing determinate ideas to those words, and the examination of those objects themselves that these terms imply. But the misfortune is, to speak the truth, that in this ontologic determination there is still much uncertainty and sophistry. For, in the first place, we yet know of no metaphysics where all the definitions are just; and in the second place, the words that are employed in these definitions have always something equivocal in their meaning, and have consequently themselves need of definitions; and in this manner we may recede to infinity, unless we recur to the first impressions that the simple words have made in our minds, and the primitive ideas which they there excite. The words, man, love, coach, &c. say more, and make a stronger impression than all the definitions we can give of them; by ontologic explications they are almost always covered with a dark cloud.

XI. Metaphysics, after having, in as solid a manner as possible, explained and established the principles above mentioned, continues its inquiries to the second part, that is called *cosmology*, and examines into the essence of the world, and all that it contains; its eternal laws; of the nature of matter; of motion; of the nature of tangible bodies, of their attributes and essential qualities, and of all that can be known by abstraction; and sometimes also, by adding the lights that man acquires concerning

erning them by the experience of his senses. It is also in cosmology, that we examine the Leibnitzian system, that is, whether God, in creating the world, must necessarily have created the best world, and if this world be so in effect. And in this manner they pursue the argument from consequence to consequence to its last resort. All philosophers, however do not go equally deep. Each mind has its dose of penetration. Due care should be likewise taken, that subtilty, in this chain of reasoning, carried beyond the general bounds of the human mind, do not prejudice either the perspicuity or the truth of ideas; seeing that error here too nearly approaches the truth, and that every idea, which cannot be rendered intelligible, is in effect equal to a false idea.

XII. *Anthropology*, or the knowledge of man, forms the third branch of metaphysics. It is subdivided into two parts. The first, which consists in the knowledge of the exterior parts of the human frame, does not belong to this science: anatomy and physiology teach that, as we have showed in treating on those sciences. The business here is only a metaphysical examination of man, his existence, his essence, his essential qualities and necessary attributes, all considered *a priori*: and this examen leads at the same time to

XIII. *Psychology*, which is the fourth part of metaphysics, and consists in the knowledge of the soul in general, and of the soul of man in particular, concerning which, the most profound, the most subtle and abstract researches have been made, that the human reason is capable of producing; and concerning the substance of which, maugre all these efforts, it is yet extremely difficult to assert any thing that is rational, and still less, any thing that is positive and well supported.

XIV. The fifth part of metaphysics is called *Pneumatology*. It is not a very long time since this term has been invented, and that metaphysicians have made of it a distinct doctrine. By this they mean

mean the knowledge of all spirits, angels, &c. It is easy to conceive that infinite art is necessary to give an account of what we do not absolutely know any thing and of which, by the nature of the subject itself, we never can know any thing. There have been respectable persons who have asserted, that there were spirits, angels, devils, &c. We must believe them; it is an object of faith. But the metaphysician pretently offers to show us, *what is the idea of a spirit; the affective existence of a spirit; what are its general qualities and properties; that there are rational spirits: and that these rational spirits have qualities that are founded in the moral qualities of God: for this is, in so many words, what is taught us by pneumatology or pneumatics.* Vain efforts! ridiculous study! There are respectable people, who assure us that there are spectres, ghosts, apparitions, &c. We have in Germany the tradition of one of them, named Hackelberg, who was a very keen sportsman, and at the same time a very wicked fellow. He asked of God, they say, instead of eternal happiness, the joy of hunting in the woods after his death, till the end of the world. His prayer was granted as his punishment, and he is condemned to hunt incessantly in the night, in some forest: and there are thousands of visionaries who affirm, that they have heard him, his hounds, and his horn, and have been in the midst of them, but have never been able, however, to see either him or any of his followers. Now, there would be no more extravagance in making metaphysical researches into the nature and essential qualities of this huntsman, his dogs, and his music, than there is treating seriously and metaphysically on the nature of spirits, angels, and demons. At least it is certain, that as regular and conclusive demonstrations may be made of all these chimeras, as those which we find concerning spirits in the treatises on pneumatology. For it should be here well remembered, that the existence of spirits and angels is not of an absolute necessity, that arises from their own nature,

nature, or from the nature of other beings, or the general system of the universe; whereas the existence of a Supreme Being is of an absolute necessity, and what might be demonstrated *a priori*, although we had never heard it mentioned.

XV. *Metaphysical theology*, which M. Leibnitz and some others call *theodicy*, is the sixth and last doctrine of metaphysics. It teaches us the knowledge of the existence of God; to make the most rational suppositions concerning his divine essence, and to form a just idea of his qualities and perfections, and to demonstrate them by abstract reasoning *a priori*. Theodicy differs from natural theology (of which we have already treated in the 40th chapter among the parts of morality) in as much as this last borrows, in fact, from theodicy, proofs and demonstrations to confirm the existence of a Supreme Being; but after having solidly established that great truth, by extending its consequences, natural theology teaches us what are the relations and connexions that subsist between that Supreme Being and man, and what are the moral duties that result from that connexion. As pneumatology is a science highly insidious and chimerical, so is metaphysical theology susceptible of sound argument and demonstration to the great comfort of mankind, the whole of whose happiness is founded on the certainty of this science. If the effects and operations of spirits in the universe were as evident as the effects and operations of the Deity, and their necessary existence as capable of being proved *a priori*, pneumatology would be a doctrine of equal certainty with theodicy; but as neither one nor the other can be proved, with regard to spirits in general, whilst God manifests himself in every part of nature, we have only to descend from the most simple and abstract ideas, to those that are the most compound, and from thence to reascend by a chain of reasonings from the creature up to the author of the creature and of all nature: we shall find, that the result of all these operations of the mind will constantly

constantly be the necessity of the existence of a God; and we may at all times determine, though very imperfectly, from the weakness of our discernment, what that Supreme Being must be, by positively determining what he cannot be. Every thing that can concur to furnish new proofs on this subject, or to elucidate and establish those which are already known, is therefore of inestimable value to mankind; and though this were the only object of metaphysics, it would highly merit the attention of those of the most refined and most exalted genius. I may be excused from adding any thing further, but to confess, that I know nothing more of this matter; and I suppose, that men of the greatest learning and sagacity are not in this respect much wiser, but that those of little minds imagine themselves much more skilful in metaphysical matters.



C H A P X L V I I I .

P H Y S I C S ,

O R ,

N A T U R A L P H I L O S O P H Y .

