

Stanisław Janeczek

The John Paul II Catholic University of Lublin

CARTESIANISM IN É. CONDILLAC'S THEORY OF SCIENCE

É. Condillac's sensualist epistemology used to be combined with J. Locke's empiricist accomplishments, following the opinion of Condillac himself. While appreciating this solution, the French philosopher sought to develop it, and in particular he wished to make it more profound. He wanted to formulate a special "metaphysics" of knowledge,¹ a synonym of genetic analyses that were supposed to answer the question: how and why is knowledge possible? Like in the case of Locke, the point of reference in Condillac's epistemology was Descartes' solution,² including his theory of science. Condillac's basic psychological starting point was continued after Locke as well.

It seems that contrary to the principal opposition between innatistic rationalism and Condillac's sensualism we may find some essential relations between his epistemology and Descartes' epistemology. We can do it on condition that we take into account not only the conclusions of Descartes as an epistemologist who builds the foundation for meta-

¹ See S. Janeczek, *Przejawy refleksji metafizycznej w filozofii Étienne'a Bennota de Condillaca (1715–1780)* [Some Manifestations of Metaphysical Reflection in the Philosophy of Étienne Bennot de Condillac (1715–1780)], in: *Ż dziejów filozoficznej refleksji nad człowiekiem. Księga pamiątkowa ku czci Profesora Jana Czerkawskiego (1939–2007)* [On the History of Philosophical Reflection on Man. A Jubilee Book Dedicated to Professor Jan Czerkawski (1939–2007)], ed. P. Gutowski, P. Gut, Lublin 2007, p. 257–274.

² Although Locke ignored Descartes' speculative physics, and approved of I. Newton's achievements instead, nevertheless he owed much to epistemology. On the relations between Locke and Descartes see C. S. Ware, *The Influence of Descartes on John Locke. A Bibliographical Study*, "Revue internationale de philosophie" 1950 no. 12, p. 210–230; N. Wolterstorff, *John Locke and the Ethics of Belief*, Cambridge 1996 (repr. 1999), p. 180–218; H. A. S. Schankula, *Locke, Descartes and the Science of Nature*, "Journal of the History of Ideas" 41:1980, p. 459–477 (the same in: *John Locke. Symposium Wolfenbüttel 1979*, ed. R. Brandt, Berlin 1981, p. 163–180; the same in: *Philosophy, Religion and Science in the Seventeenth and Eighteenth Centuries*, ed. J. W. Yolton, Rochester 1994, p. 306–324); P. A. Schouls, *The Cartesian Method of Locke's "Essay Concerning Human Understanding"*, "Canadian Journal of Philosophy" 4:1974–1975, p. 579–601; J. A. Passmore, *Descartes, the British Empiricists, and Formal Logic*, "Philosophical Review" 62:1953, p. 545–553.

physical considerations, but also formulates a theory of science to validate natural science. Thereby he sanctions the role of experience that is an integral element of the method indispensable in constructing the system of science that is deductively conceived.³ Usually, however, his merits are stressed in area of establishing analytical, intuitive, and deductive procedures. They found an ideal of knowledge defined by the categories of certainty, obviousness, clarity, and distinctness that appear in various contexts.⁴ For Descartes, the requirement of certainty seems more essential than cognitive evidence,⁵ nevertheless it is not by accident that the first of the four requirements of universal method is usually defined in the categories of obviousness (taken by of a subject), that is clarity and distinctness.⁶ Descartes in one go indicates that his considerations with regard to metaphysics are not only equal as to their certainty and evidence with geometrical proofs, but even surpass them.⁷ To a certain degree this

³ See with documentation in: S. Janeczek, *Logika czy epistemologia? Uwarunkowania historyczno-filozoficzne nowożytnej koncepcji logiki* [Logic or Epistemology? Historical and Philosophical Conditions of the Modern Conception of Logic], Lublin 2003, p. 222–230, 246–255.

⁴ See *ibid.*, p. 198–206.

⁵ No wonder that the most recent dictionaries of Descartes' concepts contain only the entry "certainty," not "evidence." *Certainty* in: J. Cottingham, *A Descartes Dictionary*, Oxford 1993, p. 29–30; *Certainty*, in: R. Ariew et al., *Historical Dictionary of Descartes and Cartesian Philosophy*, Lanham 2003, p. 51.

