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“FIRST TRUTHS”

Ca. 1680–84

*Among the papers of the period from 1679 to 1686 is this very important one, usually designated by its opening words, *primae veritates*, which Couturat has used to support his argument for the essentially logical foundation of Leibniz's metaphysics.<sup>1</sup> The student will discover, however, that though the principles of metaphysics, including that of individuality, are here developed a priori, the paper moves by means of definitions from an abstract principle of identity to more complete concepts and more concrete principles. Many of these definitions are basically metaphysical in character.*

*The date is unknown. On the one hand, there are only references to the distinction between truths of reason and of fact and between necessity and contingency, a distinction developed in detail in No. 29. On the other hand, the concepts and phrases of the Discourse of 1686 (No. 35) are already prominent, and Couturat considered it a forestudy for that work.*

[Cout. OF., pp. 518–23]

*First truths* are those which predicate something of itself or deny the opposite of its opposite. For example, *A* is *A*, or *A* is not non-*A*; if it is true that *A* is *B*, it is false that *A* is not *B* or that *A* is non-*B*. Likewise, everything is what it is; everything is similar or equal to itself; nothing is greater or less than itself. These and other truths of this kind, though they may have various degrees of priority, can nevertheless all be grouped under the one name of *identities*.

All other truths are reduced to first truths with the aid of definitions or by the analysis of concepts; in this consists *proof* a priori, which is independent of experience.<sup>2</sup> I shall give as example this proposition which is accepted as an axiom by mathematicians and all other people alike: the whole is greater than its part, or the part is less than the whole. This is very easily demonstrated from the definition of less or greater, with the addition of a primitive axiom or identity. For that is *less* which is equal to a part of another thing (the *greater*). This definition is very easily understood and is consistent with the general practice of men, when they compare things with each other and measure the excess by subtracting an amount equal to the smaller from the greater. Hence one may reason as follows. A part is equal to a part of the whole (namely, to itself, by the axiom of identity, according to which each thing is equal to itself). But what is equal to a part of a whole is less than the whole (by the definition of less). Therefore the part is less than the whole.

The predicate or consequent therefore always inheres in the subject or antecedent. And as Aristotle, too, observed, the nature of truth in general or the connection between the terms of a proposition consists in this fact.<sup>3</sup> In identities this connection and the inclusion of the predicate in the subject are explicit; in all other propositions they

*For references see p. 270*

are implied and must be revealed through the analysis of the concepts, which constitutes a demonstration a priori.

This is true, moreover, in every affirmative truth, universal or singular, necessary or contingent, whether its terms are intrinsic or extrinsic denominations.<sup>4</sup> Here lies hidden a wonderful secret which contains the nature of contingency or the essential distinction between necessary and contingent truths and which removes the difficulty involved in a fatal necessity determining even free things.

These matters have not been adequately considered because they are too easy, but there follow from them many things of great importance. At once they give rise to the accepted axiom that *there is nothing without a reason, or no effect without a cause*. Otherwise there would be truth which could not be proved a priori or resolved into identities – contrary to the nature of truth, which is always either expressly or implicitly identical.<sup>5</sup> It follows also that if the data contained a pair of identically related sets so will the consequences or *quaesita*. For no difference can be accounted for unless its reason is found in the data.<sup>6</sup> A corollary, or better, an example, of this is the postulate of Archimedes stated at the beginning of his book on the balance – that if the arms of a balance and its weights are supposed equal, everything will be in equilibrium. This also gives a *reason for eternal things*. If it be assumed that the world has existed from eternity and has contained only spheres, a reason should have to be given why it contains spheres rather than cubes.

It follows also that *there cannot be two individual things in nature which differ only numerically*. For surely it must be possible to give a reason why they are different, and this must be sought in some differences within themselves. Thus the observation of Thomas Aquinas about separate intelligences, which he declared never differ in number alone, must be applied to other things also.<sup>7</sup> Never are two eggs, two leaves, or two blades of grass in a garden to be found exactly similar to each other. So perfect similarity occurs only in incomplete and abstract concepts, where matters are conceived, not in their totality but according to a certain single viewpoint, as when we consider only figures and neglect the figured matter. So geometry is right in studying similar triangles, even though two perfectly similar material triangles are never found. And although gold or some other metal, or salt, and many liquids, may be taken for homogeneous bodies, this can be admitted only as concerns the senses and not as if it were true in an exact sense.

It follows further that *there are no purely extrinsic denominations* which have no basis at all in the denominated thing itself. For the concept of the denominated subject necessarily involves the concept of the predicate. Likewise, whenever the denomination of a thing is changed, some variation has to occur in the thing itself.