I. **B**Y the word Physics, in its most extensive sense; we understand *the science of the operations of nature, and of its productions.* This definition is alone sufficient to inform us, what are the particular parts of physics, and what are the means it employs to attain its ends. Thus *natural history*, or *zoology*, *botany*, and *mineralogy*, describe those bodies that nature produces, as far as they are discernible by our senses. So *chymistry* and *experimental philosophy* discover to us, at least in part, the composition of bodies, and the various alterations of which those compositions are susceptible. So

general

general and speculative physics draws from all these preliminary observations, from all these matters of fact, just consequences relative to the universal laws of nature, to the properties, forces, action, and essential qualities of bodies. We have already treated of botany and chymistry, it therefore only remains to give here an idea of zoology, mineralogy, and experimental philosophy. This analysis will naturally lead us to an explanation of the laws of nature, by which all these effects are produced; and therefore we shall unite, in this chapter, the sciences which are preparatory to general and speculative physics, and which at the same time furnish the proofs of all its principles and hypotheses, with this science itself. And very happy shall we think ourselves, if we are able in some degree to elucidate these matters.

II. The object of physics being the examination of the whole frame of nature, so far as it is visible and palpable to man, it is easy to conceive that it must form the most extensive branch of human knowledge, seeing that the operations of nature are varied almost to infinity. To reduce this immense subject into some order, philosophers have begun by dividing all the productions of this globe into three classes, which they call *kingdoms*, and distinguish into the *vegetable*, the *mineral*, and *animal kingdom*. Botany, mineralogy, and natural history properly so called, teach therefore all that is come to the knowledge of man in each of these kingdoms. Chymistry resolves all bodies, and consequently shews the manner in which they are compounded. Philosophers have likewise discovered that the universe is composed of elements, of which there are four, *earth, water, fire, and air*. Experimental philosophy, by numberless essays and observations, explains the manner in which these elements operate upon each other, and the effects that they produce. The knowledge of those heavenly bodies, whose various courses fill the vast expanse of the firmament, and of their properties and courses,

courses, either real or apparent, is comprised in the science of *astronomy*: but as all the knowledge that we acquire in this respect is obtained by the aid of calculation, astronomy has been ranked with the mathematical sciences, and does not directly appertain, in the general system of erudition, to physics; although the examen of the principles, which produce the motion and all the effects of the heavenly bodies, properly belongs to this science.

III. We cannot wonder that a science so vast, so complicate and profound, has required so many ages, so many thousands of years, to attain that degree of perfection at which we now see it; and we must not imagine, that, to this day, it has acquired all that perfection of which it is susceptible. The most able philosopher finds a fresh obstacle at every step he takes in this career. Happy would that man be, who could comprehend the principles of all things! But alas! the Creator has not judged it proper to give to our senses the necessary perfection; or rather, man still wants one or several senses to search into nature, and to discover its secret springs. By virtue of experiments and observations, philosophers have been enabled to guess at some of its principles; and we shall fulfil our intention, if we are so happy as to be able to give our readers a general idea of the knowledge they have attained in this respect, and the means they have employed to attain it; and by doing this, we shall trace the outlines of natural philosophy.

IV. All the ancient oriental nations, including the Hebrews and the Egyptians, were mere novices in physics; and their ignorance seems to prove the infancy of the world. The Greeks, men of a subtile and inquisitive genius, went further, and sometimes guessed right enough, though very rarely. Empedocles, for example, who is ranked by some among the Pythagoreans, professed the system of the four elements in nature, and added thereto two principles, which he called *principium amicitiae* and *principium contentionis*. The first, according to
him,

him, is the cause of the coalition of beings, and the second, that of their recession or separation. Was not this derived from the same origin as the celebrated system of the attraction and repulsion of bodies? Whatever was the cause, the progress of physics has ever been slow, and we are astonished when we see ancient writers of the greatest genius, as Plutarch and an hundred others, make use of such wretched reasoning when they mention those subjects that relate to physics.

V. Among the Romans, Lucretius and Cicero have indeed wrote on these subjects; but they have only related the opinions of the Greeks, which were not worthy of great regard. Seneca and Pliny went further; and we are obliged to the latter for the useful observations which he has made on many parts of this science, although he is frequently too credulous. Pliny, moreover, does not belong to the class of dogmatic authors on physics, as he gives only an historical account of these matters.

VI. The first ages of Christianity were the ages of darkness for all the sciences and the arts. It was not till very late, that Bacon baron of Verulam, and some of his contemporaries, produced the first sparks of those fair light, that have since blazed forth by the happy labours of their successors. Galenus, Bernier, Roger, Albert le Grand, Descartes, Rudiger, Newton Leibnitz, Wolff, and a multitude of other celebrated philosophers, have diffused these lights over philosophy; and all these great men have at last established that method of treating it which is alone able to discover the truth. This method is perfectly simple. They begin with establishing facts by means of experiments and observations, and draw from thence consequences relative to their causes and principles. For, as soon as experience or the senses have discovered what passes in nature, the mind endeavours to discover what cannot be distinguished by the senses; that is to say, what may be the cause or the end of each phenomenon or operation in nature; and by this mean

mean it constantly combines the accuracy of observation with the sagacity and rigour of argument. Let us here follow the footsteps of this method.

VII. The science, which teaches what are the productions of nature in the earth, in plants and animals, is called natural history, in its most extensive sense. We have already seen, in the chapter on botany, all which that science teaches concerning the productions of nature in the kingdom of plants, and the method that it takes to make us know and remember their immense number. In order therefore to avoid repetitions, we shall proceed to *mineralogy*, and *natural history properly so called*; of which the first examines the productions of the earth, and the second describes those living beings which we call animals.

VIII. Mineralogy begins with an historical description of the different *earths* of which this globe is composed, and the terrestrial bodies which are contained in its bowels, as *stones, metals, petrifications, the particular species of earths, coagulated juices and fluids, &c.* It describes their principal properties, and ranges them in classes, genders, and species. As most of those bodies, which belong to the mineral kingdom, have been at all times used to promote either the convenience or luxury of mankind, we find, in the most distant ages, traces of this science; and Pliny, the naturalist, has transmitted to posterity all that was known concerning them by the ancient Romans: but it was reserved for the present age to reduce mineralogy into a regular system; to range all the terrestrial bodies in classes, genders and species; to assign the proper characteristic of each class; to search every part of the known world, strictly to scrutinize the earth in every region, and to communicate to mankind the knowledge of all terrestrial bodies, and of every mineral that is worthy to be known. It must be confessed, that the Germans and the Swedes have acquired great excellence in these matters; and it is impossible to treat on this subject without repeating the

the celebrated name of Linnaeus, the professor at Upsal.

