

*Psychology and Epistemology*

(Ernst Cassirer, *The philosophy of the enlightenment*, Chapter 3: 1955, Boston: Beacon Press.)

It is characteristic of eighteenth century thought that the problem of nature and the problem of knowledge are very closely connected with, indeed inseparably linked to, one another. Thought cannot turn toward the world of external objects without at the same time reverting to itself; in the same act it attempts to ascertain the truth of nature and its own truth. Knowledge is not merely applied as an instrument and employed unreservedly as such, but time and again with growing insistence the question of the justification of this use of knowledge and of the quality of the instrument arises. Kant was by no means the first to raise this question; he merely gave it a new formulation, a deeper meaning, and a radically new solution. The general task of defining the limits of the mind (*ingenii limites definire*) had already been clearly grasped by Descartes. Locke places the same question at the foundation of his whole empirical philosophy. Even Locke's empiricism reveals a deliberately "critical" tendency. According to Locke an investigation of the function of experience should precede any determination of its object. We must not grasp at any objects whatever and seek to investigate their nature on the basis of our knowledge; our first question must be what kind of objects is commensurate with, and determinable by our knowledge. But the solution of this question, that is to say, exact insight into the specific character of the human understanding, cannot otherwise be attained than by examining the whole extent of its realm and by tracing the whole course of its development from its first elements to its highest forms. Thus the critical problem has its roots in a genetic problem. A really adequate explanation of the human mind is only to be found in its evolution. Hence psychology is designated as the foundation of epistemology, and up to Kant's *Critique of Pure Reason* psychology held this position almost unchallenged. The reaction against this viewpoint which originates with Leibniz's *New Essays on the Human Understanding*, sets in several decades too late because this [93] work was not published until 1765, when it was edited from the manuscripts in the Hannover Library; and even then this reaction is confined for some time to the sphere of German intellectual history. The sharp distinction between the transcendental and psychological methods, between the question of the beginning of experience and its origin, as Kant systematically develops it, cannot be retained in a historical presentation of the fundamental problems of eighteenth century thought. For there is constant overlapping of the two methods, and transcendental deduction is never separated from psychological deduction. The objective validity of the fundamental concepts of knowledge is to be determined and judged by their origin. Psychological origin thus becomes a logical criterion; but there are, on the other hand, certain logical norms which permeate, and give, direction to, the problems of psychology. Psychology thus receives a predominantly reflexive character; it is not content with a mere understanding of forms and processes of the operations of the mind but it seeks to go back to their ultimate ground, to their very elements in order to analyze them into their constituent parts. In view of this method psychology feels that it belongs to the natural sciences. Its highest ideal is to become the "analyst of the soul" just as chemistry is the analyst of the inorganic world, and anatomy of the organic world. Voltaire writes of Locke: "So many philosophers having written the romance of the soul, a sage has arrived who has

modestly written its history. Locke has set forth human reason just as an excellent anatomist explains the parts of the human body." <sup>1</sup>

The fundamental question of the truth of knowledge, of the agreement between concepts and objects, had been solved by the great rationalistic systems of the seventeenth century by reducing both the realm of concepts and that of objects to the same original stratum of being. In this stratum concepts and objects meet and from this original mingling is derived all their later correspondence. The nature of human knowledge can only be explained in terms of the ideas which the mind finds within itself. These innate ideas are the seal that is from [94] the first stamped upon the mind, assuring it once and for all of its origin and destiny. According to Descartes all philosophy begins with a consideration of those "primitive notions" in our minds which are the models for all other knowledge. Among these notions are the concepts of being number and duration which are valid for any thought content; while in the corporeal world there are the additional concepts of extension, form and motion, and in the realm of the mind there is the concept of thought. <sup>2</sup> In these simple models and prototypes are included all empirical reality, all the variety of physical bodies and all the diversity of psychological processes. These models and prototypes point forward to empirical reality, but they can do so only because at the same time they point backward to its origin. Innate Ideas are the trademark which the divine workman has imprinted on his product: "les marques de l'ouvrier empreintes sur son ouvrage." There is now no need to ask further concerning their connection with reality or concerning the possibility of their application to it. They are applicable to reality because they spring from the same source and because accordingly, there is nowhere any opposition between their own structure and the structure of things. Reason, as the system of clear and distinct ideas, and the world, as the totality of created being, can nowhere fail to harmonize; for they merely represent different versions or different expressions of the same essence. The "archetypal intellect" of God thus becomes the bond between thinking and being, between truth and reality in the philosophy of Descartes. This basic aspect of Descartes' thought is even more apparent in his immediate pupils and successors. In the development beyond Descartes all immediate connection between reality and the human mind, between thinking substance and extended substance is denied and completely broken off. There is no union between soul and body, between our ideas and reality, except that which is given or produced by the being of God. The way never leads from the one pole of being to the other, but always through the centre of divine being and activity. It is only through this medium that we recognize and [95] act upon external objects. Thus Descartes' doctrine of innate ideas is intensified in Malebranche to the assertion that we see all things in God. There is no true knowledge of things except in so far as we relate our sense perceptions to ideas of pure reason. It is only through this relation that our ideas gain objective meaning, only thus that they cease to be mere modifications of the ego and come to represent objective reality and order. Sense qualities, sensations of colour and tone, of smell and taste, contain no trace whatever of any knowledge of being or of the world, for through the immediacy with which we experience them they represent merely states of mind which change from moment to moment. Scientific method alone can perceive in these states of mind the objectively subsisting and objectively valid order of nature. But such perception is possible only by the procedure of relating the accidental to the necessary, the merely factual to something rational, the temporal to the eternal. We attain to knowledge of the physical

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<sup>1</sup> Voltaire, *Lettres sur les anglais*, Lettre XIII, *Oeuvres*, Paris, Lequien, ISH, vol. XXVI, p. 65.

<sup>2</sup> Cf. especially Descartes' letter of May 21, 1643, to Countess Elizabeth of Palatine, *Oeuvres*, ed. Adam-Tannery, vol. III, p. 665.

world by reducing matter to extension rather than by attributing to it any quality perceptible to sense. But this reduction must then be followed by a further reduction which penetrates more deeply. For it is not sufficient to understand extension in the sense in which it is given in concrete perception, in the imagination. In order to grasp the exact meaning of extension, we must free it from all pictorial content, we must proceed from a merely imaginative to an intelligible extension.<sup>3</sup> The human mind can only know nature and physical reality through the concept of intelligible extension, but the mind can only grasp this concept by relating it to God as the "place of ideas." In this sense every genuine act of cognition, every act of reason, brings about an immediate union between God and the human soul. The validity, the value and the certainty of the fundamental concepts of our knowledge are placed beyond doubt by virtue of the fact that in and through them we participate in divine being. All logical truth and certainty are based ultimately on such metaphysical participation, which indeed they require for their complete proof. The light that illumines the path of knowledge shines [96] from within, not from without; it radiates from the realm of ideas and eternal truths, not from that of things of sense. Yet this inner light is not wholly ours, but points back to another and higher source of light: "It is a refulgence of the luminous substance of our common master."<sup>4</sup>

As we consider this development of Cartesian rationalism we can see most distinctly the point at which opposition to the philosophy of the Enlightenment was sure to arise. In the problem of knowledge this philosophy found the same task it had encountered and, as it believed, successfully solved in the problem of nature. Nature and knowledge are to be placed on their own foundations and explained in terms of their own conditions. In both cases flights into transcendent worlds must be avoided. No foreign element may be permitted to come between knowledge and reality, between subject and object. The problem must be placed on the ground of experience and solved there for any step beyond experience would signify a mock solution, an explanation of the unknown in terms of that which is less known. That mediation which apriorism and rationalism had looked upon as forming the basis of the highest certainty of knowledge is thus decisively rejected. The great process of secularization of thought, in which the philosophy of the Enlightenment sees its main task, is felt at this point with particular intensity. The logical and epistemological problem of the relation of knowledge to its object cannot be solved by the introduction of metaphysical considerations; these can only confuse the issue. In his famous letter to Markus Herz, which contains the first precise formulation of his critical problem Kant emphatically spurned any attempt at such a solution "Plato took an older conception of the divine being as the source of principles and pure concepts of the understanding, while Malebranche took a conception of God which still prevails .... But a *deus ex machine* in the determination of the origin and validity of our knowledge is the most preposterous device that one can choose; and, besides the vicious circle in the sequence of inferences from it, it has the further disadvantage that it fosters [97] every pious or brooding whim"<sup>5</sup> In this negative part of his thesis Kant is still defending the general conviction of the Enlightenment. This age had again and again opposed the attempt to solve the problem of knowledge by means of a transcendent world. Voltaire, too, in his constant struggle against such tendencies appeals frequently to the system of Malebranche. In Malebranche he sees one of the most profound metaphysicians of all times;"<sup>6</sup> and for this very reason Voltaire repeatedly refers to Malebranche in order to prove the impotence of the

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<sup>3</sup> For a fuller treatment of Malebranche's concept of "intelligible extension" see the author's book *Das Erkenntnisproblem*, vol. 1, pp. 573 ff.

<sup>4</sup> Malebranche, *Entretiens sur la Metaphysique*, ch. v, sect. 12.

<sup>5</sup> Kant's letter to Markus Hen, Feb. 21, 1771, *Werke*, ed. Cassirer, vol IX, pp. 104 f.