⁶ Descartes recommends not to accept as true any thing before it has not been recognised as evident ("evidemment"). We should be careful and avoid haste and prejudices, and not to include in our judgements anything beyond what appears for the mind clearly ("clairement") and distinctly ("distinctement") so that we should have no reason why we should doubt it. R. Descartes, *Discours de la méthode*, in: *Oeuvres de Descartes*, ed. Ch. Adam, P. Tannery, Paris 1897–1913 (repr. Paris 1996), vol. 6, p. 18–19. The requirement of clarity is fulfilled when things are present for the looking eye and sufficiently strong act on it and without coverings. Now an approach is distinct, that is, isolated from others and strict, when it does not contain in itself anything else, except what is distinct. Therefore there may be clear approaches, but not distinct, when there are no distinct approaches that would not be clear. R. Descartes, *Principia philosophiae*, in: *Oeuvres de Descartes*, vol. 8, part 1, p. 22. Cf. J. Kopania, *Proces myślenia a zagadnienie jasności i wyraźności w systemie Descartesa* [The Process of Thinking and the Question of Clarity and Distinctness in Descartes' System], "Studia Filozoficzne" 1984, fsc. 11–12, p. 21–36.

⁷ The letter to Sorbone Professors that precedes the *Meditationes*. R. Descartes, *Meditationes de prima philosophia*, in: *Oeuvres de Descartes*, vol. 7, p. 4. Eventually, Descartes will find the foundation of epistemology in metaphysics specifically comprehended. It is connected with the constitution of "cogito" as a reflexive act whose discovery safeguards the validity of knowledge as the most certain truth and thus indubitable. The knowing subject is more certain of himself than of the thing that is to be known, therefore the knowledge of oneself is a condition of any other knowledge, and this further supports God's veracity who does not cheat us in this kind of knowledge. Cf. W. Augustyn's insightful remarks who notices a contradiction in Descartes' doctrine. On the one hand the French philosopher finds out that knowledge is principally fallible so much that even evident knowledge (intuitive) is not indubitable, and somewhere else he recognises knowledge currently evident, i.e. clear and distinct, as reliable by virtue of its structure. The drama

requirement may also be referred to natural science in which the deductivist model with regard to explication is put in accord with the inductivist model with regard to heuristics, and a specific game between reason and experiment may be postulated. In this case, despite the continuous stress on the requirement of the certainty of knowledge, Descartes agrees that some truths have only a probable character, they “attributed with moral certainty” (literary speaking, they are morally certain, “certa moraliter”), although they are insufficient with regard to life needs. This hypothetical character will not concern the most general principles of physics. Their value depends on their manner in which they are conceived, that is on “evident reasonings these things deal with,” in analogy to theorems of metaphysics that correspond to standards of mathematics.⁸ In the conclusion to *Principia philosophiae* he says even that “certitude métaphysique” concerns not only mathematical proofs, but also “knowledge that there are material things,” or even “that such are all reasonings that deal with them and conducted in an evident manner,” that is also those that concern their essence.⁹ The interesting thing may therefore be to trace Con-

of these quests, in the way that is not at least inconsequent, is indicated in the *Meditationes* in which (the first meditation) Descartes questions the validity of any knowledge to defend its validity through the evidence of the existence of the knowing subject (the second meditation). Eventually, he makes truthfulness of knowledge dependent on God's veracity. W. Augustyn, *Podstawy wiedzy u Descartesa i Malebranche'a* [The Foundations of Knowledge in Descartes and Malebranche], Warszawa 1973, p. 13–42. The opinion prevails, however, that Descartes had finally avoided vicious circle in the justification of the value of knowledge. As he demanded that God safeguard even the validity of mathematical or logical truths, he in fact did not refer to Him when he stated the existence of “cogito.” See L. E. Loeb, *The Cartesian Circle*, in: *The Cambridge Companion to Descartes*, ed. J. Cottingham, Cambridge 1992, p. 200–235; P. Markie, *The Cogito and Its Importance*, in: *The Cambridge Companion to Descartes*, p. 140–173; the same in: *Descartes*, ed. J. Cottingham, Oxford 1998, p. 50–78; J. Krakowski, *Mathesis i metafizyka. Studium metodologiczne przelomu kartezjańskiego* [Mathesis and Metaphysics. A Methodological Study of the Cartesian Breakthrough], Wrocław 1992, p. 59–116; Z. Drozdowicz, *Kartezjusz a współczesność* [Descartes and the Present Time], Poznań 1980, p. 76–96. Cf. e.g. P. Markie, *Descartes's Gambit*, Ithaca (N.Y.) 1986; E. Curley, *Descartes against the Skeptics*, Oxford 1978; H. G. Frankfurt, *Demons, Dreamers, and Madmen*, Indianapolis (Ind.) 1970.