IX. That sagacious investigator of nature supposes, that sand and argil are the only primordial earths that have produced, and which still produce, by aid of the elements, all bodies that are included in the mineral kingdom; that the generation of simple and compound stones is not performed but by an exterior junction of parts; and that there is here no generation in the egg, nor circulation of fluids in the vessels that appertain to them, as in the other kingdoms of nature. This system appears, indeed, to be founded on all the observations, and all the conceptions, that we can have by means of the senses, but at the same time repugnant enough to reason and analogy: seeing that it is not at all probable, that the author of nature should have subjected the generation of mineral bodies to laws different from those which he has given to other beings; and that this duplicity in the method of generation would not be, in some degree, an imperfection in nature. According to this system of M. Linnaeus, we cannot even call the propagation of stones and metals a generation; for it would be nothing more than a simple modification of matter, a mere alteration of figure. When we speak moreover of an ovarious generation, we are not to think of an egg like that of a fowl. Who can say, what it is that forms the egg or matrix which produces stones? Who knows, by what imperceptible canals the juices and liquids flow that may concur to their generation? And do we not see likewise, that many stones and metals have their matrices, their genital enclosures? Is it even impossible, that we should discover in minerals the traces of the sexes? Or is it impossible, that each mineral should be of both sexes? If the system of the mere junction of the parts be a true one, how shall we account for the formation of the oyster, and the shell in which the snail is enclosed, which is produced, grows, and disappears with the insect, of which it makes

a part, and to which it serves as a covering? It plainly appears, that this shell is of the same substance with fossils, as well as all other shells of the sea and rivers. How shall we account likewise for the formation of the shell of the egg of poultry and all other fowls, which is at first soft and afterwards becomes hard in the body of the bird? Are not the cabinets of the curious amply furnished with corals and lithophites, productions of nature that partake partly of the stone and partly of the plant, and whose branches, as well as their uniformity of genders, classes and species, seem to prove sufficiently that they have been produced by no other generation than that of plants? We are very far, however, from desiring to confute the opinion of so great a man. It is merely a doubt, that we venture to propose with as much diffidence as desire to instruct; and we shall here only add one plain remark, which is, that the system of Linnaeus seems to favour the chimeras of the adepts, while the contrary system of generation exposes their vanity by theory, as well as by an experience that has been confirmed from the creation of the world.

X. Be this matter, however, as it may, the system or arrangement, which he makes of all the productions of the mineral kingdom, is as ingenious as it is clear and solid. He divides all these productions into three classes, to wit, 1. *Flints*, or *simple stones*, all the parts of which are perfectly homogeneous; 2. *Minerals*, or *composite stones*, which are marked with heterogeneous and foreign particles; and, 3. *Fossils*, or *united stones*, which are composed of a mixture of divers particles of flints and minerals. Under the first class, he ranges the incombustible stones, lime stones, and such as may be vitrified; under the second, salts, sulphur, and mercury. When those stones, whose substance is mercurial, are afterwards formed and melted by fire, they are called *metals*. In the third class, he ranges the earths, the concrescences of divers particular earths and petrifications.

XI. Under

XI. Under these three genders or orders of each class, he makes the enumeration of the different species that appertain to each gender: and in this manner he refers as species,

1. Of the first class and first gender of STONES.
The *Incombustibles*; to wit, the asbestos, amianthus, ollaris, talc, mica or shining particles.
2. Of the first class and second gender.
Lime stones; which are the slate, spatum, and marble.
3. Of the first class and third gender,
Vitrifiable stones; as the cos or whetstone, the flint and the quartzum.
4. Of the second class and first gender of MINERALS,
Salts; to wit, saltpetre, common salt, alum, and vitriol.
5. Of the second class and second gender,
Sulphurs; as rosin, bitumen, marcasites, and arsenic.
6. Of the second class and third gender,
Mercuries; as quicksilver, antimony, zinc, bismuth, pewter, lead, iron, copper, silver, and gold.
7. Of the third class and first gender of FOSSILS,
Earths; to wit, sand, argil, clay, gravel, oker and marl.
8. Of the third class and second gender,
Concretes; which are the pumice stone, the porous stone for filtering, the gravel stone, the grind stone, the eagle stone, tartar, and the animal calculus.
9. Of the third class and the third gender,
Petrifications; to wit, stones figured with plants, worms, insects, and terrestrial and aquatic animals.

XII. After pointing out the evident characteristics of each class, order and gender, M. Linnæus next describes the several particular species of productions which belong to the several genders; and in this manner he represents, as in a map, the

earth, and all that is contained in its bosom, and that in a method so perspicuous and so pleasing that we cannot sufficiently admire his sagacity and laborious application. Mineralogy, in the last place, examines into the substance of those several bodies, their properties, and uses in common life; but it treats this matter in an historical manner only. Optics, but more especially chymistry, here lend their aid, not only to discover the composition of bodies, but to make a proper application of them for the benefit of mankind. Stones are those hard bodies which resist the fire and the hammer, but metals and minerals are bodies ductile and malleable, on which chymistry is particularly exercised; and this part of chymistry, which is so intimately connected with mineralogy, is called *metallurgy*. These two sciences, thus united, do not proceed much further; they communicate their discoveries to speculative philosophy, and furnish it with matter of reflection.

XIII. *Zoology*, or *natural history*, properly so called, treats on living bodies in the same manner as mineralogy does on those that are terrestrial and inanimate, and botany on plants; that is, in the terms of the art, it embraces the whole animal kingdom. By living bodies, we understand every body that is animated, that is endowed with sensation, that moves, is nourished, grows, and perpetuates its species. This science has not yet been carried to so great a degree of perfection as those of the other two kingdoms of nature, although it is not less important. There are not wanting large volumes filled with designs relative to this matter, and we ought to acknowledge our obligation to their laborious authors; but these books can be considered merely as dictionaries. A good system in which shall be properly ranged the several classes, genders, and species, of all that breathes upon the earth, in the air, or in the waters, is what we have still to desire; especially if in this system the characters were so distinctly and concisely marked, that the memory might easily retain them.

them. We must content ourselves, therefore, with giving here a very short analysis of the best system that has come to our knowledge.

XIV. According to this system, all the beings which belong to the animal kingdom are divided into *six classes*, which are, 1. Quadrupeds: 2. Birds, 3. Amphibious animals: 4. Fish: 5. Insects: and, 6. Worms. Under each *class* are ranged the several *genders* that thereto belong, and under each *gender* its different *species*. The division of the classes is founded on the particular nature of each animal, and the element which it inhabits: that of the genders and species on the difference of the teeth of the quadrupeds; on the variations in the bill and the claws, with regard to birds; of the figures, the scales, and fins of fish; of the wings and antennæ of insects; and so of the rest.