<sup>6</sup> See Voltaire's *Siecle de Louis XIV*, *Oeuvres*, ed. Lequien, vol. XIX, p. 140.

metaphysical system-building spirit.<sup>7</sup> In Voltaire and in the whole French Encyclopaedist movement this negative approach implies, to be sure, a definite position henceforth looked upon as unassailable. For what relation remains between the ego and the external world, between subject and object, if we eliminate transcendence as our bridge? What conceivable connection is there between subject and object other than that of a direct influence of the one upon the other? If the ego and the physical world belongs to different strata of reality, and if despite this fact they are to come into contact and establish a connection, then such a connection would seem possible only if external reality were to partake of consciousness. The only known empirical form of such a participation is, however, that of a direct influence. This alone can bridge the gap between idea and object. The assertion that every idea that we find in our minds is based on a previous impression and can only be explained on this basis, is now exalted to the rank of an indubitable principle. Even Hume's scepticism, however much it assails the universal validity of the causal relation in general, does not reject this special form of causality. Even though the original of a given idea cannot always be produced, though it be ever so hidden, yet there can be no doubt that it exists and that we are to seek it. Any such doubt would signify merely superficiality and lack of consistent thinking.”<sup>8</sup> Here we have then the astonishing and systematically paradoxical result that psychological empiricism itself, in order to be able to develop its thesis, finds itself forced to base its doctrine on a psychological axiom. The maxim "Nothing is in the intellect which was not first in sense" (*nihil est in intellectu quod non antea fuerit in sensu*) can by no means lay claim to factual truth as tested by a thorough-going induction. Yet not only empirical probability, but complete and indubitable certainty indeed, a sort of necessity-are attributed to this maxim. Diderot expressly states: "Nothing is proved in metaphysics, and we know nothing either concerning our intellectual faculties or concerning the origin and progress of our knowledge, if the old principle: *nihil est in intellectu*, etc., is not evidence of a first axiom."<sup>9</sup> This statement is typical, for it shows that not even empiricism has entirely foregone the appeal to general principles and their *a priori* evidence. But this evidence has now changed its position; it no longer asserts a connection between pure concepts but rather insight into a factual context. The metaphysics of the soul is to be replaced by a history of the soul, by that "historical, plain method" which Locke had maintained against Descartes.<sup>10</sup> On all questions of psychology and the theory of knowledge Locke's authority remained practically unchallenged throughout the first half of the eighteenth century. Voltaire places Locke above Plato, and d' Alembert in his introduction to the French Encyclopaedia says that Locke is the creator of scientific philosophy just as Newton is the originator of scientific physics. Condillac in a brief survey of the history of psychology proceeds immediately from Aristotle to Locke declaring that, from the viewpoint of real contributions to the solution of psychological problems, all that lay between these two thinkers is insignificant.<sup>11</sup> Only in one respect does English as well as French psychology attempt to go beyond Locke. Both

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<sup>7</sup> See Voltaire's satirical poem "Les Systemes," *Oeuvres*, vol. XIV, pp. 231 ff., and also his treatise "Tout en Dieu, Commentaire sur Malebranche" (1769), *Oeuvres*, vol. XXXI, pp. 201 ff.

<sup>8</sup> Hume, *Treatise of Human Nature*, part III, sect. 2.

<sup>9</sup> Diderot, *Apologie de l' Abbe de Fraties*, sect. XII.

<sup>10</sup> Locke, *Essay concerning Human Understanding*, Book I, ch. I, sect. 2.

<sup>11</sup> "Immediately after Aristotle comes Locke; for it is not necessary to count the other philosophers who have written on the same subject." Condillac, *Extrait raisonne du Traite des Sensations*, ed. Georges Lyon, Paris, 1921, p. 32.

these psychologies want to get rid of the last remnants of dualism which had remained in Locke's psychological [99] principles; they want to do away with the distinction between internal and external experience and reduce all human knowledge to a single source. The difference between sensation and reflection is only apparent and it vanishes upon further analysis. The development of empirical philosophy from Locke to Berkeley and from Berkeley to Hume represents a series of attempts to minimize the difference between sensation and reflection, and finally to wipe it out altogether. French philosophical criticism of the eighteenth century hammered at this same point also in an attempt to eliminate the last vestige of independence which Locke had attributed to reflection. Reflection is supposed to be the mind's knowledge of its own states, of its own nature; but is there in truth any real empirical datum to support such knowledge? Do we ever experience ourselves without finding in this experience some sensation which is related to something physical, to some quality or condition of our body? Can a pure sensation of self, an abstract self-consciousness, ever be found in experience? Maupertuis, who raises this question, does not wish to answer it dogmatically but he tends toward a negative reply. The more deeply one considers the idea of pure existence and the more closely one analyzes it, the more impossible it appears to separate it from all sense data. One sees that the sense of touch especially plays a decisive role in the development of this idea.<sup>12</sup> The same conclusion is expressed by Condillac in a much more radical form, and it leads him to a sharp criticism of the foundations of Lockean psychology and theory of knowledge. Without doubt Locke took an important step forward and first blazed the trail for empirical investigation. But he stopped half way and recoiled before the most difficult problem. For where the higher functions of the mind—those of comparing, distinguishing, judging, and willing, are concerned, Locke suddenly proves unfaithful to his genetic method. He is content merely to enumerate these faculties and to leave them as fundamental powers of the mind without tracing them to their source. Hence the thread of the investigation breaks just at the most [100] critical point. Locke successfully attacked innate ideas but he permitted the prejudice regarding innate operations of the mind to survive. He did not see that, like seeing and hearing, observing, understanding, etc., are not ultimate indivisible qualities, but late developments which we acquire through experience and learning.<sup>13</sup> The investigation must therefore be pursued further. No upper limits must be set for the process of constant growth of the mind. This process must not stop short of the so-called "higher" intellectual energies; on the contrary, it exerts all its forces only when it reaches these energies. Here too there is nothing which is not completely contained in the original sense elements. Mental operations represent nothing really new and therefore mysterious; they are indeed merely transformed sensations. If we trace step by step the genesis of the operations of the mind and the process of transformation of sense elements which these operations involve, then we see that there is never any clear line of demarcation between individual phases of mental activity, but that these phases imperceptibly melt into one another. If we consider these mental metamorphoses as a whole, we find in one and the same series acts of thinking and willing as well as acts of feeling and perceiving. Condillac is not a sensationalist in the sense that like Hume he wants to reduce the ego to a mere "bundle or collection of different perceptions." He maintains the simple structure of the soul, emphasizing that the real subject of consciousness can be looked for only in such a structure.

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<sup>12</sup> Cf. Maupertuis, *Examen philosophique de la preuve de l'existence de Dieu employee dans l'Essai de Cosmologie*, Memoires de l'Academie de Berlin, 1756, § XIX f.

"Locke did not know how much we need to learn by touching, seeing, bearing, etc. All the faculties of the soul appeared to him to be innate qualities, and he did not suspect that they could have their origin in sensation itself." Condillac, *Extrait raisonne*, p. 33.

<sup>13</sup> Condillac, *Traite des animaux* (1755), ch. II.

Unity of person necessarily presupposes the unity of a sentient being; it presupposes the soul as a simple substance which is variously modified according to the different impressions received by the body.<sup>14</sup> Thus, strictly speaking, the senses are not the cause but the occasion of all our knowledge. For it is not the senses which perceive; it is rather the mind which perceives when modifications of bodily organs take place. We must carefully observe the first sensations of which we become aware; we must discover the foundation of [101] the first operations of the mind, watch them in their development and pursue them to their extreme limits. In short, as Bacon said, we must, as it were, create the whole human mind anew in order really to understand its structure.<sup>15</sup>

In his attempt to create the mind anew Condillac does not, of course, confine himself to mere empirical observation. The *Treatise on Sensations* does not merely attempt to set forth a list of observations; it follows rather a strict systematic plan and proceeds from a systematic assumption to which it tries to adhere and which it tries to prove step by step. The illustration of the statue which is awakened to life by means of the impressions impinging upon it, and which in this way advances to increasingly rich and differentiated forms of life, shows clearly that the "natural history of the soul" which Condillac endeavours to give is not free from speculative and constructive considerations. Nor is Condillac content merely to present the growth of the mind and the progressive variety of its forms; he wants rather to elucidate the tendency of this growth and to penetrate into its real moving forces. We find in Condillac a new and fruitful approach. He realizes that so long as we remain in the realm of mere concepts and ideas, that is, in the realm of theoretical knowledge, the ultimate forces in the growth of the mind cannot be made manifest. Recourse to another dimension of the mental world now becomes necessary. The activity of the mind and the vital source of all its manifold energies do not lie in speculation or in mere contemplation. For motion cannot be explained in terms of rest; nor can the dynamics of the mind be based on its statics. In order to understand the latent energy behind all the metamorphoses of the mind, which does not permit it to retain any form but drives it on to ever new shapes and operations, one must assume in the mind an original moving principle. This principle is not to be found in mere ideation and thought but only in desiring and striving. Thus the impulse precedes knowledge and forms its indispensable presupposition. Locke, in his analysis of the phenomena of the will, had stressed that that which incites man to a certain act of willing, and which in every individual case is the concrete cause of [102] his decision, is not at all the mere idea of a future good toward which the act is supposed to serve as a means. There is no moving power whatever in this idea and in the purely theoretical consideration of the various possible goals of the will from the standpoint of the better or the worse choice. This power does not work by anticipation of a future good; it originates rather in the remembrance of displeasure and uneasiness which the mind feels under certain conditions, and which irresistibly incite it to shun these conditions. Locke considers this uneasiness therefore, as the real motivating force as the decisive impulse in all our acts of the will.<sup>16</sup> Condillac starts with these arguments, but he seeks to pursue them far beyond the sphere of the phenomena of the will and to extend them over the whole field of the operations of the mind. Uneasiness (*inquiétude*) is for him not merely the starting-point of our desires and wishes, of our willing and acting, but also of all our feeling and perceiving and of our thinking and judging, indeed of the highest acts of reflection to which the mind can rise.<sup>17</sup> The usual order of ideas which had been reaffirmed

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<sup>14</sup> Condillac, *Traite des animaux* (1755), ch. II.

