

## CHAPTER I.

### LEIBNIZ'S PREMISSES.

1. THE philosophy of Leibniz, though never presented to the world as a systematic whole, was nevertheless, as a careful examination shows, an unusually complete and coherent system. As the method of studying his views must be largely dependent upon his method of presenting them, it seems essential to say something, however brief, as to his character and circumstances, and as to the ways of estimating how far any given work represents his true opinions.

The reasons why Leibniz did not embody his system in one great work are not to be found in the nature of that system. On the contrary, it would have lent itself far better than Spinoza's philosophy to geometrical deduction from definitions and axioms. It is in the character and circumstances of the man, not of his theories, that the explanation of his way of writing is to be found. For everything that he wrote he seems to have required some immediate stimulus, some near and pressing incentive. To please a prince, to refute a rival philosopher, or to escape the censures of a theologian, he would take any pains. It is to such motives that we owe the *Théodicée*, the *Principles of Nature and of Grace*<sup>1</sup>, the *New Essays*, and the *Letters to Arnauld*. But for the sole purposes of exposition he seems to have cared little. Few of his works are free from reference to some particular person, and almost all are more concerned to persuade readers than to provide the most valid

<sup>1</sup> Accepting Gerhardt's opinion that this work, and not the *Monadology*, was written for Prince Eugene (G. vi. 483).

arguments. This desire for persuasiveness must always be borne in mind in reading Leibniz's works, as it led him to give prominence to popular and pictorial arguments at the expense of the more solid reasons which he buried in obscurer writings. And for this reason we often find the best statement of his view on some point in short papers discovered among his manuscripts, and published for the first time by modern students, such as Erdmann or Gerhardt. In these papers we find, as a rule, far less rhetoric and far more logic than in his public manifestoes, which give a very inadequate conception of his philosophic depth and acumen.

Another cause which contributed to the dissipation of his immense energies was the necessity for giving satisfaction to his princely employers. At an early age, he refused a professorship at the University of Altdorf<sup>1</sup>, and deliberately preferred a courtly to an academic career. Although this choice, by leading to his travels in France and England, and making him acquainted with the great men and the great ideas of his age, had certainly a most useful result, it yet led, in the end, to an undue deference for princes and a lamentable waste of time in the endeavour to please them. He seems to have held himself amply compensated for laborious researches into the genealogy of the illustrious House of Hanover by the opportunities which such researches afforded for the society of the great. But the labours and the compensations alike absorbed time, and robbed him of the leisure which might have been devoted to the composition of a *magnum opus*. Thus ambition, versatility, and the desire to influence particular men and women, all combined to prevent Leibniz from doing himself justice in a connected exposition of his system.

2. By this neglect, the functions of the commentator are rendered at once more arduous and more important than in the case of most philosophers. What is first of all required in a commentator is to attempt a reconstruction of the system which Leibniz should have written—to discover what is the beginning, and what the end, of his chains of reasoning, to exhibit the interconnections of his various opinions, and to fill in from his other writings the bare outlines of such works as

<sup>1</sup> Guhrauer, *Leibnitz: Eine Biographie*, Vol. I. p. 44.

the *Monadology* or the *Discours de Métaphysique*. This unavoidable but somewhat ambitious attempt forms one part—perhaps the chief part—of my purpose in the present work. To fulfil it satisfactorily would be scarcely possible, and its necessity is my only excuse for the attempt. As I wish to exhibit a coherent whole, I have confined myself, as far as possible, to Leibniz's mature views—to the views, that is, which he held, with but slight modifications, from January 1686 till his death in 1716. His earlier views, and the influence of other philosophers, have been considered only in so far as they seemed essential to the comprehension of his final system.

But, in addition to the purely historical purpose, the present work is designed also, if possible, to throw light on the truth or falsity of Leibniz's opinions. Having set forth the opinions which were actually held, we can hardly avoid considering how far they are mutually consistent, and hence—since philosophic error chiefly appears in the shape of inconsistency—how far the views held were true. Indeed, where there is inconsistency, a mere exposition must point it out, since, in general, passages may be found in the author supporting each of two opposing views. Thus unless the inconsistency is pointed out, any view of the philosopher's meaning may be refuted out of his own mouth. Exposition and criticism, therefore, are almost inseparable, and each, I believe, suffers greatly from the attempt at separation.

3. The philosophy of Leibniz, I shall contend, contains inconsistencies of two kinds. One of these kinds is easily removed, while the other is essential to any philosophy resembling that of the *Monadology*. The first kind arises solely through the fear of admitting consequences shocking to the prevailing opinions of Leibniz's time—such are the maintenance of sin and of the ontological argument for God's existence. Where such inconsistencies are found, we, who do not depend upon the smiles of princes, may simply draw the consequences which Leibniz shunned. And when we have done this, we shall find that Leibniz's philosophy follows almost entirely from a small number of premises. The proof that his system does follow, correctly and necessarily,

from these premisses, is the evidence of Leibniz's philosophical excellence, and the permanent contribution which he made to philosophy. But it is in the course of this deduction that we become aware of the second and greater class of inconsistencies. The premisses themselves, though at first sight compatible, will be found, in the course of argument, to lead to contradictory results. We are therefore forced to hold that one or more of the premisses are false. I shall attempt to prove this from Leibniz's own words, and to give grounds for deciding, in part at least, which of his premisses are erroneous. In this way we may hope, by examining a system so careful and so thorough as his, to establish independent philosophical conclusions which, but for his skill in drawing deductions, might have been very difficult to discover.