XV. The genders which belong to the first class, that of QUADRUPEDS, are of five orders:

1. The *Anthropomorphists*; as man, the ape, the *bradypus* or idler.
2. *Savage animals*; the bear, lion, tiger, cat, weasel, *didelphis*, otter, *adobænus*, sea-dog, hyena, dog, badger, mole, porcupine, and bat.
3. *Rats*; the hedge-hog, squirrel, castor, mouse, and hare.
4. *Horses*; the horse, hippopotamus, elephant, and hog.
5. *Ruminating animals*; the camel, stag, goat, sheep, and ox.

The genders which appertain to the second class, that of BIRDS, are of seven orders,

1. The *birds of prey*; as the parrot, owl, and hawk.
2. The *peckers*; the bird of Paradise, magpye, raven, cuckoo, woodpecker, and lapwing.
3. The *long bills*; the crane, stork, and heron.
4. The *goose kind*; as the bittern, pelican, swan, duck, diver, aquatic raven, the tailless diver and the coot.
5. The *pointed bills*; which are the woodcock, rock pigeon, lapwing, snipe and moorhen.
6. *Gallinæ*; as the ostrich, casual, bustard, peacock,

cock, turkey, common fowl, partridge, and pheasant.

7. *Tringilia*; the pigeon, thrush, starling, lark, wagtail, nightingale, swallow, *bourvrenil*, and chaffinch.

The genders which belong to the third class that of the AMPHIBIOUS, are,

1. The order of *serpents*; as the tortoise, frog, lizard, and the serpent; with all the species that depend on each gender, as for example, the crocodile, which is of the gender of lizards; and so of the rest;

The genders which belong to the fourth class, that of FISH, are,

1. The order of *flat tails*; as the sea calf, the catodon, sea-unicorn, whale and dolphin.
 2. Those of *cartilaginous finned*; as the thornback, shark, sturgeon, and lamprey.
 3. The *bony finned*; the sea-frog, the cyclopterus, which comprehends the plaice, barbel, turbot, &c. the ostracion or shell-fish, the balist or sea-goat.
 4. The *pointed finned*; the gasterosteus or bony belly, the zeus or sea-hog, sea-cock, &c. the cotus or sea scorpion, dab, trachin, perch, sparus, sea-hog, mullet, mackerel, sword-fish, saw-fish, and gudgeon.
 5. The *soft finned*; the murene (a sort of lamprey) the true lamprey, the pur or sea lark, the code, the burr, the sandy eel, the whale's guide, the remora, pike, salmon, smelt, *coregonus*, herring, carp, gudgeon, *symgnathus*, trout, and all the different species which depend on these by their form.

The genders which belong to the fifth class, that of INSECTS, are,

1. *Those whose wings are covered with a scale*; as the wood louse, May bug, beetle earwig, the mordelle or water bug, the weavel or mite, the one horned May bug, the great horn beetle, the chanterelle or decoyer, the cochineal, vinefretter, pismire, beetle, grasshopper, cantharides, or Spanish fly, the glow worm, the chevalet.
 2. *Those whose wings are not covered*; as the butterfly,

fly, dragon fly, the ephemere or day fly, the hemerobius or waterfly, the scorpion fly, bee, wasp, and common fly.

3. *Those whose wings are half covered*; as the cricket, ant, bug, the land scorpion, and water scorpion.
4. *Those who have no wings*; as the louse, flea, water, vinefretter, mite, spider, crab, lobster, wood louse, the scolopendra.

The genders that belong to the sixth class, that of **WORMS**, are,

1. The order of *reptiles*; as the thread worm, the riband worm, the lumbricus or earth worm, those of the intestines, the blood sucker, and the shell-less snail.
2. The *shellworms*; of which are the snail, the venus shell, the sea ear, the little dish, the sea-tooth, and the sea-lamp.
3. Of the order of *planted worms*, are the sea porcupine, the marine fox or sea star, the cuttle fish or sound, the sea microcosm, and all the different species that may be referred by their characters to these genders.

XVI. It is easy to imagine, that according to the plan of this work, we can only just mention all those classes, genders, orders and species, on which are founded the knowledge of the animal and mineral kingdoms; that we can give only a general idea of the science, and of the manner in which it is treated. The study of the larger works of this kind, as the *Spectacle de la nature* of the abbe Pluche, the works of Messrs. Reaumer, Trembley, Linnon, and numberless others, which are daily making their appearance in most of the civilized countries of Europe; the inspection of the cabinets of the curious, and still more, an attentive and repeated examen of the works of nature herself, are the only proper means of increasing this sort of knowledge. It is certain, that a diligent observation of the subjects of *mineralogy*, and *zoology*, united with the study of botany (of which we have already treated) affords every possible information relative to natural history in general, that is, we thereby acquire

the historical knowledge of all the beings of this globe, that nature produces. *Experimental philosophy*, aided by *chymistry* (of which we have also made the analysis in the 34th chap.) and several parts of the mathematics, disclose the composition of these beings, and the springs by which nature operates in their production, and in making them produce, in their turn, the mutual effects of the elements, &c. Astronomy, of which we shall speak in the chapter on mathematics, explains the nature of the celestial bodies and their courses; and all these various sciences united, conduct us at last, as far as the human mind is able to proceed, to the determination of the general laws of nature in the order of the universe; from whence result *universal* and *speculative physics*. Let us proceed therefore, after saying a few words on generation in general, to the examen of experimental philosophy.

XVII. As there cannot be in nature two or more principles for producing one and the same effect, it does not appear to be possible, that there can be more than one for the production of all beings, that is to say, but one method only of generation. The absurd doctrine of *equivocal generation* is fairly exploded; that a mixture of saw-dust and urine is capable of producing insects, and a thousand such puerilities, are now treated with the contempt they deserve. It is now demonstrated to the eye, and to the touch, that there are two sexes in plants, and that they produce like beings by that generation which is common to all nature. Perhaps in another century they will be able to demonstrate the same truth in the mineral kingdom: but the principle of this common generation, and the manner in which nature operates in the interior parts of animal and vegetable bodies, to make them produce their offspring, are still great arcana to the most skilful naturalists. Aristotle has wrote five books, full of pitiful conceits, concerning generation. Modern philosophers have applied very assiduously to this subject, and have made considerable discoveries

series which appear to approach nearer to the truth. We find the history of them in the *Philosophical Venus* of the late M. Maupertuis. That author there adopts an hypothesis, which before his death he acknowledged to be not the true one : other able inquirers have since proposed more plausible hypotheses, and seem to come much nearer to the true system. There is yet something wanting, however, to give their opinions the convincing argument of clear demonstration ; and the first principle of generation will, most probably, for ever remain among the number of those matters that are out of the reach of human knowledge. We have more than one reason for not enlarging here on this subject, and shall therefore pass to the analysis of experimental philosophy.