<sup>15</sup> *Extrait Raisonne*, p. 31

<sup>16</sup> 16 Locke, *Essay*, Book II, ch. XXI, sect. 30 ff.

<sup>17</sup> "It remained to be shown that this uneasiness is the first principle which gives us the habits of touching, seeing, hearing, feeling, tasting, comparing, judging, reflecting, desiring, loving,

and sanctioned by Cartesian psychology is thus reversed. The will is not founded on the idea but the idea on the will. Here we meet for the first time that voluntaristic tendency whose development can be traced through Schopenhauer in the field of metaphysics and the theories of modern pragmatism in the field of epistemology. In the purely theoretical order of phenomena we have, according to Condillac, the first activity of the mind; this is the simple act of grasping what the senses present, that is, the act of perception. The act of perception is immediately followed by the act of attention which requires dwelling on certain perceptions and singling out individual sense experiences from the totality of the psychological process. But this very selection of and emphasis on, certain perceptions would not be possible if there were no ground of preference for one perception rather than another, [103] and this ground of preference as such no longer belongs to the sphere of the purely theoretical, but to that of the practical. Attention focuses on that which in some sense immediately concerns the individual, that is, which answers his needs and inclinations. Similarly, our needs and inclinations determine the direction of our memory. This faculty cannot be explained on the basis of the mere mechanical association of ideas; it is determined and directed rather by our appetites and desires. It is our need which recalls some forgotten idea from its darkness and causes it to live again: "Ideas are reborn by the action of the needs which produced them." Ideas form, so to speak, vortices in the mind, and these vortices multiply as our emotional drives grow and are differentiated. Each vortex can be considered as the centre of a certain motion which is continuous from the centre to the periphery of the sphere of mental activity, that is, to the clear and conscious ideas. "These vortices gain ascendancy by turns over one another according as their needs become more urgent. They accomplish their revolutions with amazing variations. They crowd one another, destroy one another, or come into being again according as the feelings to which they owe their power weaken, are eclipsed, or appear in a form hitherto unknown. From one instant to the next the vortex, which but now drew others into its orbit, can itself be consumed; and as soon as the need vanishes, all vortices are fused into one. Chaos alone remains. Ideas come and go without order, forming only moving tableaux which offer bizarre and imperfect images. It is our needs which must lend them definite character again and place them in their true light." <sup>18</sup> The logical order of our ideas, according to Condillac, is not a primary, but a derived fact; it is only a sort of reflection of the biological order. What on a given occasion seems to be essential, depends not so much on the nature of things as on the direction of our interest; and our interest is determined by that which is advantageous for us and necessary for our self-preservation. We have now arrived at a problem of importance to a general characterization of the philosophy of the Enlightenment. It is customary, under the influence of a too narrow conception of [104] the idea of "enlightenment," to accuse the psychology of the eighteenth century of being wholly intellectualistic and of limiting its analyses principally to the realm of ideas and theoretical knowledge, while neglecting the force and specific quality of the emotional life. But this conception will not bear unbiased historical scrutiny. Nearly all the psychological systems of the eighteenth century at least clearly recognized and sketched the problem raised here. Even in the seventeenth century the analysis of the affects and passions had again become the focus of interest both of psychology and of philosophy in general. Descartes' essay on the passions of the soul and Spinoza's presentation of his doctrine of the affects in the third book of his *Ethics* are not simply occasional writings; they form integral parts of their systems. On the whole, however the idea prevails in these systems that the pure essence of the soul cannot be grasped and determined from this angle. For this essence consists in thought, and only as

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fearing, hoping, wishing; and that, in a word, it is through uneasiness that all the habits of the mind and body are born." *Extrait Raisonne*, p. 34.

<sup>18</sup> Condillac, *Traite des animaux*, Part II, ch. II, pp. 398 f.

such does it manifest itself in its purity. The clear and distinct idea, not the inarticulate affect, is characteristic of the real nature of the soul. Desires and appetites, the passions of sense, belong only indirectly to the soul; they are not its original properties and tendencies but rather disturbances which the soul suffers as a result of its union with the body. The psychology and ethics of the seventeenth century are in the main based on this conception of the affects as "perturbations of the mind" (*perturbationes animi*). Only that action has ethical value which overcomes these disturbances which illustrates the triumph of the active over the passive part of the soul, of reason over the passions. This Stoic view not merely dominates the philosophy of the seventeenth century, but it permeates the intellectual life of the age in general. On this point Descartes' teaching agrees with that of Corneille.<sup>19</sup> The rule of the rational will over all desires of sense, over appetites and passions, proclaims and expresses the freedom of man. The eighteenth century advances beyond- this negative characterization and evaluation of the affects. It looks upon the affects not as a mere obstacle, but seeks to show that they are the [105] original and indispensable impulse of all the operations of the mind. In Germany the views of Leibniz were already exerting an influence in this direction. For Leibniz in his definition of the monad by no means tried to reduce its nature to the mere idea, to theoretical knowledge. The monad is not limited to ideation, but combines ideation with striving. Together with the concept of the idea appears the equally valid concept of the tendency, and with perception (*perceptio*) is "that which one is eager to perceive" (*percepturitio*)." <sup>20</sup> German psychology in general upholds this basic presupposition, and it is thus enabled to gain for the phenomena of the will and of pure feeling an independent place in the system of psychology. But the same development, seen from another angle, takes place in France and England. Hume's epistemological scepticism, even in the realm of psychology, leads to the overthrow of all previously valid standards. It turns all scales of value upside down; for it shows that reason, in which one usually venerates the highest faculty of man, plays a quite subordinate role in our mental processes as a whole. Far from ruling the "lower" faculties of the mind, reason is constantly dependent on their aid; without the cooperation of sensibility and the imagination reason cannot take a single step forward. All rational knowledge is reducible to the one inference from effect to cause; but precisely this inference is indefensible on purely logical grounds. The only possible explanation for it is an indirect one, which consists in revealing its psychological origin, in tracing to its source our faith in the validity of the causal principle. Then we find that this faith is not based on certain universally valid and necessary principles of reason but that it is derived from a mere instinct of human nature. This instinct as such is blind, but in this blindness lies its real power, the power with which it dominates all our thinking. Utilizing this theoretical result of his investigation, Hume continues from this point his process of levelling the faculties of the mind until he has broadened it to include all phases of intellectual activity. The upper strata of the mind are removed by Hume according to a consistent plan. In his *Natural History of Religion* [106] Hume tries to show how every claim of religion to convey and make accessible to man a "higher world" is illusory and untenable. The real sphere of religion of the idea and veneration of God, lies elsewhere. We are not to seek this sphere in an innate idea, nor in an original intuitive certainty; nor can we arrive at it through thought and inference, through theoretical proofs and their corollaries. Here too there is no other way than to seek the deepest roots of religion among human instincts. The affect of fear is the beginning of all religion, and all the various shapes and forms of religion are derived from, and are explicable

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<sup>19</sup> Cf. G. Lanson, *L'influence de la Philosophie Cartesienne sur la littérature française* (see above p. 27).

<sup>20</sup> For the distinction between *perceptio* and *percepturitio* in Leibniz, see especially the correspondence with Christian Wolff, ed. Gerhardt, Halle, 1860, p. 56.



in terms of, this emotion. We have here a new trend of thought, one which also gains irresistible momentum in eighteenth century France. It sounds like a violent revolution when Vauvenargues, in his *Introduction to the Knowledge of the Human Mind* (1746), says that the true nature of man does not lie in reason, but in the passions. The stoic demand for control of the passions by reason is and always will be a mere dream. Reason is not the dominating force in man; reason is comparable only to the hand that tells the time on the face of a clock. The mechanism that moves this hand lies within; the motivating force and ultimate cause of knowledge lie in those primary and original impulses which we continually receive from another, a completely irrational realm. Even the most dispassionate thinkers of the French Enlightenment, the champions and spokesmen of a purely rational culture, support this thesis. Voltaire says in his *Treatise on Metaphysics* that without the passions, without the desire for fame without ambition and vanity, no progress of humanity no refinement of taste and no improvement of the arts and sciences is thinkable: "It is with this motivating force that God, whom Plato called the eternal geometer, and whom I call the eternal machinist, has animated and embellished nature: the passions are the wheels which make all these machines go."<sup>21</sup> Helvetius in his essay *On the Mind* adopts the same attitude. And Diderot's first independent enterprise as a thinker, his *Philosophical Thoughts*, begins similarly with this idea. It is of no avail to [107] oppose the passions, and it would be the height of the ridiculous to try to destroy them since in so doing we should undermine the proud foundations of reason. Everything excellent in poetry, painting, and music, everything sublime in art and morals, is derived from this source. Hence the affects must not be weakened but strengthened; for the true power of the soul springs from the harmonious balance of the passions, not from their destruction.<sup>22</sup> Thus a gradual change in psychological orientation and evaluation becomes apparent, a transformation which appears before the chief works of Rousseau were published, and which develops independently of them. We shall see that this transformation is not only important for the system of theoretical knowledge but that its effects are felt in all directions and that it exerts its influence on the ethics, the philosophy of religion, and the aesthetics of the age of the Enlightenment, giving new significance to the major problems of these fields of knowledge.