4. The principal premisses of Leibniz's philosophy appear to me to be five. Of these some were by him definitely laid down, while others were so fundamental that he was scarcely conscious of them. I shall now enumerate these premisses, and shall endeavour to show, in subsequent chapters, how the rest of Leibniz follows from them. The premisses in question are as follows:

- I. Every proposition has a subject and a predicate.
- II. A subject may have predicates which are qualities existing at various times. (Such a subject is called a *substance*.)
- III. True propositions not asserting existence at particular times are necessary and analytic, but such as assert existence at particular times are contingent and synthetic. The latter depend upon final causes.
- IV. The Ego is a substance.
- V. Perception yields knowledge of an external world, *i.e.* of existents other than myself and my states.

The fundamental objection to Leibniz's philosophy will be found to be the inconsistency of the first premiss with the fourth and fifth; and in this inconsistency we shall find a general objection to Monadism.

5. The course of the present work will be as follows: Chapters II.—V. will discuss the consequences of the first four of the above premisses, and will show that they lead to the

whole, or nearly the whole, of the necessary propositions of the system. Chapters VI.—XI. will be concerned with the proof and description of Leibniz's Monadism, in so far as it is independent of final causes and the idea of the good. The remaining chapters will take account of these, and will discuss Soul and Body, the doctrine of God, and Ethics. In these last chapters we shall find that Leibniz no longer shows great originality, but tends, with slight alterations of phraseology, to adopt (without acknowledgment) the views of the decried Spinoza. We shall find also many more minor inconsistencies than in the earlier part of the system, these being due chiefly to the desire to avoid the impieties of the Jewish Atheist, and the still greater impieties to which Leibniz's own logic should have led him. Hence, although the subjects dealt with in the last five chapters occupy a large part of Leibniz's writings, they are less interesting, and will be treated more briefly, than the earlier and more original portions of his reasoning. For this there is the additional reason that the subjects are less fundamental and less difficult than the subjects of the earlier chapters.

6. The influences which helped to form Leibniz's philosophy are not directly relevant to the purpose of the present work, and have, besides, been far better treated by commentators<sup>1</sup> than the actual exposition of his final system. Nevertheless, a few words on this subject may not be amiss. Four successive schools of philosophy seem to have contributed to his education; in all he found something good, and from each, without being at any time a mere disciple, he derived a part of his views. To this extent, he was an eclectic; but he differed from the usual type of eclectic by his power of transmuting what he borrowed, and of forming, in the end, a singularly harmonious whole. The four successive influences were: Scholasticism, Materialism, Cartesianism, and Spinozism. To these we ought to add a careful study, at a critical period, of some of Plato's Dialogues.

<sup>1</sup> See especially Guhrauer, *Leibnitz: Eine Biographie*, Breslau, 1846; Stein, *Leibniz und Spinoza*, Berlin, 1890; Selver, *Entwicklungsgang der Leibnizschen Monadenlehre*, Leipzig, 1885; Tönnies, *Leibniz und Hobbes*, *Phil. Monatshefte*, Vol. xxiii.; Trendelenburg, *Historische Beiträge*, Vol. ii., Berlin, 1855.

Leibniz was educated in the scholastic tradition, then still unbroken at most of the German universities. He obtained a competent knowledge of the schoolmen, and of the scholastic Aristotle<sup>1</sup>, while still a boy; and in his graduation thesis, *De Principio Individui*, written in 1663, he still employs the diction and methods of scholasticism. But he had already, two years before this time (if his later reminiscences are to be trusted), emancipated himself from what he calls the "trivial schools<sup>2</sup>," and thrown himself into the mathematical materialism of the day. Gassendi and Hobbes began to attract him, and continued (it would seem) greatly to influence his speculations until his all-important journey to Paris. In Paris (with two brief visits to England) he lived from 1672 to 1676, and here he became acquainted, more intimately than he could in Germany, with Cartesianism both in mathematics and philosophy—with Malebranche, with Arnauld the Jansenist theologian, with Huygens, with Robert Boyle, and with Oldenburg, the Secretary of the Royal Society. With these men he carried on correspondence, and through Oldenburg some letters (the source of 150 years of controversy<sup>3</sup>) passed between him and Newton. It was during his stay in Paris that he invented the Infinitesimal Calculus, and acquired that breadth of learning, and that acquaintance with the whole republic of letters, which afterwards characterized him. But it was only on his way back from Paris that he learnt to know the greatest man of the older generation. He spent about a month of the year 1676 at the Hague, apparently in constant intercourse with Spinoza; he discussed with him the laws of motion and the proof of the existence of God, and he obtained a sight of part (at any rate) of the *Ethics* in manuscript<sup>4</sup>. When the *Ethics* soon afterwards was posthumously published, Leibniz made notes of it, and undoubtedly bestowed very careful thought

<sup>1</sup> Leibniz appears, in spite of the great influence which Aristotle exerted upon him, to have never studied him carefully in the original. See Stein, *op. cit.* p. 163 ff.

<sup>2</sup> Guhrauer, *Leibnitz*, Vol. i. pp. 25, 26; G. iii. 606.