⁸ Cf. D. M. Clarke, *Descartes' Philosophy of Science and the Scientific Evolution*, in: *The Cambridge Companion to Descartes*, p. 275–283. Cf. also the same, *Descartes' Philosophy of Science. Studies in Intellectual History*, Manchester 1982.

⁹ “Talis est cognitio quod res materiales existant; et talia sunt evidentia omnia ratio-cinia, quae de ipsis sunt” – R. Descartes, *Principia philosophiae*, in: *Oeuvres de Descartes*, vol. 8, part 1, p. 328. In a more extended French version not only the certainty of the existence of material bodies is emphasised, but also that all, therefore not only mathematical, proofs of the theorems about bodies are certain, if they are evident (the same, *Principes de la philosophie*, in: *Oeuvres de Descartes*, vol. 9, part 2, p. 324). See J. Kopiańska, *Funkcje poznawcze Descartesa teorii idei* [The Cognitive Functions of Descartes' Theory of Ideas], Białystok 1988, p. 321, note 128.

dillac's less known considerations on the three types of evidence he had distinguished.

In his *De l'art de raisonner* Condillac focused on the understanding of the objects of our knowledge and the degree to which this knowledge is certain, that is, the issue on the theory of knowledge with its methodological applications in various types of sciences. The French philosopher distinguished three types of evidence each of which has its respective methods of verification, functions and limitations, hence the evidence of fact ("l'évidence de fait"), evidence of sentiment ("l'évidence de sentiment"), and evidence of reason ("l'évidence de raison"). They correspond to three valid methods that he supplements only with an analogy.¹⁰

Thus it seems at least strange that Condillac, a sensualist, attaches primary importance to the evidence of reason. This is yet more apparent at the end of his learned activity, when in the *Logique* (analogously as in the *La langue des calculs*¹¹) is willing to identify the whole the art of reasoning ("raisonnement") with procedures modelled after algebra and he reduces the development of knowledge to an operation analogous to equations in which some concepts are replaced by other equivalent categories. This attitude is accounted for by combining the evidence of reason with the preference for analytical method, a method that is comprehended above all as a method of discovery and is inseparably linked with a method characteristic of algebra. It recommends to operate with the simplest language, for the language of solutions that make use of algebraic signs that are simpler and more precise than words. What is more, Condillac identifies all rules of the art of reason with this type of operation, and postulates to reduce to it the whole of cognitive operations, a procedure that is supposed to ensure a reliable development of knowledge by deriving in equations what is unknown from that which is given.¹²

¹⁰ The first part of chapter IX summarises the various types of evidence and their attendant methods in science. This part is entitled *La logique ou les premiers développements de l'art de penser* (Paris 1780; quoted in *Oeuvres philosophiques de Condillac*, vol. 2, ed. G. Le Roy, Paris 1948, p. 269–416), where he refers us to *De l'art de raisonner* (in: *Cours d'études pour l'instruction du prince de Parme*, vol. 3, Parma [actually Paris] 1775) that is "supposed to be a broader interpretation of the whole lecture." E. Condillac, *Logika* [Logic], p. 137–148, 174–180; the same, *Logique*, in: *Oeuvre philosophique de Condillac*, vol. 2, p. 409–413. Cf. S. Janeczek, *Logika czy epistemologia?* [Logic or Epistemology?] p. 514–534.

¹¹ Paris 1798; quoted in ed. *Oeuvres philosophiques de Condillac*, vol. 2, p. 417–529.

¹² É. Condillac, *Logique*, in: *Oeuvres philosophiques de Condillac*, vol. 2, p. 410. Cf. S. Janeczek, *Logika czy epistemologia?* [Logic or Epistemology?] p. 564–585.