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A survey of the special problems of eighteenth century epistemology and psychology shows that in all their variety and inner diversity they are grouped around a common centre. The investigation of individual problems in all their abundance and apparent dispersion comes back again and again to a general theoretical problem in which all the threads of the study unite.<sup>23</sup> This is the problem which Molyneux first formulated in his *Optics*, and which soon awakened the greatest philosophical interest. Is the experience derived from one field of sense perception a sufficient basis on which to construct another field of perception that is of qualitatively different content and of specifically different structure? Is there an inner connection which permits us to make a direct transition from one such field to another, from the world of touch, for instance, to that of vision? Will a person born blind—who has acquired an exact knowledge of certain corporeal forms by means of experience and so can [108] distinguish accurately among them—have the same power to distinguish objects if, as a result

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<sup>21</sup> Voltaire, *Traite de Metaphysique* (1734), ch. VIII, *Oeuvres*, ed. Lequien, vol. xxxr, p. 61.

<sup>22</sup> Diderot, *Pensees philosophiques* (1746), sect. I if.

<sup>23</sup> There is no place here for discussion of these problems. For a fuller treatment, see the author's *Erkenntnisproblem*, vol. II.

of a successful operation, he gains possession of his visual faculty, and is required to judge concerning these forms on the basis of purely optical data without the aid of his sense of touch? Will he be able immediately to distinguish a cube from a sphere by sight, or will a long and difficult period of adjustment be necessary before he succeeds in establishing a connection between the tactile impression and the visual form of these two objects? No uniform solution of all these problems was found at once, but now that the problems had been formulated, their influence reached far beyond the sphere of the special sciences. Berkeley's philosophical diary shows how much these problems occupied his mind and how they form, as it were, germinating cells from which his whole theory of perception developed. The *Essay towards a New Theory of Vision*, which forms the prelude to Berkeley's philosophy and contains all of his ideas implicitly, is nothing but an attempt at a complete systematic development and elucidation of Molyneux's problem. For decades thereafter the strength and fruitfulness of this problem are still evident in French philosophy. Voltaire, in his *Elements of the Philosophy of Newton*, gives an extensive exposition of the problem;<sup>24</sup> Diderot makes it the central point of his first psychological and epistemological essay, *Letter on the Blind* (1749). As for Condillac, he is so much under the spell of this question that he even declares that it contains the source and key to all modern psychology; for it was this question which drew attention to the decisive role of the faculty of judgment in the simplest act of perception as well as in the developing structure of the perceptual world.<sup>25</sup> The decisive systematic significance of Molyneux's problem is thus clearly indicated; the individual example which this problem presents called attention to the general question as to whether sense as such can produce the physical world which we find in consciousness, or whether to this end it requires the cooperation of other powers of the mind, and as to how these powers are to be determined. [109]

Berkeley in his *New Theory of Vision* and his *Principles of Human Knowledge* had proceeded from the paradox that the only material available for the erection of the structure of our perceptual world consists in simple sense perceptions, but that, on the other hand these perceptions do not contain the slightest indication of those "forms" in which perceptual reality is given. We believe that we see this reality before us as a solid structure in which every individual element has its assigned place, and in which its relation to all other parts is exactly determined. The fundamental character of all reality lies in this definite relationship. Without the presence of order in the co-existence and sequence of our individual perceptions, without a definite spatial and temporal relationship among the various perceptions, there can be no objective world, no "nature of things." And not even the most determined idealist can deny this nature of things; for he too must postulate an inviolable order among phenomena, or else his phenomenal world will dissolve into mere illusion.<sup>26</sup> Thus the cardinal question of all theory of knowledge is that of the meaning of this order, while the cardinal question of all genetic psychology is that of its derivation. But here experience, from which alone we can expect reliable guidance, seems to leave us in the lurch. For it always shows us the world of products, not the world of process; it confronts us with objects bearing definite shapes, especially in respect to a certain spatial arrangement, without telling us how they acquired these shapes. The first glance we cast on things enables us to discover not only certain sense qualities, but certain spatial relations as well; we ascribe to every individual object a certain magnitude, a certain position, and a certain distance from other objects. But if we try to establish the foundation of all these assertions, we find that it is not to be discovered among

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<sup>24</sup> *Elements de la Philosophie de Newton*, ch. VII, *Oeuvres*, vol. xxx, pp. 138 ff.

<sup>25</sup> Condillac, *Traite des sensations*, ed. Lyon, p. 33.

<sup>26</sup> Cf. Berkeley, *A Treatise concerning the Principles of Human Knowledge*, sect. 34; *Three Dialogues between Hylas and Philonous*, Third Dialogue.

the data given us by the visual sense. For these data are merely differentiated according to quality and intensity and contain nothing that would lead us to the concept of magnitude or of pure quantity. The ray of light which passes from the object to my eye can tell me nothing directly about the object's [110] shape or its distance from me. For all the eye knows is the impression on the retina. But from the quality of this impression no knowledge can be had of the cause which produced it, nor of the distance of the object from the eye. The conclusion to be drawn from all this is that what we call distance, position, and magnitude of objects is itself something invisible. Berkeley's fundamental thesis now seems to be reduced to an absurdity; the equation of being (*esse*) and being perceived (*percipi*) seems to have vanished. In the midst of phenomena which are immediately perceived by our senses, and which we cannot avoid something has been discovered which lies beyond all the limits of perception. The distance between objects appears by its very nature to be imperceptible, and yet it is an element which is absolutely essential to the structure of our conception of the world. The spatial form of perceptions is fused with its sense material; and yet it is not given in the material alone, nor can it be analytically reduced to this material. Thus the form of perceptions constitutes a foreign body in the only accessible world of immediate sense data which cannot be eliminated without causing this world to collapse. In the assertion: "... distance is in its own nature imperceptible and yet it is perceived by sight,"<sup>27</sup> Berkeley in his *New Theory of Vision* gives the most poignant expression of the dilemma with which sensationalist psychology and epistemology are confronted at the very start. Berkeley overcomes this dilemma by giving a broader meaning to his basic concept of perception, by including in its definition not only simple sensation but also the activity of representation. Every sense impression possesses such a power of representation, of indirect reference. It not only presents itself with its specific content to consciousness but it causes all other content with which it is joined by a strong empirical bond to be visible and present in consciousness. And this reciprocal play of sense impressions, this regularity, with which they recall each other and represent each other in consciousness, is also the ultimate basis of the idea of space. This idea is not given as such in a particular perception; it belongs neither to the sense of vision nor to that of touch alone. Space is no specific qualitative [111] element as originally given as colour or tone; it is that which results from the relationship among various sense data. Since in the course of experience visual and tactile impressions are firmly joined, consciousness acquires the ability to pass from one type of sensation to another according to certain rules. It is in this transition that we must look for the origin of the idea of space. The transition itself must of course be understood as a purely empirical, not as a rational, transition. It is not a bond of a logical and mathematical kind; it is not reasoning which leads us from certain perceptions of visual sensation to those of touch, or from the latter to the former. Habit and practice alone weave this bond, and they make it progressively firmer. The idea of space is not, therefore, strictly speaking an element of sense consciousness but an expression of a process which goes on in consciousness. Only the speed and regularity of this process cause us to overlook the intermediate stages in ordinary introspection and to anticipate the end of the process at the very start. But closer psychological and epistemological analysis reveals these intermediary steps and teaches us how indispensable they are. It shows us that the same connection exists between different fields of sensory experience as between the symbols of our language and their meaning. Just as the speech symbol is in no sense similar to the content to which it refers nor is connected with it by any objective necessity, yet fulfils its function nevertheless, so the same relation holds for the connection among generically different and qualitatively disparate impressions. It is only the

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<sup>27</sup> Berkeley, *New Theory of Vision*, sect. II.

universality and regularity of their arrangement which distinguish the symbols of sense impressions from those of speech. Elucidating Berkeley's idea Voltaire writes: "We learn to see just as we learn to speak and read. ... The quick and almost uniform judgments which all our minds form at a certain age with regard to distances, magnitudes, and positions make us think that we need only open our eyes in order to see things as we actually do perceive them. This is an illusion. ... If all men spoke the same language, we should always be inclined to believe that there is a necessary connection between words and ideas. But all men speak the same language with respect to the imagination. Nature says to all: When you have [112] seen colours for a certain length of time, your imagination will represent to you in the same manner the bodies to which these colours seem to belong. The prompt and involuntary judgment which you will form, will be useful to you in the course of your life." <sup>28</sup>