<sup>3</sup> These letters were said, by Newton's friends, to have given Leibniz the opportunity for plagiarizing the Calculus—a charge now known to be absolutely groundless.

<sup>4</sup> See Stein, *Leibniz und Spinoza*, Chapter iv.

upon its demonstrations. Of his thoughts during the years which followed, down to 1684 or even 1686 (since the *Thoughts on Knowledge, Truth and Ideas* deal only with one special subject), only slight traces remain, and it seems probable that, like Kant in the years from 1770 to 1781, he was in too much doubt to be able to write much. He certainly read Plato<sup>1</sup>, and he certainly desired to refute Spinoza. At any rate, by the beginning of 1686 he had framed his notion of an individual substance, and had sufficiently perfected his philosophy to send Arnauld what is perhaps the best account he ever wrote of it—I mean the *Discours de Métaphysique* (G. IV. 427—463). With this and the letters to Arnauld his mature philosophy begins; and not only the temporal, but the logical beginning also is, in my opinion, to be sought here. The argument which forms the logical beginning, and gives the definition of substance, will be found in the four following chapters.

<sup>1</sup> Cf. Stein, *op. cit.* p. 119.

## CHAPTER II.

### NECESSARY PROPOSITIONS AND THE LAW OF CONTRADICTION.

7. THAT all sound philosophy should begin with an analysis of propositions, is a truth too evident, perhaps, to demand a proof. That Leibniz's philosophy began with such an analysis, is less evident, but seems to be no less true. The system, which he afterwards uniformly maintained, was completed, in all essentials, by the beginning of the year 1686. In his writings during this year, when the grounds of his new opinions were still freshly present to his mind, there occurs an argument of great importance, derived, as he himself says (G. II. 73), from the general nature of propositions, and capable, in his opinion, if the plurality of substances be admitted, of alone establishing the remainder of his system. This argument is to be found in the letters to Arnauld, in the *Discours de Métaphysique*, written for Arnauld in January, 1686 (G. IV. 427—463)<sup>1</sup>, and in a short undated paper, entitled *Specimen Inventorum de Admirandis naturæ generalis arcanis* (G. VII. 309—318). Although the same reasoning does not, so far as I am aware, occur explicitly in any other passages, it is often suggested<sup>2</sup>, and is alone capable of explaining why Leibniz held that substances do not interact. That Leibniz did not repeat, in his published works, this purely logical argument, is explained, in view of his invariable habit of choosing the reasons most likely to convince his readers, by a passage in one of his letters to Arnauld (G. II. 73, 74). "I expected," he writes, "that the argument drawn

<sup>1</sup> See G. II. 11 ff; also IV. 409, 410.

<sup>2</sup> e.g. L. 326; G. IV. 496.



from the general nature of propositions would make some impression on your mind; but I confess also that few people are capable of appreciating such abstract truths, and that perhaps no one but you would have so easily perceived its force." We know, however, that Leibniz often expressed an intention of publishing his correspondence with Arnauld (G. II. 10), and must, consequently, have regarded this correspondence as adequately expressing his philosophical opinions. There is thus no reason to suppose that, after the date of these letters, his views on fundamental points underwent any serious alteration.

The argument in question, whose examination will occupy the present and the three following chapters, yields the whole, or nearly the whole, of the necessary part of Leibniz's philosophy—of the propositions, that is to say, which are true of all possible worlds. In order to obtain further the propositions describing the actual world, we need the premiss that perception gives knowledge of an external world, whence follow space and matter and the plurality of substances. This premiss is derived, apparently, from no better basis than common sense, and with its introduction, in Chapter VI., we shall pass to a new division of Leibniz's philosophy. But since the *meaning* of substance is logically prior to the discussion of the plurality or the perceptions of substances, it is plain that the present argument, from which the meaning of substance is derived, must first be expounded and examined. I shall first state the argument quite briefly, and then proceed to set forth its various parts in detail.

8. Every proposition is ultimately reducible to one which attributes a predicate to a subject. In any such proposition, unless existence be the predicate in question, the predicate is somehow contained in the subject. The subject is defined by its predicates, and would be a different subject if these were different. Thus every true judgment of subject and predicate is analytic—*i.e.* the predicate forms part of the notion of the subject—unless actual existence is asserted. Existence, alone among predicates, is not contained in the notions of subjects which exist. Thus existential propositions, except in the case of God's existence, are synthetic, *i.e.* there would be no contra-

diction if the subjects which actually do exist did not exist. Necessary propositions are such as are analytic, and synthetic propositions are always contingent.