*The complete or perfect concept of an individual substance involves all its predicates, past, present, and future*. For certainly it is already true now that a future predicate will be a predicate in the future, and so it is contained in the concept of the thing. Therefore there is contained in the perfect individual concepts of Peter or Judas, considered as merely possible concepts and setting aside the divine decree to create them, everything that will happen to them, whether necessarily or freely. And all this is known by God. Thus it is obvious that God elects from an infinity of possible individuals those whom he judges best suited to the supreme and secret ends of his wisdom. In an exact sense, he does not decree that Peter should sin or Judas be damned but only that, in preference to other possible individuals, Peter, who will sin – certainly, indeed, yet not

necessarily but freely – and Judas, who will suffer damnation – under the same condition – shall come into existence, or that the possible concept shall become actual. And although the future salvation of Peter is contained in his eternal possible notion, yet this is not without the help of grace, for in the same perfect notion of this possible Peter, there are contained as possibilities the helps of the divine grace to be granted to him.

*Every individual substance involves the whole universe in its perfect concept, and all that exists in the universe has existed or will exist. For there is no thing upon which some true denomination, at least of comparison or relation, cannot be imposed from another thing. Yet there is no purely extrinsic denomination.<sup>8</sup> I have shown the same thing in many other ways which are in harmony with each other.*

*All individual created substances, indeed, are different expressions of the same universe and of the same universal cause, God. But these expressions vary in perfection as do different representations or perspectives of the same city seen from different points.*

*Every created individual substance exerts physical action and passion on all others. For if a change occurs in one, some corresponding change results in all others, because their denomination is changed. This is confirmed by our experience of nature, for we observe that in a vessel full of liquid (the whole universe is such a vessel) a motion made in the middle is propagated to the edges, though it may become more and more insensible as it recedes farther from its origin.*

It can be said that, speaking with metaphysical rigor, *no created substance exerts a metaphysical action or influence upon another.* For to say nothing of the fact that it cannot be explained how anything can pass over from one thing into the substance of another it has already been shown that all the future states of each thing follow from its own concept. What we call causes are in metaphysical rigor only concomitant requisites. This is illustrated by our experiences of nature, for bodies in fact recede from other bodies by force of their own elasticity and not by any alien force, although another body has been required to set the elasticity (which arises from something intrinsic to the body itself) working.<sup>9</sup>

*If the diversity of soul and body be assumed, their union can be explained* from this without the common hypothesis of an *influx*, which is unintelligible, and without the hypothesis of occasional causes, which calls upon a God *ex machina*. For God has equipped both soul and body from the beginning with such great wisdom and workmanship that through the original constitution and essence of each, everything which happens in one corresponds perfectly to whatever happens in the other, just as if something had passed over from the one into the other. I call this the *hypothesis of concomitance*. This is true of all the substances in the whole universe but is not perceptible in all as it is in the soul and body.

*There is no vacuum.* For the different parts of empty space would be perfectly similar and congruent with each other and could not by themselves be distinguished. So they would differ in number alone, which is absurd. Time too may be proved not to be a thing, in the same way as space.

*There is no corporeal substance in which there is nothing but extension, or magnitude, figure, and their variations.* For otherwise there could exist two corporeal substances perfectly similar to each other, which is absurd. Hence it follows that there is something in corporeal substances analogous to the soul, which is commonly called form.<sup>10</sup>

*There are no atoms;* indeed, there is no body so small that it is not actually subdivi-

ded. By this very fact, since it is affected by all other things in the entire world and receives some effect from all, which must cause a change in the body, it has even preserved all past impressions and anticipates the future ones. If anyone says that this effect is contained in the motions impressed on the atom, which receives the effect *in toto* without any division in it, it can be replied that not only must an effect in the atom result from all the impressions of the universe but conversely, the entire state of the universe must be gathered from the atom. Thus the cause can be inferred from the effect. But from the figure and motion of the atom alone, we cannot by regression infer what impressions have produced the given effect on it, since the same motion can be caused by different impressions, not to mention the fact that we cannot explain why bodies of a definite smallness should not be further divisible.

Hence it follows that *every small part of the universe contains a world with an infinite number of creatures*. But a continuum is not divided into points, nor is it divided in all possible ways. It is not divided into points, because points are not parts but limits. It is not divided in all possible ways, because not all creatures are in the same part, but only a certain infinite progression of them. Thus, if you bisect a straight line and then any part of it, you will set up different divisions than if you trisect it.

*There is no actual determinate figure in things*, for none can satisfy the infinity of impressions. So neither a circle nor an ellipse nor any other line definable by us exists except in our intellect, or if you prefer, before the lines are drawn or their parts distinguished.<sup>11</sup>

Space, time, extension, and motion are not things but well-founded modes of our consideration.