Berkeley's theory of vision was recognized and adopted in its main aspects by almost all leading psychologists of the eighteenth century. Condillac and Diderot <sup>29</sup> modify it in certain details; both point out, for instance, that visual impressions in themselves include a certain "spatiality." To the sense of touch they attribute merely the function of clarification and fixation of our visual experience; they consider tactile sensations as indispensable not for the origin, but for the growth of our conception of space. But this modification does not affect Berkeley's strictly empirical thesis as such. All apriority of space is vigorously rejected; hence the question of its generality and necessity appears in a new light. If we owe our insight into the structural relations of space merely to experience, it is not inconceivable that a change of experience, as for instance in the event of an alteration of our psychophysical organization, would affect the whole nature of space. Henceforth the concept of space is indefatigably pursued through all its ramifications. What is the significance of that constancy and objectivity which we are accustomed to attribute to the forms of perception and of the understanding? Does this constancy predicate anything concerning the nature of things, or is not all that we understand by this term related and limited to our own nature? Are the judgments which we base on this conception valid as Bacon would say, by analogy with the universe (*ex analogia universi*) or rather exclusively by analogy with man (*ex analogia hominis*)? With this question the problem of the origin of the idea of space develops far beyond its initial limits. We see now the circumstance which caused psychological and epistemological thought in the eighteenth century to recur again and again to this problem. For on it the fate of the concept of truth in [113] general seemed to depend. If space, which is a fundamental element of all human perception, consists merely of the fusion and correlation of various sensory impressions, then it cannot lay claim to any other necessity and any higher logical dignity than the original elements of which it is composed. The subjectivity of sensory qualities, which is known to and generally acknowledged by modern science, accordingly draws space too into its sphere. But the development cannot stop here, for what is true of space is true in the same sense and with the same justification of all the other factors on which the "form" of knowledge is based. Even the psychology of antiquity distinguished sharply among the various classes of sensory content, between colours and sounds, tastes and smells, on the one hand, and between the pure "form concepts" on the other. The latter—among which were included, besides space, especially duration, number, motion, and rest—were given a special place in that they were not attributed to a particular sense but to a "common sense," (XXX). The rationalistic theory of knowledge in modern times went back: to this psychological distinction among the sources of sense impressions in order to establish

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<sup>28</sup> Voltaire, *Elements de la Philosophie de Newton* part II, ch. VII; *Oeuvres*, vol. xxx, p. 147.

<sup>29</sup> See Diderot, *Lettre sur les Aveugles*, and Condillac *Traite de Sensations*, part I, chaps. VII, XI, ff.

a specific difference in validity between the ideas derived from the two classes of sensory content. Leibniz points out that the ideas which one usually attributes to "common sense" (*sensus communis*), really belong to and are derived from the mind: "... they are ideas of pure reason, but such as have an external reference and are perceivable by the senses; hence they are capable of definitions and proofs." <sup>30</sup> This view appeared to have been conclusively overthrown by the exact analysis of Molyneux's problem. In the year 1728, when Cheselden successfully operated on a fourteen year old boy who had been blind from birth, Molyneux's theoretical problem seemed to have found an empirical solution. Observations on this boy who had suddenly acquired visual organs seemed to confirm the empirical argument on all points. Berkeley's theoretical predictions were completely verified. It was found that the patient by no means obtained full visual power as soon as his eyesight began to function, and that he had to learn gradually and laboriously to distinguish between the [114] corporeal forms which were presented to his vision. The theory that there is no inner affinity between the data of touch and those of vision but that the relation between them is merely the result of their habitual connection is thus verified by experience. But if this conclusion is valid, then we can no longer speak of a uniform space underlying all the senses and serving, as it were, as a homogeneous substratum. This homogeneous space, which Leibniz had looked upon as a creation of the mind now proves to be a mere abstraction. We do not find any such unity and uniformity of space in experience but rather just as many qualitatively different kinds of space as we have different fields of sensory experience. Optical space, tactile space, kinaesthetic space, all have their own unique structure; they are not connected or related by virtue of a common essence or an abstract form but merely by the regular empirical connection existing between them, by means of which they can reciprocally represent one another. A further conclusion now seems inescapable. The question as to which of all these sensory spaces is to be considered the "true" space, now loses all meaning. They all possess equal validity; none can claim a higher degree of certainty, objectivity, and generality than any other. Accordingly, what we call objectivity or truth or necessity, has no absolute, but merely a relative meaning. Each sense has its own world and there is no other alternative than to understand and analyze all these worlds in a purely empirical manner without attempting to reduce them to a common denominator. The philosophy of the Enlightenment never tires of inculcating this relativity. This is a theme which not only permeates scientific thought but which is also popularized in general literature. Swift treated the subject with great satirical power and intellectual acumen in his *Gulliver's Travels* and from here its influence spread to French literature where it is especially felt in Voltaire's *Micromegas*. Diderot, too, in his letters on the blind and on the deaf and dumb gives us elaborate variants of this thought. The basic tendency of the first of these essays is to show by the example of Saunderson, the famous blind geometer, how every deviation in the organic disposition of man must necessarily result in a complete change in his spiritual life. Not [115] merely the sense world, the pattern of perceptual reality, is affected by such a deviation; if we look more deeply into the matter we shall find the same alteration taking place in all phases of personality, in the intellectual as in the moral, and in the aesthetic as in the religious phases. Relativity extends into the sphere of the highest, the so-called purely intellectual ideas. The concept and word "God" cannot mean the same thing for the blind as for those who can see. Is there then a logic, a metaphysics, or an ethics which can emancipate itself from the bondage of our sense organs? Or are not all our statements about the physical world as well as the intellectual merely about ourselves and the peculiarity of our organization? Would not our being have to undergo a fundamental change if we were endowed with a new sense, or

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<sup>30</sup> Leibniz, *Nouveaux Essais sur l'entendement humain*, Book II, ch. v.

deprived of one of the senses we already have? The philosophers of the eighteenth century love to enlarge upon and explain such psychological speculations in terms of cosmological speculations. A uniform tendency can be traced from Fontenelle's *Conversations on the Plurality of Worlds* to Kant's *General Natural History and Theory of the Heavens*. Perhaps the wealth of possibilities which we can imagine and construct in the abstract is realized in the universe in such a way that to every celestial body there corresponds a specific psychophysiological quality in the inhabitants. "They say we lack a sixth sense which would explain to us many things of which at present we know nothing. This sixth sense is apparently in some other world in which one of our five senses is lacking. ... Our knowledge has certain limits beyond which the human mind was never able to go ... the rest is for other worlds where things we know are unknown."<sup>31</sup> This idea recurs innumerable times in the psychological and epistemological literature of the Enlightenment.<sup>32</sup> And logic, ethics, and theology seem to fade more and more into mere anthropology. In his essay *The Physical Causes of Truth*, Johann Christian Lossius takes the last step in this direction. Lossius maintains [116] that we should substitute the useful doctrine of the growth of our ideas for the useless doctrine of logical propositions and conclusions, and that in so doing we should classify our concepts not according to their content or the objects they embrace but according to the organs which appear to be made for this or that concept. In this way we should understand the nature of human ideas to be sure, not perfectly, yet ever so much more clearly than by means of all the explanations from Aristotle to Leibniz. We shall of course have to renounce all claims to general validity and objectivity; but it will do as little harm to truth as to beauty if we recognize and admit that both are "of a more subjective than objective nature," and that they are not a property of the things but merely a relation of the things to us who think them.<sup>33</sup>

From this fundamental viewpoint it was only one more step to the full recognition of "subjective idealism," but this last step was only rarely taken and the inescapable conclusion only reluctantly drawn. Berkeley had no immediate successor, and those who pursued his psychological method tried to avoid its metaphysical consequences. This becomes especially apparent in Condillac's essay on the origin of human knowledge and in his *Treatise on the Sensations*. Condillac at first believes he can find proof for the reality of the external world simply in the experiences of the sense of touch. The evidence of the other senses, of smell and taste, of sight and hearing, are in his opinion insufficient proof. For in experiences of these senses all we ever grasp is modifications of our own ego without any conclusive indication of an external cause from which these modifications are derived. In seeing, smelling, tasting, hearing, the mind perceives without being aware that there are physical organs for all these activities. It is absorbed in the pure act of perception and knows nothing of any physical substratum of its activity. The situation changes only when we come to the sense of touch, for every tactile sensation exhibits necessarily a double relation. It reminds us in every single phenomenon also of a particular part of the body; thus it represents, so to speak, the [117] first penetration into the world of objective reality. But Condillac did not stand by his first solution of the problem; in the latter edition of his *Treatise on the*

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<sup>31</sup> Fontenelle, *Entretiens sur la pluralite des mondes*, Third Evening, *Oeuvres*, Paris, 1818, vol. II, p. 44.

<sup>32</sup> Among writers of the German Enlightenment, Sulzer can be mentioned in this connection. Cf. Sulzer, "Zergliederung des Begriffs der Vernunft" (1758), *Vermirchte philosophische Schriften*, vol. I, p. 249.

<sup>33</sup> Lossius, *Physische Ursachen des Wahren*, Gotha, 1775, pp. 8 ff., 56. Cf. the author's account in *Das Erkenntnisproblem*, vol. II, pp. 575 f.