When many predicates can be attributed to one and the same subject, while this subject cannot be made the predicate of any other subject, then the subject in question is called an individual substance. Such subjects involve, *sub ratione possibilitatis*, a reference to existence and time; they are possible existents, and they have predicates expressing their states at different times. Such predicates are called contingent or concrete predicates, and they have the peculiarity that no one of them follows analytically from any others, as *rational* follows from *human*. Thus when a subject is defined by means of a certain number of such predicates, there is no contradiction in supposing it to be without the remainder. Nevertheless, in the subject which has these predicates, they are all contained, so that a perfect knowledge of the subject would enable us to deduce all its predicates. Moreover there is a connection, though not a necessary one, between the various concrete predicates; sequences have reasons, though these incline without necessitating. The need of such reasons is the principle of sufficient reason. Subjects whose notion involves a reference to time are required by the idea of persistence. Thus in order to say that I am the same person as I was, we require, not merely internal experience, but some *à priori* reason. This reason can only be that I am the same subject, that my present and past attributes all belong to one and the same substance. Hence attributes which exist in different parts of time must be conceived, in such a case, as attributes of the same subject, and must therefore be contained, somehow, in the notion of the subject. Hence the notion of me, which is timeless, involves eternally all my states and their connections. Thus to say, all my states are involved in the notion of me, is merely to say, the predicate is in the subject. Every predicate, necessary or contingent, past, present or future, is comprised in the notion of the subject. From this proposition it follows, says Leibniz, that every soul is a world apart; for every soul, as a subject, has eternally, as predicates, all the states which time will bring it; and thus these states follow

from its notion alone, without any need of action from without. The principle, according to which the states of a substance change, is called its activity; and since a substance is essentially the subject of predicates which have a reference to time, activity is essential to every substance. The notion of an individual substance differs from a mere collection of general notions by being complete, as Leibniz puts it, *i.e.* by being capable of wholly distinguishing its subject, and involving circumstances of time and place. The nature of an individual substance, he says, is to have so complete a notion as to suffice for comprehending and deducing all its predicates. Hence he concludes that no two substances can be perfectly alike. (From this stage, by the help of the empirical premiss mentioned above, the doctrine of monads follows easily.)

9. Such is, in outline, the logical argument by which Leibniz obtains his definition of an individual substance. In the above brief account, I have made no endeavour to conceal the gaps and assumptions involved. We must now enquire whether the gaps can be filled and the assumptions justified. For this purpose the following seem to be the most important questions.

- (1) Are all propositions reducible to the subject-predicate form?
- (2) Are there any analytic propositions, and if so, are these fundamental and alone necessary?
- (3) What is the true principle of Leibniz's distinction between necessary and contingent propositions?
- (4) What is the meaning of the principle of sufficient reason, and in what sense do contingent propositions depend upon it?
- (5) What is the relation of this principle to the Law of Contradiction?
- (6) Does the activity of substance unduly presuppose time?
- (7) Is there any validity in Leibniz's deduction of the Identity of Indiscernibles?

..... It is only by a critical discussion of these points that Leibniz's meaning can be grasped; for unless we have clear ideas about philosophy, we cannot hope to have clear ideas

about Leibniz's philosophy. When all these questions have been discussed, we may proceed to enquire why Leibniz believed in a plurality of substances, and why he held that each mirrored the universe. But until we are clear as to his logic, we cannot hope to understand its applications.

10. The question whether all propositions are reducible to the subject-predicate form is one of fundamental importance to all philosophy, and especially to a philosophy which uses the notion of substance. For this notion, as we shall see, is derivative from the logical notion of subject and predicate. The view that a subject and a predicate are to be found in every proposition is a very ancient and respectable doctrine; it has, moreover, by no means lost its hold on philosophy, since Mr Bradley's logic consists almost wholly of the contention that every proposition ascribes a predicate to Reality, as the only ultimate subject<sup>1</sup>. The question, therefore, whether this form is universal, demands close attention, not only in connection with Leibniz, but also in connection with the most modern philosophy. I cannot here, however, do more than indicate the grounds for rejecting the traditional view.

The plainest instances of propositions not so reducible are the propositions which employ mathematical ideas. All assertions of numbers, as *e.g.* "There are three men," essentially assert plurality of subjects, though they may also give a predicate to each of the subjects. Such propositions cannot be regarded as a mere sum of subject-predicate propositions, since the number only results from the singleness of the proposition, and would be absent if three propositions, asserting each the presence of one man, were juxtaposed. Again, we must admit, in some cases, relations between subjects—*e.g.* relations of position, of greater and less, of whole and part. To prove that these are irreducible would require a long argument, but may be illustrated by the following passage from Leibniz himself (D. pp. 266—7; G. VII. 401):

"The ratio or proportion between two lines L and M may be conceived three several ways; as a ratio of the greater L to the lesser M; as a ratio of the lesser M to the greater L; and lastly, as something abstracted from both, that is, as the ratio

<sup>1</sup> Cf. *Logic*, Book I. Chap. II., especially pp. 49, 50, 66.

between L and M, without considering which is the antecedent, or which the consequent; which the subject, and which the object.... In the first way of considering them, L the greater is the subject, in the second M the lesser is the subject of that accident which philosophers call *relation* or *ratio*. But which of them will be the subject, in the third way of considering them? It cannot be said that both of them, L and M together, are the subject of such an accident; for if so, we should have an accident in two subjects, with one leg in one, and the other in the other; which is contrary to the notion of accidents. Therefore we must say that this relation, in this third way of considering it, is indeed *out of* the subjects; but being neither a substance, nor an accident, it must be a mere ideal thing, the consideration of which is nevertheless useful."

This passage is of capital importance for a comprehension of Leibniz's philosophy. After he has seemed, for a moment, to realize that *relation* is something distinct from and independent of subject and accident, he thrusts aside the awkward discovery, by condemning the third of the above meanings as "a mere ideal thing." If he were pushed as to this "ideal thing," I am afraid he would declare it to be an accident of the mind which contemplates the ratio. It appears plainly from his discussion that he is unable to admit, as ultimately valid, any form of judgment other than the subject-predicate form, although, in the case he is discussing, the necessity of relational judgments is peculiarly evident.