XVIII. It is not very long since this science has been known to the world, or, to speak more properly, since it was first reduced into a system. Natural philosophy has been, for these fifty centuries, nothing more than a confused heap of systems laid one upon another, and very frequently the one clashing against the other. Each philosopher thought, that he had an equal right to erect a similar edifice to his own memory. They adopted barbarous terms and expressions, that conveyed confused ideas only. For explications, they gave certain unintelligible or unmeaning words, which had been introduced by the authority of some celebrated name ; but from which a man of understanding could not receive the least information. At length, the true physics were brought to light ; it was drawn from the obscurity of the schools, where it had grown old under the authority of Aristotle ; and scarce any thing was suffered to remain of it, but the name. This reformation proceeded principally from the manner of studying it. Instead of guessing at it, they began to investigate it by experiments ; and whereas they formerly confined themselves to speculations, and vague researches concerning phenomena and their causes, that were always merely conjectural, they now gave ocular demonstrations of causes and effects,

fects, by means of experiments; and this is what they call experimental philosophy or physics.

XIX. The principles of this philosophy are as follow. All the material substances, whose assemblage composes the universe, are called *natural bodies*. What we perceive in these substances that is uniform and invariable, and of which we do not know the cause, is called their *properties*. Physics sets out with this, as from a fixed point, in order to explain the different phenomena that are perceived on the earth, in the water, the air, or fire, and in all that these elements contain. For though it does not pretend to know all that bodies have in common among themselves, or all that is peculiar to each one of them, yet it knows a certain number of their properties, which it regards as *primary*, till it discovers a precedent cause of which they may be the effect*; and which properties are general, and in a manner inseparable from all matter, as, for example, *extension*. There are likewise properties of an inferior order, which do not appertain to all bodies but as they are in certain states, or under certain circumstances: these in general are nothing more than combinations of the primary properties, and form a second class, as for example, *fluidity*. Lastly these properties of the first and second order combine more and more, and become common to a still smaller number of bodies: and here they are no longer extended to all bodies, as the first, nor are peculiar to certain states, as the second, but are confined to genders, species, or even individuals. Such are several properties of the air, fire, light, metals, the magnet, &c. These three orders of properties are the subject of the inquiries of experimental philosophy, which proves by experiments those that are already known, and frequently discovers others that were unknown.

XX. It is necessary here to descend to some particulars. The first property of bodies, which presents itself to our ideas and our senses, is their *extension*.

* See Nollel, *Leçons de physique expérimentale*.

tenſion, which is a limited bulk of any form whatever, of which we can conceive parts that may be diſtinguiſhed from each other. This material extension has three dimensions, which are length, breadth, and depth. Every body, whoſe extension is large enough to be ſeen or felt, may be divided into ſeveral parts, and which muſt conſequently decrease in proportion as the diviſion is increaſed: from hence comes *the infinite diviſibility of matter*, at leaſt in idea; for in the ſmalleſt particle we can ſtill imagine of two halves; though the fact has never been proved by experiment, for nature does not at all times conform to imagination, ſeeing that the minuteſt particles, and their decomposition, eſcape our obſervations even in the moſt accurate experiments. However, we ſhould never have believed, without having made the trial, to what degree experimental philoſophy is capable of dividing bodies, and of reducing them to particles that are almoſt indiviſible.

XXI. The order, or arrangement, which the ſurfaces of bodies take among themſelves, is called their *figures*. As theſe ſurfaces cannot be confounded, but are always diſtinguiſhable by their ſituations, it is evident that figure is a common and neceſſary property of all bodies. The experiments, by which this truth is demonſtrated by the aid of the miicroſcope, are equally curious and convincing: and from hence it is alſo proved, that there are no two bodies that are abſolutely ſimilar. The *ſolidity* of a body is nothing more than the quantity of matter that is contained within its bulk: this property is eſſential to all bodies, and the moſt certain ſign of their exiſtence. *Reſiſtance* is a neceſſary conſequence of the foregoing property; and every phyſical reſiſtance proves a real ſolidity in a greater or leſs degree. Fluids being the only bodies in which ſolidity is in any manner neceſſary to be proved, it has been there demonſtrated by numberleſs experiments. The *poroſity* of bodies is, on the contrary, nothing but that ſpace which is found between their
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solid parts. This *space* has its degrees. When a dry sponge is plunged into water, a quantity of air comes out of it, in proportion to the water that penetrates it: and when moist bodies are dried, they become more light in proportion as they lose by evaporation what their porosity had admitted. This is the first sort of space or vacuum. Light, or the matter of fire that we see pass through bodies impenetrable to air and water, supposes pores more delicate, and a space more subtle. It is almost indubitable, that after these first kinds of vacuum, and which indeed are improperly so called, as they are filled with other matter, there are others still smaller, and which are so in a literal sense. That freedom, which is requisite to motion, seems to prove it: for though we may say, matter being divisible almost *ad infinitum*, that a body or substance more solid may move in another substance that is more subtle, and that will give way to its motion, we must, nevertheless, have recourse to a last resort, and admit of an ultimate vacuum, which will give room sufficient to the *least* corpuscle, that its part *A* may take the place of its part *B*, without the least resistance: besides, it is not to be imagined, that nature, in fact, admits of that infinite divisibility which our imagination can conceive, and that every thing which is possible in idea is at all times practicable. All that exists is possible, but all that is possible does not however exist. The air pump is of very great use in proving these three sorts of vacuums. By *density*, is understood the proportion between the extension and solidity of a body: one body therefore is more dense than another, when under the same degree of extension, it contains more solid matter: and this quality arises from *condensation* and *compression*. *Elasticity* is nothing more than that effort by which certain bodies when compressed, endeavour to restore themselves to their former state; and this property supposes them compressible. As all these natural properties of bodies are of great utility in explaining the principles of physics,

physics, and in applying them to all the arts, experimental philosophy proves their reality by a thousand examples.