*Sensations* he deliberately attempted to supplement and improve it. There is now a more radical turn in Condillac's thinking. We must admit on the one hand that all knowledge comes from the senses; on the other hand it is clear that all our sensations are merely expressions of our own modes of being (*manieres d'etre*). How then can we ever perceive objects outside ourselves? 'We may ascend to the highest heavens or descend to the deepest abyss, yet we shall never transcend the bounds of our ego, since we shall always encounter merely ourselves and our own thoughts. Condillac thus faces the problem squarely, but the means for its consistent solution are not available to his sensationalistic method.'<sup>34</sup> Diderot clearly recognized this weakness; he says that Condillac adopted Berkeley's principles, but tried to avoid his consequences. But psychological idealism cannot really be overcome in this manner. Diderot sees in this idealism, as Kant does later, a "scandal of human reason": "a system which, to the shame of the human mind, is the most difficult to combat, though the most absurd of all."<sup>35</sup>

In Maupertuis' philosophical letters and in his thoughts on the origin of language we find the same inner lack of assurance. Here again the problem is clearly and boldly stated. Maupertuis not only declares that extension, so far as its objective reality is concerned, is exactly like all other sensory qualities, he not only maintains that there is basically no difference between pure space and the phenomena of colour and tone so far as their content and psychological development are concerned, but he proceeds to an examination of the general meaning of the predication of reality, to the meaning of the judgment: "There is." What sense does this judgment convey; what are its real content and basis? What do we mean when we say not merely that we see or touch a tree but when we make the further assertion that a tree "exists"? What does this attribution of [118] existence add to the simple sense data? Can it be shown that there is a perception of existence which is just as simple and original as the perception of colour or tone? Since this is obviously not so, what other meaning is contained in this predication of existence? If one reflects on these questions, he is led to the conclusion that what we mean by "existence" is not so much a new reality as a new symbol. This symbol permits us to apply a single term to a complicated series of sense impressions and so to crystallize the series for consciousness. A complex of immediate impressions, of recollections and expectations, is expressed by the symbol. The experience to which it refers is composed of a repetition of several similar experiences and of certain accompanying circumstances which bind them firmly together and so seem to give them greater reality. The perception "I have seen a tree" is connected with the other perception that I was at a certain place; I returned to this place and found the tree again, etc. A new awareness thus arises: "I shall always see a tree, if I return to this place," which means: "There is a tree." This reasoning seems to confute any narrowly sensationalistic explanation of the problem of being, for the concept of being cannot be reduced to a simple sensation. Yet very little ground has been gained, for we have now simply exchanged a sensationalistic for a purely nominalistic interpretation of experience. Maupertuis is clearly aware that this is not a solution, but merely a transference of the problem. Hence his analysis too ends in scepticism. The perception "There is a tree," declares Maupertuis, "conveys, so to speak, reality to its object and constitutes a proposition regarding the existence of the tree as independent of me. Yet it would perhaps be very difficult to find in this proposition anything more than was

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<sup>34</sup> For a more detailed account of Condillac's vacillating attitude toward the problem of the reality of the external see George Lyon's introduction to his edition of the *Traite des sensations*, pp. 14 ff.

<sup>35</sup> Diderot, *Lettre sur les Aveugles* ed. Naigeon, vol. II, p. 218.

contained in the preceding propositions, which were merely the symbols for my perceptions. If I had never had but once each perception: ('I see a tree,' 'I see a horse,' then, however vivid these perceptions might have been, I am not sure that I could ever have inferred the proposition: 'There is.' If my memory had been sufficiently comprehensive as not to fear multiplying the symbols of my perceptions and such that I could have employed only simple expressions for each perception, such as [119] A, B, C, D, etc., then perhaps I should never have arrived at the proposition: 'There is,' even though I should have had all the same perceptions as made me formulate it. Would not this proposition be merely an abbreviation of all the perceptions: 'I see,' 'I have seen,' 'I shall see,' etc." <sup>36</sup> The progress here attained lies in the transference of the focal point of the problem of reality from mere sensation to judgment. But judgment is not understood in its characteristic logical significance; Maupertuis tries to transform judgment into a mere accretion, a coexistence and sequence of perceptions. A fundamental transformation and a critical solution of the question here raised could only be achieved after this obstacle had been removed that is, after Kant had analyzed judgment into the "unity of action" and recognized it by virtue of its inherent spontaneity as the expression of the "objective unity of self-consciousness." The "problem of the relation of an idea to its object" was thus established on a new foundation; it was raised above the importance of a merely psychological question and made the focal point of a "transcendental logic."

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But, revolutionary as it appears, this last development in philosophical method does not take place without historical preparations. For the doctrines of Locke and Berkeley, of Hume and Condillac, never gained unchallenged recognition in Germany. Much as Locke's influence seems to dominate here for a time, it was from the first confined within certain limits as a result of the systematic development of psychology by Christian Wolff. Wolff's rational and empirical psychology goes own way, and it remains faithful to the fundamental principles of Leibniz. It bases the doctrine of the soul on the doctrine of the spontaneity, self-sufficiency, and independence of the monad which receives nothing from without but which produces all its content according to a law peculiar to itself. This kind of spontaneity is irreconcilable with the idea of a "physical influx" (*influxus physicus*), with the concept of "impression" as this is maintained by English and French psychology. According to Leibniz and Wolff, a psychology which attempts to find the basis of the mind in the impression has simply misunderstood the whole problem. It misses the fundamental phenomenon of the mind, whose nature consists in activity not in mere passivity. A functional psychology is now opposed to the psychology of sensation. One does not do justice to functional psychology if, according to a wide-spread view, one treats it simply as a "faculty psychology." For in Leibniz there is no such thing as a Faculty in the sense of a mere possibility, of an empty potentiality; nor is there a rigid separation of individual capacities of the mind from one another and a hypostasis of these capacities to independent forces. Wolff also consistently upheld the postulate of the unity of the soul, although his tendency to distinguish sharply between concepts sometimes seems to favour an isolating approach. The division of the mind into various faculties, and their definition and nomenclature, are for Wolff chiefly a matter of presentation; actually, however, as he repeatedly emphasizes, all these faculties are not

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<sup>36</sup> Maupertuis, *Reflexions Philosophiqu sur l'Origine des Langues et la Signification des mots*, sect. XXIV, XXV; *Oeuvres*, vol. I, pp. 178 ff.



independent forces but only the various tendencies and expressions of a single basic force, that of representation.<sup>37</sup>

This representation is not to be understood as a mere reflection of an externally existing reality but as a purely active energy. The nature of substance, says Leibniz, lies in its fertility, that is, in its capacity to produce an unending series of ideas. The ego, then, is not merely the scene of ideas but rather their source and origin: "the fountain and source of ideas by a prescribed law of things about to be created."<sup>38</sup> And herein lies the real perfection of the ego; it is more perfect the more freely this production place. In his treatise *On Wisdom* Leibniz writes: "All intensification of being I call perfection for just as sickness is a diminution of health, so is perfection something which rises above health .... Now just as sickness comes from injured action, as medical men well know, so perfection appears in the power to act. Indeed all being consists in [121] a certain force, and the greater this force, the higher and freer the being. Furthermore, the greater the force, the more we see *multiplicity from unity and in unity* since the one governs the many outside itself and pre-forms the many inside itself. Now unity in multiplicity is nothing but harmony, and because one thing agrees more nearly with this than with that, order arises, and from order beauty and beauty awakens love. Thus it appears that happiness, joy, love, perfection, being, force, freedom, harmony, order, and beauty are all linked together, a fact which few people rightly understand. Now when the soul feels within itself a great harmony, order, freedom, force, or perfection, and is accordingly delighted, this causes joy .... Such joy is constant and cannot deceive or cause future sorrow if it is the result of knowledge and accompanied by light; from this joy there arises in the will an inclination toward the good, that is, virtue. . . . Thence follows that nothing serves happiness more than the light of reason and the exercise of the will to act at all times according to reason, and that such light is especially to be sought in the knowledge of these things which can bring our minds more and more toward a higher light because from this light springs an ever-enduring progress in wisdom and virtue, and also, as a consequence, in perfection and joy whose efficacy will remain with the soul even after this life."<sup>39</sup>

In these brief characteristic sentences Leibniz outlined the whole development of German philosophy during the era of the Enlightenment; he defined the central concept of the Enlightenment and sketched its theoretical program. These sentences themselves represent a real "unity in multiplicity," for they epitomize all that the German Enlightenment contributes in the fields of psychology, epistemology, ethics, aesthetics, and the philosophy of religion, and all that it was to bring to completion later. It was this beginning which rescued German philosophy in the eighteenth century from the perils of mere eclecticism. Much as popular philosophy was exposed to these perils and often as it succumbed to them, science and systematic philosophy [122] always found their way back to those fundamental questions first raised by Leibniz. Wolff was and remained the "preceptor of Germany," and Kant's statement that he had been the real originator of the spirit of thoroughness in Germany is perfectly true. That Kant could not only start from the thinking of the German Enlightenment, but that his formulation of problems and systematic method were a direct outgrowth of this thinking, are owing to the fact that the philosophy of this era had clearly seen and recorded one of the great possibilities of the development of a uniform theoretical system of thought. To reveal this basic tendency we can start with the opposition which we have already remarked. French and English philosophy of the eighteenth century had been imbued with and guided by the

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<sup>37</sup> Cf., for instance, Wolff's *Psychologia rationalis*, § 184 ff. and his *Psychologia empirica*, § 11 ff. and *passim*.

<sup>38</sup> Leibniz's letter to de Volder, March 24, 1699, *Philosophische Schriften*, ed. Gerhardt, vol. II, p. 172.