It must not be supposed that Leibniz neglected relational propositions. On the contrary, he dealt with all the main types of such propositions, and endeavoured to reduce them to the subject-predicate form. This endeavour, as we shall see, was one of the main sources of most of his doctrines. Mathematician as he was, he could hardly neglect space, time and number. As regards propositions asserting numbers, he held aggregates to be mere phenomena: they are what he calls "semi-mental entities." Their unity, which is essential to the assertion of any number, is, he says, added by perception alone, by the very fact of their being perceived at one time (G. II. 517). All that is true, then, in such judgments, is the individual assertions of subject and predicate, and the psychological

assertion of simultaneous perception as a predicate of the percipient. Again, we are told that numbers have the nature of relations, and hence are in some manner beings (G. II. 304). But relations, though founded in things, derive their reality from the supreme reason (N. E. p. 235; G. v. 210); God sees not only individual monads and their various states, but their relations also, and in this consists the reality of relations (G. II. 438). And as regards space and time, Leibniz always endeavoured to reduce them to attributes of the substances in them. Position, he says, like priority or posteriority, is nothing but a mode of a thing (G. II. 347). The whole doctrine is collected in the *New Essays* (N. E. p. 148; G. v. 132). "Units are separate, and the understanding gathers them together, however dispersed they may be. Yet, although relations are from the understanding, they are not groundless or unreal. For the primitive understanding is the origin of things; and indeed the reality of all things, simple substances excepted, consists only in the foundation of the perceptions of phenomena in simple substances." Thus relations and aggregates have only a mental truth; the true proposition is one ascribing a predicate to God and to all others who perceive the relation<sup>1</sup>.

Thus Leibniz is forced, in order to maintain the subject-predicate doctrine, to the Kantian theory that relations, though veritable, are the work of the mind. As applied to various special relations—as *e.g.* those of space, time, and number—I shall criticize special forms of this doctrine in their proper places. The view, implied in this theory, and constituting a large part of Kant's Copernican revolution, that propositions may acquire truth by being believed<sup>2</sup>, will be criticized in connection with the deduction of God's existence from the eternal truths. But as applied to relations, the view has, in Leibniz's case, a special absurdity, namely, that the relational propositions, which God is supposed to know, must be strictly meaningless. The only ground for denying the independent

<sup>1</sup> Cf. Lotze, *Metaphysic*, beginning of § 109.

<sup>2</sup> I am aware that this is not an orthodox statement of the Kantian theory. The kind of grounds which lead me to think it correct, will be found indicated in Chaps. XIV. and XV., especially § 113.

reality of relations is, that propositions must have a subject and a predicate. If this be so, a proposition without a subject and a predicate must be no proposition, and must be destitute of meaning. But it is just such a proposition which, in the case of numbers, or of relations between monads, God is supposed to see and believe. God, therefore, believes in the truth of what is meaningless. If the proposition which he believes, on the other hand, be truly a proposition, then there are propositions which do not have a subject and a predicate. Thus the attempt to reduce relations to predicates of the percipient suffers from one or other of two defects. Either the percipient is deceived into seeing truth in a meaningless form of words, or there is no reason to suppose the truth dependent upon his perception of it.

A thorough discussion of the present question would, at this point, proceed to show that judgments of subject and predicate are themselves relational, and include, moreover, as usually understood, two fundamentally different types of relation. These two types are illustrated by the two propositions: "This is red," and "red is a colour." In showing that these two propositions express relations, it would be shown that *relation* is more fundamental than the two special types of relation involved. But such a discussion is beset with difficulties, and would lead us too far from the philosophy of Leibniz.

In the belief that propositions must, in the last analysis, have a subject and a predicate, Leibniz does not differ either from his predecessors or from his successors. Any philosophy which uses either substance or the Absolute will be found, on inspection, to depend upon this belief. Kant's belief in an unknowable thing-in-itself was largely due to the same theory. It cannot be denied, therefore, that the doctrine is important. Philosophers have differed, not so much in respect of belief in its truth, as in respect of their consistency in carrying it out. In this latter respect, Leibniz deserves credit. But his assumption of a plurality of substances made the denial of relations peculiarly difficult, and involved him in all the paradoxes of the pre-established harmony<sup>1</sup>.

<sup>1</sup> Cf. Bradley, *Appearance and Reality*, 1st ed. pp. 29—30.

11. I pass now to a question which is no less fundamental, and more difficult, than that which we have just discussed. This is the question—as it has been called since Kant—of analytic and synthetic judgments and their relation to necessity. Leibniz's position on this question determined, not only his departure from his predecessors, but also, by its obvious untenability, Kant's great departure from him. On this point it will be necessary to begin with an account of Leibniz's views.

Two questions must be carefully distinguished in this connection. The first concerns the meaning and range of analytic judgments, the second concerns their claim to exclusive necessity. On the second question, Leibniz agreed wholly with his predecessors; on the first, by the discovery that all causal laws are synthetic, he made an important change, which prepared the way for Kant's discovery that all the propositions of Mathematics are synthetic.