Condillac conferred on the postulated method a universal character. Reducing its essence to techniques taken from algebraic equations, accounts for the evidence of reason that is understood in terms of identity.¹³ A proposition is supposed to be self-evident or else it follows evidently from another self-evident theorem. We can see here how Descartes' intuition and deduction have been transformed through a more consequent reference to the spirit of the method applied in algebra, and algebra was also a model for the great antecedent of Condillac. It was Condillac's original contribution in relation to Descartes' understanding of intuition that he made use of the category of identity in this case. We may find in this procedure an anticipation of the analytical proposition in the Kantian sense, when the predicate of a proposition is hidden in the subject, therefore the proposition's veracity depends only on its terms. This corresponds with the category of rational truths in Leibnitz's conception. The German philosopher regarded them as true in all possible worlds, when actual truths are true only in the real world.¹⁴

A given theorem is self-evident only when the one who knows the value of particular words has no doubt as to its content: like in a proposition the whole is equal to its particular parts taken together.¹⁵ A proposition is evident also when one proposition evidently follows from another one which in turn is self-evident. In this case also evidence has its source in identity. This time, however, it is the identity of propositions in which one proposition follows from another one. Condillac states: out of two theorems one is an evident consequence from another one, when the comparison of their theses proves that they demonstrate the same thing, i.e. when they are identical. This demonstration is therefore a series of theorems where there are the same ideas, one is different from another one that they are differently formulated, and the evidence of reason consists only in identity.¹⁶ In both cases Condillac uses the idea of identity broadly understood, and it is not clear whether this idea refers to the range of contents. The reference to the language of algebra could indicate that identity was understood in terms of the range, yet the

¹³ "L'identité est le signe de l'évidence de raison," É. Condillac, *De l'art de raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 619. In *Logique* he says the following: "We have already proved that... the evidence of reason... is relies only on identity," the same, *Logique*, in: *Oeuvres philosophique de Condillac*, vol. 2, p. 411.

¹⁴ M. Przełęcki, *Analityczność i syntetyczność* [Analiticity and Synteticity], in: *Filozofia a nauka. Żarys encyklopedyczny* [Philosophy and Science. An Encyclopedic Outline], ed. Z. Cackowski, J. Kmita, K. Szaniawski, P.J. Smoczyński, Wrocław 1987, p. 27–28.

¹⁵ É. Condillac, *De l'art de raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 621.

¹⁶ *Ibid.*, p. 621.

jargon of associationist psychology and the emphasis on the importance of the language to express the same idea and the proposition's reference to the subject that is thus variously defined, seems to show that the reasoning is comprehended in terms of its contents.¹⁷

Although both the language characteristic of algebra and the analytical method, in particular the technique of reducing all theorems to the form of equations, may be applied in all sciences,¹⁸ Condillac is aware of their limitations. It is proper to God only to reduce the whole of knowledge to tautological equation from whom each truth is like an equation: "Two and two make four." If, however, God sees everything in one truth, then we are doomed to acquire knowledge by way of analysis of the elements of equations comprehended as a series of propositions whose truthfulness is verified by their ultimate reducibility to identity. To state identity that is tautology for God is in the case of human knowledge a painstaking process of discovery.¹⁹ A proposition that is reduced to an equation comprehended by way of definition is true only because it is in accord with a complex idea, which in the form of an equation determines the nature of for instance gold: "That which is yellow, heavy and fusible is yellow, heavy and fusible".²⁰ According to Condillac, not only each true proposition is in fact an identity, but also each system understood as a series of true propositions, for it is "only one and the same idea" and may be reduced to the form of the equation: "The same is the same." The sensualist system created by Condillac was supposed to have such a character. It defines the nature of the cognitive faculties, for it is reducible to the proposition "an expression is an expression," therefore it is "self-identical"²¹. This is supposed to concern in the same way Newton's mechanics based on the analysis of movement. Condillac treats it in *De l'art*

¹⁷ He does not specify this kind of identity in his *Dictionnaire des synonymes* either, repeating his formulations from *De l'art de raisonner*, É. Condillac, *Identité* in: *Dictionnaire des synonymes* in: *Oeuvres philosophique de Condillac*, vol. 3, p. 320.

¹⁸ It is not by accident that in the introduction to *La langue des calculs* he states that the subject matter of this text is mathematics whose language is algebra. At the same time he adds that it is closely linked with "a greater object" ("un objet bien plus grand"). He leaves no doubt what kind of object it is when he states that "the point is to show how to make all abilities equally accurate, the same accuracy that has up to now been granted only to mathematics with to the detriment of other sciences." The quote is from the supplement to É. Condillac, *La langue des calculs*, p. 420. Cf. the same, *Logique*, in: *Oeuvres philosophique de Condillac*, vol. 2, p. 410–411.

¹⁹ All our cognitive efforts, of which we are proud, are ridiculous in the eyes of God, as His proper apprehension is simple. É. Condillac, *De l'art de raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 748.