XXII. We discover still other properties in bodies; such as *mobility*, which we must not here confound with *motion*. This mobility arises from certain dispositions which are not in an equal degree, in all bodies; from whence it comes that some are more easily moved than others: and this proceeds from the resistance to motion which is perceived in all bodies, having regard merely to their masses; and this resistance is called *vis inertiae*, or *inert force*. A body is said to be in motion, when it is actually moving from one place to another; or, whenever a body changes its situation with regard to the objects that surround it, either nearly or remotely, it is said to be in motion. There are three principal matters to be considered in a moving body; its *direction*, its *velocity*, and the *quantity* of its motion: and here physics explains the *force* or *moving power*; it likewise distinguishes between simple and compound motion. *Simple motion* is that which arises from only one force, or which tends to only one point. It describes the laws, and explains the *resistance of mediums*; the *resistance of friction*; the difficulties of a *perpetual motion*; the *alteration of direction*, occasioned by the opposition of a fluid matter; *reflected* or *reverberated motion*; the communication of motion by the shock of bodies, &c. *Compound motion* is that of a body impelled to move by several causes or powers which act according to their different directions. Physics here likewise investigates the laws; and is particularly applied to the explaining, under this head, what are called the *central forces*, which produce a motion that is either circular or in a curve line, and which incessantly urge the moving body either to approach or recede from the center. To distinguish these from each other, the former is called the *centripetal force*, and the latter the *centrifugal force*.

XXIII. By

XXIII By *gravity* or *ponderosity*, is to be understood that force which occasions bodies to pass from a higher to a lower place, when nothing opposes their course, or when the obstacles are not sufficient to stop them. Speculative philosophy investigates its cause, and perhaps in vain. Experimental philosophy contents itself with describing the phenomena, and teaching *the laws of gravity*, which are thoroughly established by a thousand reiterated experiments. In order properly to understand this subject, we must take care not to confound the term *gravity* with that of *weight*. By the former, we understand that force which urges bodies to descend through a certain space in a given time. By the latter, is meant the quantity of a heavy body that is contained under the same bulk. The phenomena are explained by the experiments themselves, and by inferences deduced from them.

XXIV. *Hydrostatics* is a science whose object is the gravity and equilibrium of fluids in particular. Though the gravity of these bodies is the same with that of others, and is subject to the same laws, yet their state of fluidity gives rise to particular phenomena, which it is of consequence to know. But as hydrostatics cannot be successfully treated on without the assistance of calculation, it has been ranged among the mathematical sciences; and we shall follow this arrangement, in order to avoid all confusion, and not to treat of the same subject twice. We shall likewise endeavour to consider it at the same time, as well from the relation it has to physics, as to those mathematical calculations on which its principles and demonstrations are founded.

XXV. We say the same with regard to *mechanics*, which is the art of employing, by the aid of machines, the motion of bodies, in conformity to its properties and laws, as well with regard to solids as fluids, either more commodiously or more advantageously. Of these matters we shall give a full explanation in the chapter on mathematics, as well

well as of the laws of nature on which they are founded.

XXVI. After it has made the most accurate experiments, and the most judicious observations, on all these different objects, and the properties of bodies in particular, experimental philosophy passes to the examination of the air, the water, fire, the wind, colours, &c. The *air* is a fluid with which we are surrounded from the instant of our birth, and without which we cannot exist. It is by the properties and the influences of the air, that nature gives increase and perfection to all that it produces for our wants and conveniencies; it is the spirit of navigation: sound, voice, speech itself, are nothing more than percussions of the air: this globe that we inhabit is completely surrounded by air; and this kind of coverture which is commonly called the *atmosphere* has such remarkable functions, that it evidently appears to concur to the mechanism of nature. Experimental physics, therefore, considers the air, 1. Of itself, independent of its bulk, and the figure of its whole body; it examines its essential properties; as its gravity, density, spring &c. The air-pump is here of indispensable use; and by this pump physics examines in what manner space, or a vacuum, is made. It likewise shows the necessity of air to the preservation of animal life; the effect it has on sound, fire, and gunpowder *in vacuo*; and a hundred other experiments of various degrees of curiosity. 2. It considers the air as the terrestrial atmosphere, sometimes as a fluid at rest, and sometimes as in motion. And by these means it accounts for the variation of the mercury in the barometer, and why it sinks in proportion as the height of the atmosphere diminishes; as also for the figure, the extent, and weight of the atmosphere; it shews the method of determining the height of mountains, the nature of sound in general, of its propagation and of sonorous bodies.

XXVII. It is here also, that experimental philosophy considers the nature of the *wind*, which

is nothing more than agitated air, a portion of the atmosphere that moves like a current with a certain velocity and determinate direction. This fluid, with regard to its direction, takes different names according to the different points of the horizon from whence it comes, as east, west, north, and south. Winds are likewise distinguished into three sorts, one of which is called *general* or *constant*, as the *trade winds*, which continually blow between the tropics: another is the *periodical*, which always begin and end within a certain time of the year, or a certain hour of the day, as the *monsoons*, the *land-breezes* and *sea-breezes*, which rise constantly in the morning and evening; and lastly, such as are *variable*, as well with regard to their direction as their velocity and duration. The true first cause of the wind is yet to be determined. The conjectures of the most able philosophers, concerning this cause, would be all plausible enough, if they were not so contradictory to each other. We know, in general, that all the winds arise from a defect in the equilibrium of the air; but of the cause of this defect, we are as yet ignorant: experimental philosophy, which avoids as much as possible the having recourse to systems and hypothesis, contents itself with measuring the velocity of the wind. M. Mariotte computes the velocity of the most impetuous wind, to be at the rate of thirty-two feet in a second, and Mr. Derham makes it sixty-six feet in the same time. The first, doubtless, meant the wind of the greatest velocity that had then come to his knowledge.

XXVIII. The force of the wind, like that of other bodies, depends on its velocity and mass; that is, the quantity of air which is in motion: so the same wind has more or less force on any obstacle that opposes it, in proportion as that obstacle presents a greater or a less surface: for which reason it is that they spread the sails of a vessel more or less, and place the wings of a windmill in different directions. The machines, by which the winds

winds are measured, are called *anemometers*. They shew the direction, the velocity and the duration of winds. It is by the agitations of the wind, that the air is purified, that the seeds of trees and herbs are conveyed to the forests and fields; that vessels are drove from one pole to the other; that our mills turn upon their axes, &c. and art, by imitating nature, sometimes procures us artificial winds, by which we refresh our bodies, invigorate our fires, purify our corn, &c.