In discussing the first of these questions, I shall use the terms analytic and synthetic, though they are not used by Leibniz in this sense. He uses the terms necessary and contingent; but this use prejudices, in his own favour, the second question, which forms one of the principal issues between him and Kant. It is therefore unavoidable to depart from Leibniz's usage, since we need two pairs of terms, where he required only one pair.

As regards the range of analytic judgments, Leibniz held that all the propositions of Logic, Arithmetic and Geometry are of this nature, while all existential propositions, except the existence of God, are synthetic. The discovery which determined his views on this point was, that the laws of motion, and indeed all causal laws (though not, as I shall show in the next chapter, the law of Causality itself), are synthetic, and therefore, in his system, also contingent (cf. G. III. 645).

As regards the meaning of analytic judgments, it will assist us to have in our minds some of the instances which Leibniz suggests. We shall find that these instances suffer from one or other of two defects. Either the instances can be easily seen to be not truly analytic—this is the case, for example, in



Arithmetic and Geometry—or they are tautologous, and so not properly propositions at all. Thus Leibniz says, on one occasion (N. E. p. 404 ; G. v. 343), that primitive truths of reason are identical, because they appear only to repeat the same thing, without giving any information. One wonders, in this case, of what use they can be, and the wonder is only increased by the instances which he proceeds to give. Among these are “A is A,” “I shall be what I shall be,” “The equilateral rectangle is a rectangle,” or, negatively, “A B cannot be non-A.” Most of these instances assert nothing; the remainder can hardly be considered the foundations of any important truth. Moreover those which are true presuppose, as I shall now show, more fundamental propositions which are synthetic. To prove this, we must examine the meaning of analytic judgments, and of the definitions which they presuppose.

The notion that all *à priori* truths are analytic is essentially connected with the doctrine of subject and predicate. An analytic judgment is one in which the predicate is contained in the subject. The subject is supposed defined by a number of predicates, one or more of which are singled out for predication in an analytic judgment. Thus Leibniz, as we have just seen, gives as an instance the proposition: “The equilateral rectangle is a rectangle” (N. E. p. 405 ; G. v. 343). In the extreme case, the subject is merely reasserted of itself, as in the propositions: “A is A,” “I shall be what I shall be” (*ib.*). Now two points seem important in this doctrine. In the first place, the proposition must be of what I distinguished above as the second type of subject-predicate proposition, *i.e.* of the type “red is a colour,” “man is rational,” not of the type “this is red,” or “Socrates is human.” That is to say, the proposition is concerned with the relation of genus and species, not of species and individual. This is the reason why every proposition about actual individuals is, in Leibniz’s opinion, contingent. I do not wish at present to discuss whether the distinction of these two types is ultimately tenable—this question will be better discussed when we come to the Identity of Indiscernibles. For the present, I only wish to point out, what Leibniz frequently asserts, that analytic propositions are necessarily concerned with essences and species, not with assertions as to

individuals<sup>1</sup>. The second point concerning analytic propositions is, that the subject, except in such pure tautologies as "A is A," must always be complex. The subject is a collection of attributes, and the predicate is a part of this collection. If, however, the reference to individuals be deemed essential to the distinction of subject from predicate, we shall have to say that the subject is any individual having a certain collection of predicates. In this way, we might attempt to reduce the second type to the first. But now the proposition becomes hypothetical: "If a thing is red, it is coloured." This Leibniz admits. The eternal truths, he says, are all hypothetical, and do not assert the existence of their subjects (N. E. p. 515; G. v. 428). But this makes it evident that our reduction to the first type has failed. The above hypothetical proposition evidently presupposes the proposition "red is a colour"; and thus Leibniz goes on to say that the truth of hypothetical propositions lies in the connection of ideas (N. E. p. 516; G. v. 429). Thus in analytic judgments, when they are not expressed in the derivative hypothetical form, the subject is a complex idea, *i.e.* a collection of attributes, while the predicate is some part of this collection.

The collection, however,—and this is the weak point of the doctrine of analytic judgments—must not be any haphazard collection, but a collection of compatible or jointly predicable predicates (predicability being here of the first type). Now this compatibility, since it is presupposed by the analytic judgment, cannot itself be analytic. This brings us to the doctrine of definition, in which we shall find that Leibniz, like all who have held analytic propositions to be fundamental, was guilty of much confusion.

Definition, as is evident, is only possible in respect of complex ideas. It consists, broadly speaking, in the analysis of complex ideas into their simple constituents. Since one idea can only be defined by another, we should incur a vicious circle if we did not admit some undefinable ideas. This obvious truth

<sup>1</sup> Foucher de Careil, *Réfutation inédite de Spinoza par Leibniz*, Paris, 1854, p. 24 (D. 175); G. v. 268 (N. E. 309); G. II. 49. In this latter passage, it is specially instructive to observe Leibniz's corrections, as indicated in Gerhardt's notes.

is fully recognized by Leibniz, and the search for the simple ideas, which form the presuppositions of all definition, constitutes the chief part of his studies for the *Universal Characteristic*. Thus Leibniz says (*Monadology*, §§ 33, 35): "When a truth is necessary, its reason can be found by analysis, resolving it into more simple ideas and truths, until we come to those which are primary....In short, there are *simple ideas*, of which no definition can be given; there are also axioms and postulates, in a word, *primary principles*, which cannot be proved, and indeed have no need of proof; and these are *identical propositions*, whose opposite involves an express contradiction" (L. 236—7; D. 223; G. VI. 612). The same view is expressed whenever Leibniz treats of this question. What I wish to show is, that Leibniz's theory of definition, as consisting of analysis into indefinable simple ideas, is inconsistent with the doctrine that the "primary principles" are identical or analytic; and that the former is correct, while the latter is erroneous.