<sup>39</sup> Leibniz, "Von der Weisheit," *Deutsche Schriften*, ed. Guhrauer, vol. I, pp. 422 f.

tendency to develop all philosophical knowledge so that, in characteristic words of Locke, it would no longer have to stand on borrowed ground.<sup>40</sup> The whole structure of knowledge was to bear itself and to stand on its own foundation. Because of this postulate of autonomy, the system of innate ideas was rejected, for the appeal to the innate seemed equivalent to an appeal to a foreign arbiter--equivalent indeed to founding knowledge on the being and nature of God. This appeal had become manifest in Descartes when he had traced the meaning of the innate back to God's creative force, and when he had found ideas and eternal truths to be the effects of this force.<sup>41</sup> With Malebranche a really substantial union had replaced this causality; he had maintained that the contemplation of ideas and eternal truths is proof of direct participation of the human mind in God's nature. In rejecting this form of transcendence, empirical philosophy had no other foundation for knowledge than experience, than the "nature of things."<sup>42</sup> But even this nature of things [123] now threatens the independence of the mind from another angle. Henceforth the mind must find its real task in holding a mirror up to nature--a mirror which can only reflect images, but cannot create or form them independently. "In this part the understanding is merely passive; and whether or no it will have these beginnings and as it were materials of knowledge, is not in its own power ... These simple ideas, when offered to the mind, the understanding can no more refuse to have, nor alter when they are imprinted, nor blot them out and make new ones itself than a mirror can refuse, alter or obliterate the images or ideas, which the objects set before it do therein produce."<sup>43</sup>

To both doctrines, that of metaphysical "transcendence" as well as the empirical form of "immanence," Leibniz opposes his own viewpoint. He upholds the postulate of immanence, for everything in the monad is to be derived from within itself. But in that he intensifies this principle, he not only finds it impossible to return to God, but equally difficult to return to nature in the usual sense of the word. A difference between the nature of the mind and the nature of things and a one-sided dependence of the former on the latter can no longer be maintained. "What we call the contemplation of the nature of things is very often nothing but the knowledge of the nature of our own mind and of those innate ideas which one does not need to seek outside."<sup>44</sup> When the mind becomes a mirror of reality, it is and remains a living mirror of the universe, and it is not simply a sum total of mere images but a whole composed of formative forces. The basic task of psychology and epistemology will henceforth be to elucidate these forces in their specific structure and to understand their reciprocal relations. And this is the task which the thinkers of the German Enlightenment now undertake and which they endeavour to accomplish by patient toil. If this toil tends to be diffuse, and if second-rate minds often enough lose sight of the goal entirely, it never lacks its peculiar depth; for throughout their diversity of problems these philosophers always aim to validate a certain principle and to elucidate and [124] prove it from various angles. The

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<sup>40</sup> Cf. Locke, *Essay*, Book I, ch. IV, § 24 f.

<sup>41</sup> Cf. Descartes' letter to Mersenne, May 1630; *Oeuvres*, ed. Adam-Tannery, vol. I, p. 151: "You ask me in which kind of cause God has placed the eternal verities. I answer you that it is in the same kind of cause as all things He has created, that is to say, efficient and total cause. For it is certain that He is also the Author of the essence as well as the existence of creatures; but this essence is nothing else than those eternal verities which I do not imagine as emanating from God like the rays of the sun. But I know that God is the Author of all things, and that these verities are something, consequently that God is their author."

<sup>42</sup> Cf. above pp. 55 ff.

<sup>43</sup> Locke, *Essay*, Book II, ch. T, sect. 2. 5.

<sup>44</sup> Leibniz, *Nouveaux Essais*, Book I, ch. I, sect. 21.

psychological formulation and defence of the spontaneity of the ego now prepare the ground for a new conception of knowledge and of art; new pathways and new goals are revealed for the advancement of both epistemology and aesthetics.

The division of the mind into its individual "faculties" contributes not merely toward an empirical analysis of phenomena, but forms the beginning and outline of a future universal system, a real "phenomenology of the spirit." The most original and ingenious psychological analyst of this circle saw and maintained this possibility: Tetens' work entitled *Philosophical Essays on Human Nature* is different in its method from Berkeley's and Hume's works bearing similar names in that Tetens endeavours to classify and describe not only the phenomena of the individual mind but in that he treats such a description as the prelude to a general theory of the "objective spirit." We ought not merely to observe the faculty of understanding as it gathers experiences and produces its first sense ideas from perceptions, but also as it soars to greater heights, as it formulates theories and combines truths into sciences. In such activity the power of the mind reveals its highest energy; and now the question of the fundamental rules must be raised according to which the mind erects such immense structures as geometry, optics, and astronomy. Tetens is dissatisfied with the contributions of Bacon, Locke, Condillac, Bonnet, and Hume to a solution of this problem; he maintains that these thinkers had not even understood the problem of rational knowledge in its specific meaning and that, because of their preoccupation with the problem of sense knowledge, this problem had been almost entirely neglected.<sup>45</sup> Similarly, Tetens' most original contribution to the doctrine of the "faculties of the soul," the basic concept with which he enriched this doctrine, point in the same direction. When he demands precise characterization of feeling, distinguishing it sharply from sense perception, he does not take this distinction simply from introspection; on the contrary, he is [125] led to it by the consideration that two entirely different modes of object relations are involved in feeling and sense perception. Perceptions, to be sure, are ours; yet their essential definition does not lie in the fact that they express a state of our own being but that they express a quality of the object. Feeling, on the other hand, represents a different, a much more radical and purely subjective relation; we know only that it represents a mutation within ourselves, and we accept it as immediately given without relating it to external objects. But that this relation is by no means subjective in the sense that it is purely arbitrary, that rather it contains its own rule and law within itself, and that feeling constitutes a genuine microcosm, a world by itself—German philosophy of the Enlightenment accepts these propositions as proved by the phenomenon of art in which the representation and development of this microcosm is accomplished. At this point Mendelssohn's doctrine of the mental faculties comes in. This doctrine proceeds by a method of reconstruction and draws conclusions from the images in the mind and their specifically differentiated shapes regarding the forces underlying such mental activity. In order clearly and surely to distinguish between the object of art and that of theoretical knowledge, in order to discriminate between the beautiful and the true, Mendelssohn finds it necessary to recognize a special class of psychological phenomena. The beautiful object is neither one of mere knowledge nor one of mere desire. It slips through our fingers if we try to treat it as an object of knowledge and to approach it by means of scientific method, by the process of analysis and definition. But the nature of the beautiful object also escapes us if we approach it from the "practical" viewpoint, making it the object of wishing or acting, because as soon as an object is desired or striven for, it ceases to be a beautiful object, an object of artistic contemplation and enjoyment. On the basis of these considerations Mendelssohn

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<sup>45</sup> Tetens, *Philosophische Versuche fiber die menschliche Natur una. ihre Entwicklung*, Riga, 1777, vol I, pp. 427 ff. (Neudruck der Kantgesellschaft, Berlin, 1913, pp. 416 f.)

postulates an independent faculty of the mind to which he gives the name "faculty of approval" (*Billigungsvermögen*). No element of desire enters into the approval of the beautiful: "It seems to be a special sign of beauty that it is contemplated with calm pleasure, that it pleases even if we do not possess it, and if we are ever so far removed [126] from the desire to possess it. Only when we consider the beautiful in relation to ourselves and regard its possession as advantageous, does the desire for possession awake in us; and this desire is very different from the enjoyment of beauty."<sup>46</sup> Thus the doctrine of the faculties-and herein lies its systematic value-always endeavours to treat psychology not only as a doctrine of the elements of consciousness, that is, as a doctrine of sensations and impressions, but rather as a comprehensive theory of attitudes and behaviour. Not the content, but the energies of the mind should be studied and accurately described. We can understand from this viewpoint the close alliance which now develops between psychology and aesthetics. Since Dubos' *Critical Reflections on Poetry, Painting, and Music* (1719), the same theory of mental energies had prevailed in aesthetics. Dubos' thoughts and observations could be cited in confirmation of Leibniz's ideas, for Leibniz looked upon all aesthetic pleasure as an "exaltation of being," as an animation and intensification of the powers of the mind. The pleasure of the sheer sense of being alive can infinitely outweigh the displeasure which might arise from the contemplation of the object as a mere object. "I need not tell you," Lessing writes to Mendelssohn, "that the pleasure which accompanies a livelier exercise of our energies can be so infinitely outweighed by the displeasure arising from the objects toward which our energies are directed that we are no longer aware of that pleasure."<sup>47</sup> Sulzer, too, in his treatise *On Energy in Works of Fine Art*<sup>48</sup> presents the same basic conception, and under its presupposition he attempts to discriminate among the energies of theoretical thinking, aesthetic contemplation, and the activity of the will.

From yet another angle, aesthetic theory now enters the realm of pure epistemology. In conquering a place for the [127] pure "imagination," and in endeavouring to show that the "poetic faculty" is not a combining, but an original creative faculty, aesthetics also brings about a change in logic, in the conception of the meaning and origin of concepts. Berkeley, Hume, and Condillac consider a concept merely as a shower of impressions, that is, as a simple summation or the symbol we use for such a summation. No independent significance can be attributed to this symbol; it only represents indirectly for the memory that which was concretely given in perception. Yet even if we consider concepts of relation rather than concepts of things, this Situation remains unaltered. For the mind cannot establish any sort of connection without first having experienced its reality; it cannot truly conceive any unity or difference without first having tested it in the realm of fact. But functional psychology criticizes this view. Again it is Tetens who emphatically disputes this doctrine of thought as a mere "transposition of phantasms." No matter how much thinking may be stimulated by the sense impression, by the empirical datum, it is never content to stop here. For thinking not only forms concepts as mere aggregates but it rises to ideals. And these ideals are not

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<sup>46</sup> Mendelssohn, *Morgenstunden*, Abschnitt VII.