Extension, motion, and bodies themselves, insofar as they consist in extension and motion alone, are not substances but true phenomena, like rainbows and parhelia. For figures do not exist in reality and if only their extension is considered, bodies are not one substance but many.

For the substance of bodies there is required something which lacks extension; otherwise there would be no principle to account for the reality of the phenomena or for true unity. There would always be a plurality of bodies, never one body alone; and therefore there could not, in truth, be many. By a similar argument Cordemoy proved the existence of atoms. But since these have been excluded, there remains only something that lacks extension, something like the soul, which was once called a form or species.<sup>12</sup>

*Corporeal substance can neither come into being nor perish except through creation or annihilation*. For, once it does last, it will last always, for there is no reason for a change. Nor does the dissolution of a body have anything in common with its destruction. *Therefore ensouled beings neither begin nor perish; they are only transformed*.

#### REFERENCES

<sup>1</sup> 'Sur la métaphysique de Leibniz (avec un opuscule inédit)', *Revue de métaphysique et de morale* 10 (1902) 1-25.

<sup>2</sup> Limiting itself to the a priori derivation of metaphysical principles, this paper illustrates Leibniz's inclination to view the universe from God's viewpoint rather than man's. Thus his failure to point out the empirical element which actually enters into his definitions and the assumptions implicit in them.

<sup>3</sup> On the Aristotelian source of this principle, and Leibniz's interpretation of it, see p. 60, note 5.

<sup>4</sup> See Introduction, Sec. V, and the correspondence with De Volder (No. 54). There has been a tendency to interpret Leibniz's doctrine that there are no purely extrinsic denominations, expressed later in this paper, as an assertion of the internality of all relations, though it is sometimes accompanied with a distinction rather like G. E. Moore's between external relations and relational properties. Leibniz often says, it is true, that the relations between substances are added by the perceiving mind, as the term 'denomination' suggests. But in general, there are real relations between monads – those of representation – but every representative act involves an internal or intrinsic quality in the perceiving monad. The issue involves the nature of oblique relations discussed in note 246 on p. 3.

<sup>5</sup> That all truth is resolvable to identities is the assumption which Leibniz does not prove. That there are identities involved in all truth is one thing; that truth reduces to them, another, which presupposes the existence of perfect essence.

<sup>6</sup> Cf. p. 258, note 15. The axiom in No. 27, III, and this are the first explicit statements, in these selections, of the principle of functional dependence, which becomes so important in Leibniz's conception of scientific method. Most compactly stated, the law is *datis ordinatis, etiam quaesita sunt ordinata* ("As the data are ordered, so the unknowns [or sought] are also ordered") (No. 37), and the law of continuity is usually interpreted by Leibniz in this functional sense.

<sup>7</sup> *Summa theol.*, i, quest. 50, ad 4. Cf. *Discourse*, Sec. 9 (No. 35).

<sup>8</sup> After 1683 Antoine Arnauld was asserting, in controversy with Malebranche, that perceptions are essential modifications of the soul but that the soul can perceive external and even eternal objects. Leibniz himself anticipated this view with his own to the effect that external relations depend upon internal qualities or modes.

<sup>9</sup> The distinction between physical action and metaphysical action is striking here; the theory of physical action between substances cannot be sustained after the nature of the monad is restricted to appetite and perception and after the physical studies of the 1690's. For the functional definition of external causality between substances see the *Discourse*, Sec. 15.

<sup>10</sup> Forms are active principles. In an essay from the same period, called by Erdmann 'On the True Method of Dealing with Philosophy and Theology', Leibniz wrote, after criticizing Descartes's theory of matter: "What then shall we add to extension to complete the concept of body? Certainly nothing which sense does not verify. Sense, namely, establishes three things at once: that we sense; that bodies are sensed; and that what is sensed is varied and composite, or extended. To the concept of extension or variety, therefore, is to be added that of action. A body is therefore an extended agent. It can be said that it is an extended substance, only if it be held that all substance acts, and all agents are substances. It can be shown adequately from the essential principles of metaphysics that what does not act does not exist, for there is no power of acting without a beginning of action. You say there is no little power in a bent bow, yet it does not act. But I say, on the contrary, that it does act; even before it is suddenly released, it strives. But all striving [conatus] is action. For the rest, much that is excellent and certain can be said about the nature of conatus and the principles of action, or as the Scholastics called it, of substantial forms" (G., VII, 326–27).

<sup>11</sup> Existence could therefore be derived analytically only through an infinite analysis. Insofar as they conform to logical laws, our scientific formulas apply exactly only to incomplete or abstract concepts, but they are incomplete simplifications of existence and therefore do not determine it completely.

<sup>12</sup> Gérald de Cordemoi, *Le Discernement de l'âme et du corps* (1666).