Leibniz often urges that the objects of definitions must be shown to be *possible*. It is thus that he distinguishes what he calls *real* definitions from such as are only *nominal* (e.g. D. p. 30; G. IV. 424). And thus he says that Arithmetic is analytic, because the number 3, for example, is *defined* as  $2 + 1$ , but he confesses that 3, so defined, must be seen to be possible (N. E. p. 410; G. V. 347). In one passage (G. I. p. 385), he even confesses that ideas in general involve a judgment, namely the judgment that they are possible. This confession, one might suppose, would be inconsistent with the doctrine of analytic judgments; it is rendered consistent, however, by Leibniz's definition of possibility. A possible idea, for him, is one which is not self-contradictory. But if this were all that is meant, any collection of simple ideas would be compatible, and therefore every complex idea would be possible. In an early proof of the existence of God (G. VII. 261) submitted by Leibniz to Spinoza at the Hague, this argument is actually used to show that God is possible<sup>1</sup>. He here defines God as the subject

<sup>1</sup> We shall find, when we come to deal with the proofs of God's existence, that this paper, in spite of its early date (1676), contains no views which Leibniz did not hold in his maturity.

which has all positive predicates. He takes two simple predicates, A and B, and shows, what is sufficiently evident, that they cannot be mutually contradictory. Hence he concludes that God, so defined, is possible. But since all ideas, when correctly analyzed, must, for Leibniz, be ultimately predicates, or collections of predicates, it follows that all ideas will be possible. And indeed, as Leibniz himself urges in this proof, any relation between simple ideas is necessarily synthetic. For the analytic relation, as we saw, can only hold between ideas of which one at least is complex. Hence if there were no synthetic relations of compatibility and incompatibility, all complex ideas would be equally possible. Thus there is always involved, in definition, the synthetic proposition that the simple constituents are compatible. If this be not the case, the constituents are incompatible—*e.g.* good and bad, or two different magnitudes of the same kind—and this is also a synthetic relation, and the source of negative propositions<sup>1</sup>.

This conclusion may be enforced by examining some idea which is self-contradictory, such as a round square. In order that an idea may be self-contradictory, it is evidently necessary that it should involve two judgments which are mutually contradictory, *i.e.* the truth and falsehood of some judgment. For the Law of Contradiction applies, not to ideas, but to judgments: it asserts that every proposition is true or false (N. E. p. 405; G. v. 343). Hence a mere idea, as such, cannot be self-contradictory. Only a complex idea which involves at least two propositions can be self-contradictory. Thus the idea "round square" involves the proposition "round and square are compatible," and this involves the compatibility of having no angles, and of having four angles. But the contradiction is only possible because *round* and *square* are both complex, and *round* and *square* involve synthetic propositions asserting the compatibility of their constituents, while *round*

<sup>1</sup> Leibniz seems to have sometimes realized the difficulty involved in the compatibility of all single predicates. Thus he says: "It is yet unknown to men what is the reason of the impossibility of different things, or how it is that different essences can be opposed to each other, seeing that all purely positive terms seem to be compatible" *inter se* (G. vii. 195; quoted by Caird, *Critical Philosophy of Kant*, I. pp. 93—4). (The date is before 1686.)

involves the incompatibility of its constituents with the possession of angles. But for this synthetic relation of incompatibility, no negative proposition would occur, and therefore there could be no proposition involved which would be directly contradictory to the definition of a square. This is almost admitted by Leibniz, when he urges that truths are not arbitrary, as Hobbes supposed, because "notions are not always reconcilable among themselves" (D. 30; G. IV. 425). Since the possibility of God, as defined by Leibniz, depends upon the fact that all *simple* ideas are "reconcilable among themselves," and since all notions are composed of simple ideas, it is difficult to see how the two views are to be combined. Thus Leibniz's criterion of possible and impossible ideas can never apply to simple ideas, and moreover always presupposes those simple ideas and their relations—relations which can only be expressed in synthetic propositions. Two simple ideas can never be mutually contradictory in Leibniz's sense, since mere analysis will not reveal any further predicate possessed by the one and denied by the other. Thus a self-contradictory idea, if it be not a mere negative, such as a non-existent existent, must always involve a synthetic relation of incompatibility between two simple notions. The impossible idea, in Leibniz's sense, presupposes the idea which is impossible on account of some synthetic proposition; and conversely, the possible complex idea is possible on account of a synthetic proposition asserting the compatibility of its simple constituents. Thus to return to Arithmetic, even if  $2 + 1$  be indeed the *meaning* of 3, still the proposition that  $2 + 1$  is possible is necessarily synthetic. A possible idea cannot, in the last analysis, be *merely* an idea which is not contradictory; for the contradiction itself must always be deduced from synthetic propositions. And hence the propositions of Arithmetic, as Kant discovered, are one and all synthetic.