XXIX. *Water* is an universal agent, which nature employs in all her productions. It may be considered as in three states, 1. as a *liquid*; 2. as a *vapour*; and 3. as *ice*. These three different states do not in any manner change its essence, but make it proper to answer different ends. The natural state of water would be that of a solid body, as fat, wax, and all those other bodies which are only fluid when heated to a certain degree: for water would be constantly ice, if the particles of fire, by which it is penetrated in the temperate climates, did not render it fluid, by producing a reciprocal motion among its parts; and, in a country where the cold is continually strong enough to maintain the congelation, the assistance of art is necessary to make it fluid in the same manner as we do lead, &c. Water, when not in ice, is a fluid that is insipid, transparent, without colour, and without smell, and that easily adheres to the surface of some bodies, that penetrates many, and extinguishes fire. Experimental philosophy investigates the origin of fountains; the cause of the saltness of the sea; the means of purifying water; what is its weight, and what are its effects when heated, &c. It likewise examines this fluid in the state of vapour; and, finds that a drop of water, when in vapour, occupies a space 14000 times greater than it did before. It explains the *æolipile* and its effects; fire engines; and the force of vapours that give motion to immense machines in mines and elsewhere, &c.

And lastly, it considers water in the state of ice. When water does not contain a sufficient quantity of that matter which we call *fire*, its particles, approaching each other too closely, lose their reciprocal motion, adhere to each other, and form a solid transparent body which they name *ice*; and this passage from the one state to the other is called *congelation*. Ice consequently is more cold than water; and its coldness encreases if it continue to lose that matter, already too rare or too little active, to render it fluid. Experimental physic endeavours to investigate the causes of the congelation of water, and why ice is lighter than water; from whence it derives that expansive force by which it breaks the containing vessel; the difference there is between the congelation of rivers and that of standing waters; why ice becomes more cold by the mixture of salts; and many other similar phenomena.

XXX. What is vulgarly called *fire*, is properly nothing more than an ignited body; but the secret cause of this ignition is yet unknown to the most learned philosopher. As objects when at a great distance are not perceptible to our senses, so when we examine them too nearly, we discern them but confusedly. We are yet ignorant whether fire be a homogeneous, unalterable matter, designed, by its presence, or by its action, to produce heat, inflammation, and dissolution, in bodies; or if its essence consists in motion only, or in the fermentation of those particles which we call *inflammable*, and which enter as principles, in greater or less quantities, in the composition of mixed bodies. The most learned enquirers into nature incline to the former opinion; and have recourse to a matter, which they regard as the principle of fire. They suppose that there is in nature a fluid adapted to this purpose, created such from the beginning, and that nothing more is necessary, than to put it in action. The numberless experiments, which
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are daily made in *electricity*, seem to favour this opinion, and to prove that this matter, this fluid, this elementary fire, is diffused through all nature, and in all bodies, even ice itself. We cannot say to what important knowledge this great discovery of electricity may lead if we continue our enquiries concerning it. But it may be said, if fire be matter, it is then a body, and therefore ought to have a gravitation towards the center of the earth: now, we see that fire has not this property, which is essential to bodies or to matter; but on the contrary, it rises upward, and recedes from the center. But, in the first place, it is not clearly determined that fire does not gravitate: many very accurate experiments seem to prove that it does. Secondly, we have not sufficient authority to say that gravitation is an essential attribute of matter; that there can be no material substance but what must gravitate. What do we know, for example, of the properties of those bodies which exist out of our globe? Thirdly, fire may be a body, a matter diffused over the whole universe, which may appertain to all the planets; or may proceed from the sun, and consequently ought necessarily to have a tendency either toward a center common to all the planets, or else toward the sun in particular; which seems to be a very natural cause of its receding from the center of the earth. In short, it appears that we may believe, without any inconvenience or absurdity, that fire and light, considered in their first principle, are one and the same substance differently modified.

XXXI. Be this matter however as it may, we shall content ourselves, without adopting either system, with mentioning here, that experimental philosophy is employed in making the most ingenious and most useful researches concerning the nature of fire, its propagation, and the means by which its power may be excited or augmented; concerning the phosphorus and its inflammation;
fire

fire excited by the reflection of the sun's rays from a mirror; and on the effects of fire in general; concerning lightning and its effects; the fusion of metals; gunpowder and its explosion; flame, and the aliments of fire; and an infinity of like objects which it explains, or concerning which it makes new discoveries, by the aid of experiments.

XXXII. By the word *Light*, we understand that agent by which nature affects the eye with that lively, and almost constantly pleasing sensation, which we call *seeing*, and by which we discern the size, figure, colour and situation of objects when at a convenient distance. All philosophers agree, *that the light, which is diffused in any place, is a real body*. But what this body is, and by what means it enters that place where it is perceived, is a question about which philosophers are divided. Descartes believed that light was an immense fluid, whose infinitely small particles filled the whole sphere of the universe. The sun which occupies the center, the fixed stars which are as its limits, and all bodies which become illuminated on the earth and elsewhere, animate this matter, by a motion which does not transport it from one place to another, but which puts it in motion by a kind of impulse. Newton, on the contrary, believes, and seems to prove, that light is a real emanation from a luminous body: the sun, according to him, continually throws out, on every side, rays from his own body, which are extended even to the extremities of the world; and these rays are composed of parts, that, succeeding each other, are perpetually renewed in the same place, with that velocity which we perceive in the propagation of light: or to express the matter in terms more clear, and still more determinate, according to Newton and reason, *light is nothing else than fire itself*; which burns at a small distance, when its particles are gross, rapid, or united; but which gently enlightens

lightens our sight when it acts at a distance, or its particles are more minute, less rapid or not united; as a lighted candle burns the eye when brought very near, but only enlightens it when held at a convenient distance. Newton has likewise demonstrated that this matter or fire, emitted and thrown off from the sun, arrives at the earth in seven or eight minutes.

XXXIII. Experimental philosophy (whether the one or the other of these opinions be adopted) is applied in discovering or proving, by an infinity of experiments, what is the nature of light, in what manner it is propagated, what is its velocity and progressive motion. It also investigates and explains the principles of *optics*, properly so called, and shows the directions which light observes in its motions. From thence it proceeds to the examen of the principles of *catoptrics*, and describes the laws and effects of reflected light. It next treats of the principles of *dioptrics*, and explains the laws of refracted light; and lastly, it teaches, from the principles of natural and artificial vision, the construction of optical instruments, as lenses, concave mirrors, prisms, telescopes, &c. &c. and the uses to which they are applied.