<sup>47</sup> Letter to Mendelssohn, Feb. 2, 1757, *Werke*, ed. Lachmann-Muncker, vol. XVII, p. 90. (In his introductory sentence the author seems to contradict the quoted passage. That he does not in fact do so is evident from a consideration of Lessing's statements before and after the words cited. Lessing wrote: "All passions, even the most disagreeable ones, are pleasing as passions. When we suddenly see a painted snake, it pleases us all the better, the more violently we are frightened by it."-Tr.)

<sup>48</sup> *Von der Kraft in den Werken der schonen Kunste*.

comprehensible without the aid of the "plastic power of the imagination." "Psychologists usually explain poetic creation as a mere analysis and synthesis of ideas which are recalled in memory after having been acquired through sense perception ... If such is the case, then poetry too is nothing but a transposition of phantasms and can give rise to no new simple ideas in our consciousness." However, this explanation is completely inadequate for any real work of art. One cannot do justice to a Klopstock or Milton, "if one considers the images breathed forth by these poets in their animated poetic language as nothing but an accumulated mass of perceptual ideas whether contiguous to one another or following each other in rapid succession." And the same is true of scientific ideals as we encounter them, for instance, in all exact mathematical knowledge. They likewise can never be explained by mere addition and subtraction of individual perceptions, by combination or abstraction; on the contrary, they are "true products of the poetic imagination." "It is known that this is so in the case of [128] general geometrical concepts. But the same thing is in fact true of all other concepts." The mere process of empirical generalization is then not yet sufficient to raise what just now was simply a sense image to the level of a pure concept. For general sense representations are not yet general ideas, nor are they concepts of the poetic imagination or of the understanding. They are merely raw material for such concepts; their form, however, cannot be understood or derived from them alone. Yet it is the form on which the real exactness of the concept depends. "There is, for example, the idea of a curved line bending back on itself, which is taken from perceptions of the visual sense, and the idea has received its own form from the various perceptions which by their combination produced this form. But now something more happens. The conception of extension is in our power; we can modify ideal extension as we wish. The imagination, therefore, so arranges the image of the circle that every point is equally distant from the centre, and no point is the least bit nearer or farther away. The last addition to the sense image is contributed by the creative imagination, as is the case with all our ideals." <sup>49</sup>

This transcendence beyond that which is immediately given in the sense impression, this power of the theoretical imagination, is by no means restricted to pure mathematics. It appears equally clearly in the formation of our concepts of experience, for the concepts on which theoretical physics is based cannot be explained in terms of a combination of perceptual ideas. To be sure, they begin with such ideas, but they do not end there; they use these ideas of sense as a starting point but they transform them by means of the inner autonomous activity of the understanding. This autonomous activity, not the mere habit that comes from the regularity of the perceptions, is what constitutes the real core and substance of the first laws of motion. The general principles of natural science can never be derived *a priori* from mere concepts. But it is wrong to think one can infer from this fact that they must have originated in a mere [129] induction in the sense of a simple aggregation of individual observations. Even a law like that of inertia cannot be completely derived or explained in this manner. "The idea of a body set in motion, which neither acts upon any other body nor is acted upon, leads the mind to the idea that the motion of the body will continue unchanged, and even though the latter idea be derived from perceptions, yet its connection with the former idea is an effect of the power of thought, which according to its nature brings about in us this relation between the two ideas; and the connection between predicate and subject, which is made by this operation of the mind, is far more reason for the conviction that our

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<sup>49</sup> Cf. Tetens, *Philosophische Versuche über die menschliche Natur*, erster Versuch: "Ueber die Natur der Vorstellungen." No xv. Neudruck der Kant-Gesellschaft, pp. 112 ff.; see author's *Erkenntnisproblem*, vol II, pp. 567 ff.

judgment is true than the association of ideas based on perceptions. " <sup>50</sup> In general it can be said that, wherever a certain relation between ideas is conceived, recourse to mere sensation, to passive impressions, is insufficient to explain the idea of the relation in its specific nature. That such a specific nature exists is undeniable, for by no means all relations and connections between phases of consciousness can be reduced to identity and diversity, to agreement and contradiction. The succession of things, their contiguity, the particular nature of their coexistence, and the dependence of one thing on another; all these relations obviously embrace more than mere uniformity and diversity. Thus in all thinking, specific, sharply distinguished forms of relations appear and in each of them a certain direction is observable; this direction is like a path which thought follows spontaneously without being driven into it by the mechanical force of impressions and habit. What we call judging and combining, or inferring and concluding, is accordingly different from arranging ideas in sequence and connection; it is more than simply observing similarity and agreement among them. "For even if a rational conclusion is explained by the derivation of the similarity and difference of two ideas from their similarities and differences with respect to a third idea, yet this derivation of similarity and difference from other relations of the same kind is an activity peculiar to the understanding; it amounts to the active production of one idea of relation [130] from another, which . . . is more than the perception of two relations in succession." <sup>51</sup>

Here we have reached a point where the inner unity and systematic completeness which characterize the thought of the German Enlightenment despite all the apparent dispersal of individual problems become clearly manifest. For from two different sides, from psychology as well as logic, we now approach the same central problem. The convergence comes when the question of the nature and origin of the pure idea of relation arises. Just as Tetens approaches this problem as a psychological analyst, Lambert makes it a focal point of his logic and general doctrine of method. He too goes back to Leibniz, and his rediscovery of certain Leibnizian principles in their true originality and depth is a historical service. He is not satisfied with the Leibnizian heritage in philosophy as it had been formulated by Wolff and his school; he goes in quest of the sources from which Leibniz had developed his system. It is Leibniz's plan for a universal logic which permanently fascinates Lambert and on which he bases the outline of his semiology. He seeks a system of the forms of thought, and he undertakes to treat these in such a way that each will have a special symbolic language comparable to the algorithms of infinitesimal calculus. Exact thinking will not be possible until this has been accomplished, until a definite symbolic operation corresponds to every definite conceptual relation and, finally, until we possess general rules for these operations. Lambert wants to extend the prevalence of this kind of thinking far beyond the sphere of pure geometry. For according to him it shows prejudice to believe that only the ideas of extension and magnitude can be clearly explained and deductively developed. The certainty and conclusiveness of this development are not exclusively found in the realm of quantity; they are also attainable where purely qualitative relations are concerned. From this position Lambert also believes he can clearly sketch the limitations of the Lockean philosophy and its analysis of the basic concepts of knowledge. He does not care to dispute Locke's [131] I "anatomy of concepts"; he acknowledges that those concepts in which we wish to express the elements of reality cannot be simply invented, but must be found in experience. Genuine knowledge of reality can never be founded on a merely formal, a purely conceptual

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<sup>50</sup> Tetens, *op.cit.*, vierter Versuch: "Über die Denkkraft und das Denken," IV, Neudruck der Kant-Gesellschaft, pp. 112 ff., Neudruck der Kant-Gesellschaft, pp. 310 ff.

<sup>51</sup> *Ibid.*, fünfter Versuch: "Von der Verschiedenheit der Verhältnisse und der allgemeinen Verhältnisbegriffe," in *op.cit.*, pp. 319 ff.

proposition, such, for instance, as the law of sufficient reason; for such complete agreement of all the parts in one logical whole also belongs to the merely possible. But the knowledge of reality has to do with material properties, with "solids and forces"; and the nature and quality of a real basic force can never be construed in terms of concepts but only *in* terms of experience. For the sake of experience we must give up any standard definition and rest content with description; in "good anatomical fashion" we must go back by means of an analysis of the given to its ultimate constituents, but without raising any claim that we can make these constituents more comprehensible as a result of such an explanation of concepts. If any further clarification is possible here, it can only be accomplished along Lockean lines, that is, not by means of further logical elaboration but by means of a genetic analysis of simple ideas. It is, however, another matter once we have ascertained the basic concepts in this way and arrived at some idea of their number and order. Then we find that a wealth of further distinctions is contained in the simple and specific nature of each of these concepts--distinctions which are inherent in this nature and follow from it directly. In order to develop these distinctions completely we do not need to refer back to experience. We see that the various fundamental concepts stand in certain relationships of agreement or contradiction, of dependence, etc., which can be determined by a consideration of their nature. The knowledge of these relations as such is not, therefore, empirically inductive but *a priori* knowledge. According to Lambert, such apriority is not to be restricted to pure geometry. What never occurred to Locke was to try to accomplish for the other simple ideas what geometers had done for space, namely, to show its systematic structural qualities in a deductive way.<sup>52</sup> At [132] this point Lambert brings his "alethiology" to bear on the problem. This is a general doctrine of the truth, that is, of the relations and connections existing among simple ideas, which Lambert formulated on the model of Leibniz's "universal logic" (*mathesis universalis*). He refers not only to geometry but especially to arithmetic and to pure chronometry and pure phronomy for evidence and examples of a certain type of science which, although it owes its material to experience, nevertheless shows in this very material not merely accidental but necessary properties. Thus Lambert's doctrine of truth forms, as it were, the logical correlate of Tetens' findings concerning the nature of the pure idea of relation. When these two separate streams of thought of the German Enlightenment joined in Kant, their relative goal was achieved; and with achievement the goal vanished to be supplanted by a new principle and new problems. [133]

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<sup>52</sup> See Lambert, *Anlage zur Architektonik oder Theorie des, Einfachen und Ersten in der philosophischen und mathematischen Erkenntnis*, Riga, 1771, § 10. For a fuller account of Lambert's method, see the author's *Erkenntnisproblem*, vol. II, pp. 534 ff.