In the case of Geometry, which Leibniz also regards as analytic, the opposite view is even more evidently correct. The triple number of dimensions, he says, follows analytically from the fact that only three mutually perpendicular lines can be drawn through one point (G. VI. 323). No instance, he says, could be more proper for illustrating a blind necessity

independent of God's will. It is amazing that he did not perceive, in this instance, that the proposition from which the three dimensions are supposed to be deduced is in fact precisely the same as the three dimensions, and that, so far from being proved, it is wholly incapable of deduction from any other proposition, and about as synthetic as any proposition in the whole range of knowledge. This is so obvious as to need no further argument; and it is an interesting fact that Kant, in his first published work<sup>1</sup>, points out the circularity of Leibniz's deduction in the above passage of the *Théodicée*, and proceeds, being still a Leibnizian, to infer that the number of dimensions is synthetic and contingent, and might be different in other possible worlds (ed. Hartenstein, 1867, i. p. 21 ff.).

We may argue generally, from the mere statement of the Law of Contradiction, that no proposition can follow from it alone, except the proposition that there is truth, or that some proposition is true. For the law states simply that any proposition must be true or false, but cannot be both. It gives no indication as to the alternative to be chosen, and cannot of itself decide that any proposition is true. It cannot even, of itself, yield the conclusion that such and such a proposition is true or false, for this involves the premiss "such and such is a proposition," which does not follow from the law of contradiction. Thus the doctrine of analytic propositions seems wholly mistaken.

It may be worth pointing out that even those propositions which, at the beginning of the enquiry, we took as the type of analytic propositions, such as "the equilateral rectangle is a rectangle," are not wholly analytic. We have already seen that they are logically subsequent to synthetic propositions asserting that the constituents of the subject are compatible. They cannot, therefore, in any case, give the premisses of any science, as Leibniz supposed (cf. N. E. p. 99; G. v. 92). But further, in so far as they are significant, they are judgments of whole and part; the constituents, in the subject, have a certain kind of unity—the kind always involved in numeration, or in assertions of a whole—which is taken away by analysis. Thus even here, in so far as the subject is *one*, the judgment does not

<sup>1</sup> *Gedanken von der wahren Schätzung der lebendigen Kräfte*, 1747.

follow from the Law of Contradiction alone. And in the closely allied judgments, such as "red is a colour," "2 is a number," "number is a concept," the subject is not even complex, and the proposition is therefore in no sense analytic. But this last assertion is one which I cannot here undertake to prove.

12. As regards the second point which was to be discussed, namely the connection of the necessary and the analytic, it is evident, from what has been said already, that if there are to be any necessary propositions at all there must be necessary synthetic propositions. It remains to enquire what we mean by necessity, and what distinction, if any, can be made between the necessary and the contingent.

Necessity itself is never discussed by Leibniz. He distinguishes kinds of necessity—metaphysical, hypothetical, and moral—but he nowhere explains metaphysical necessity, which is here in question, otherwise than as the property of analytic propositions. Nevertheless, necessity must mean something other than connection with the Law of Contradiction; the statement that analytic propositions are necessary is significant, and the opposite statement—that synthetic propositions are contingent—is certainly so regarded by Leibniz. It would seem that necessity is ultimate and undefinable. We may say, if we choose, that a necessary proposition is one whose contradictory is impossible; but the impossible can only be defined by means of the necessary, so that this account would give no information as to necessity. In holding necessary propositions to be analytic, Leibniz agreed with all his predecessors, and with those of his successors who preceded Kant. But by the discovery that the laws of motion are synthetic, and by his strict determinism, he rendered the denial of necessary synthetic propositions highly paradoxical in its consequences, and prepared the way for Kant's opposite assertion. (For Leibniz, by the way, the necessary is not, as for Kant, the same as the *à priori*; we shall find that contingent propositions also have *à priori* proofs. The *à priori* is, as in Kant, what is independent of particular experience, but the necessary is not co-extensive with this.) Leibniz and Kant both held that there is a fundamental distinction between propositions that are necessary, and those that are contingent, or, in Kant's language,

empirical. Thus the propositions of mathematics are necessary, while those asserting particular existence are contingent. It may be questioned whether this distinction is tenable, whether, in fact, there is any sense in saying, of a true proposition, that it might have been false. As long as the distinction of analytic and synthetic propositions subsisted, there was some plausibility in maintaining a corresponding distinction in respect of necessity. But Kant, by pointing out that mathematical judgments are both necessary and synthetic, prepared the way for the view that this is true of *all* judgments. The distinction of the empirical and the *à priori* seems to depend upon confounding sources of knowledge with grounds of truth. There is no doubt a great difference between *knowledge* gained by perception, and *knowledge* gained by reasoning; but that does not show a corresponding difference as to what is known. The further discussion of this point, however, must be postponed till we come to Leibniz's theory of perception. And it must be confessed that, if *all* propositions are necessary, the notion of necessity is shorn of most of its importance.

Whatever view we adopt, however, as regards the necessity of existential propositions, it must be admitted that arithmetical propositions are both necessary and synthetic, and this is enough to destroy the supposed connection of the necessary and the analytic.

In the next Chapter we shall have a less destructive task.) We shall have to show the true principle and the true importance of Leibniz's division of propositions into two kinds, and the meaning of the Law of Sufficient Reason, which he invoked as the source of his contingent propositions.