XXXIV. By resolving or separating the rays of light, philosophy has obtained true and clear discoveries of the nature of *colours*. Before Newton, no one had imagined that the parts of light could be resolved, or its rays precisely separated and distinguished from each other by constant properties and sensible effects: but that great man, rejecting all systems merely speculative, which he regarded but as so many romances, determined to adhere to facts alone, to experiments, carefully made, in his investigation of the causes of colours; and we shall here give a very summary account of his manner of proceeding, of what he discovered, and what he from thence concluded. We distinguish visible objects, not only by their bulk, figures, distances,

distances. &c. but also by that kind of illumination by which they strike the sight in a different manner, independent of the quantity of light, and which we in general call *colour*, and whose different species we distinguish by the names, red, green, yellow, blue, &c.

XXXV. We are naturally led to imagine that colours, and their different degrees, make a part of the bodies that present them to our sight; that white is inherent in snow, green in leaves and grass, and red to a stuff dyed with that colour; but this is far from being true. If an object, which presents any colour to our sight, be not illuminated, it presents no colour whatsoever. In the night all is black; colours, therefore, depend on light, for without that we could form no idea of them: but they depend also on bodies, for of several objects presented to the same light, some appear white, others red, blue, &c. But all these matters being separate from our own bodies, we should never acquire any ideas of them, if the light, transmitted or reflected by these objects, did not make them sensible to us, by striking upon the organs of our sight, and if these impressions did not revive in us those ideas which we have been used to express by certain terms. For these reasons philosophy considers colours from three points of view, 1. As in the light; 2. In bodies, as being coloured; and 3. From the relation they have to our visible faculties which they particularly effect, and by which we are enabled to distinguish them.

XXXVI. According to Newton, and truth, every ray of light is an assemblage of numberless other rays, which are not all of the same colour, though in consequence of their union they appear white to our eyes; but some are, 1. *red*; others, 2. *orange*; 3. *yellow*; 4. *green*; 5. *blue*; 6. *indigo*; and 7. *violet*. These seven colours are called *primitive*, or *homogene*. White is an assemblage of all the rays of the primordial colours, and black is caused by the privation of light. The different combinations

combinations of the seven sorts of rays there are in light, or the seven simple colours, produce those various mixtures, that diversity of colours which we behold in the several parts of the universe. Newton discovered this property of light by aid of the prism, in the different *refrangibility* of its rays differently coloured; and the theory which he established on this admirable discovery rests on two points; 1. That light is composed of rays of different degrees of refrangibility; 2. That each ray is of a determinate colour, with which it paints the objects that it illumines. Natural philosophy proves the truth of these two propositions by the most certain and ingenious experiments, and applies them to the three points of view under which we have represented colours in §. 35. The bounds of this work, which we have perhaps already exceeded, prevent us from saying more, either on colours in particular, or experimental philosophy in general. The rest must be learnt by the study of this science itself.

XXXVII. The result of so great a number of experiments and observations, are at last referred to *speculative or general physics*, of which it remains to give a cursory idea. This science, which for some thousand years has been justly called speculative, seeing that it has been founded altogether on vain speculations, and suppositions merely ideal, is at length supported by experiments and observations that bear the stamp of manifest demonstration. It now forms no system, admits of no hypotheses, but such whose veracity and certainty have been previously demonstrated. For which purpose it calls to its assistance all the subordinate sciences, and makes use of their operations in the investigation and establishment of its principles. As mineralogy, botany, zoology, chymistry, anatomy, physiology, pathology, and almost all the other parts of phisic, philosophical geography, aerometry, experimental philosophy, all the particular

ticular sciences which are comprised under the general denomination of mathematics; all these have relation to general physics, and each of them concur, more or less, to furnish materials for its sublime operations. When, by the assistance of the labours of these, physics has established the veracity of facts, it then applies the most subtle, abstract and profound ratiocination, to draw from thence just consequences, and to establish general principles, founded on these facts, relative to the universal laws of nature; to the celestial bodies, and the true order of the universe; to the elements and their reciprocal action; to meteors; to bodies that are both visible and tangible; to the reciprocal action of palpable bodies; to the generation of beings in general, and of man in particular; to every production of nature in all the three kingdoms: in a word, it endeavours to account, as far as the weak lights of the human understanding are capable of accounting, for all the phenomena of Heaven and Earth.

XXXVIII. As the nature of this abridgment will not permit us to enter into a detail of the multifarious objects that are comprehended under the general title of physics, or even to enumerate their various operations, we shall content ourselves with giving one example; and we shall make choice of that which appears to be the principle, the cause of all the operations of nature. This is the renowned system of attraction, discovered and proposed by Sir Isaac Newton, the greatest philosopher that has ever existed. Before his time men wrote on philosophy as they compose a romance, where every thing has the appearance of truth, and where nothing is true. He took a different and a new course for the discovery of the truth. Chymical operations, the laws of gravitation, the power of central forces; in a word, every observation, and every experiment possible, concurred in assisting him to prove, that bodies
have

have a natural tendency toward each other; and this property in bodies he calls *attraction*. This is a principle that admits of evident demonstration. Now, if this power of attraction or gravitation acts on a body, it must act on all its parts; for if it be lodged in the whole, it is doubtless in the half, quarter, and so on *ad infinitum*. Therefore, bodies must necessarily attract each other in a reciprocal proportion to the quantity of matter they contain; but as all force is diminished by means of distance, bodies must also attract each other in a like reciprocal proportion to their distances. As to what concerns repulsion, or that repelling force which is supposed to be equally an inherent property of all bodies, it does not appear very clearly, that there is any necessity for this property in nature, in order to prevent the celestial and other bodies from rushing against and destroying each other in consequence of their mutual attraction. For as the whole universe is interspersed with bodies, and as no one of the celestial spheres can be considered as unconnected, seeing it is surrounded by others at different distances, which are all endowed with an attractive force, all these bodies must necessarily attract each other in a proportion reciprocal to the squares of their masses and distances, and there appears to be no necessity of adding another principle, and of supposing a *repulsive* force distinct from the attractive. Be this matter, however, as it may, attraction is now regarded as the grand source of all the operations of nature. Sir Isaac Newton, by applying the most sublime calculations to this principle, has determined the distances and dimensions of all the celestial bodies; he has weighed the revolving spheres, and has boldly dared to demonstrate the quantity of matter that is contained in the body of the sun, and in each of its surrounding planets: and lastly, as a *vacuum* was necessary to his system, he has shown by reason, and even by experiment, the impossibility of a

plenum, and has restored that space which Aristotle and Descartes had banished from the world. Such have been the happy labours of this great man; and so justly may we say with Pope,

*Nature, and Nature's laws, lay hid in night,
God said, Let NEWTON be, and all was light.*

END OF THE FIRST VOLUME.