²⁰ *Ibid.*

²¹ *Ibid.*, p. 749.

de raisonner as the model of a proper system. According to I. F. Knight, this system may be reduced to the proposition: "A balance is a balance."²²

Taking the "evidence of reason" in terms of identity expressed in the form of equations, Condillac is well aware that we can accomplish it on condition that we know very well the elements that compose those equations.²³ There are theorems in which the subject and the predicate are actually identical, a fact that obtains in relation to truths whose nominal definition coincides with the real one. Now the acquisition of knowledge characterised by the evidence of reason, taken in terms of identity articulated in an equation, is characteristic, above all, of such theorems. This is possible especially in mathematics where identity is self-evident ("L'identité est sensible en arithmétique").²⁴ It is differently in the case of the propositions that refer to substance, e.g. the body and the soul, where we can indicate in fact only their primary attribute, i.e. extensiveness ("le corps est une substance étendue") and thinking ("substance qui sent"). In the case of the knowledge of substances, we are most often doomed to define it by way of the enumeration of its attributes, e.g. gold is yellow, plastic, and malleable ("L'or est jaune, ductile, maléable").²⁵ And although this knowledge, an expression of a preference for the relational approach over the substantial one, suffice to compare bodies, nevertheless it does not ensure precision that is necessary to define the nature of bodies in the proper sense, or even precision with regard to their comparison. Since it is evident in the proper sense as evidence of reason, we are doomed to refer to experience as the only tool of "reasoning" with respect to the scope of knowledge about substances.²⁶

Although reasoning is identified with a rationally comprehended analysis as a synonym of certain knowledge, in practical research we are often doomed to other learned procedures. Their task is above all to gain some

²² I. F. Knight, *The Geometric Spirit. The Abbé de Condillac and the French Enlightenment*, New Haven, 1968, p. 63. Now referring the system of macrocosmos according to Newton, Condillac compares it to the movement of machines. He states simply that "our cosmos is a great balance." This statement is supposed to be heuristically fertile, for the process of discovery is a transformation from a proposition that states equality, a process that ensures the unveiling of all possible truths, and that in an evident manner. The series of those propositions, like the truths, is ultimately reducible to the starting thesis. É. Condillac, *De l'art de raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 676.

²³ Cf. I. F. Knight, *The Geometric Spirit*, p. 74–76.

²⁴ É. Condillac, *De l'art de raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 628.

²⁵ *Ibid.*, p. 628–629.

²⁶ *Ibid.*, p. 630.

material that will then become an object of rational analyses. Since we cannot use a purely rational argumentation, we have to refer to experience. The sensualist Condillac, who belonged to the circle of the philosophy of subject, is apparently exposing the so-called evidence of inner sensation in the form of phenomena or facts that we learn, that we perceive in ourselves.²⁷ It is an ability to recognise sensations in ourselves, sensations of which we are certain in ourselves.²⁸ Even if he defines self-knowledge concerning sensations in terms of evidence, the sensualist Condillac is aware of its limitations. "Sensation is not evident for us each time we think that it is. On the contrary, we may be wrong if let pass a part of what is going on in us either because we presume what is not, or we wrongly interpret what is in us."²⁹ Condillac does not say categorically that "out of all means that we have to acquire knowledge there not even one which could mislead us" because "feeling in metaphysics, observation in physics, and calculus in mathematics mislead us." Nevertheless he adds: "just like there are rules (laws) of a good calculus and appropriate observation there are rules that allows us to properly feel and assess what we feel." Eventually, he reduces all mistakes in this respect to a situation when "we are governed by our feeling... and we are wrong in our interpretation of what we feel because misjudging what is in us means not to see what is and what is not."³⁰ The basic precaution to prevent mistakes, which could arouse on this way, is to make a precise distinction between what is in us a habit and what is a matter of nature ("il faut apprendre ne pas se confondre l'habitude avec la nature"). At the same time he postulates, a mode that is characteristic of empiricism, to trust experience that must be faithfully recreated in memory, for "the evidence of inner sensation has only the one who while being able to learn accurately what is in his soul acquired will never confuse habit with nature," when the failure to abide by this requirement gives rise to a prejudice ("préjugé"). Despite the catchwords of sensualism, Condillac claims that it is not in the least easy, and not so much with regard to the statement of the fact of existence, knowledge or action of the knowing subject, but with regard to "the manner of existing, seeing, hearing, and acting." In this respect Condillac states categorically: "That is why this evidence is not given to the majority of people" or he asks rhetorically: "who can avoid

²⁷ É. Condillac, *Logique*, in: *Oeuvres philosophique de Condillac*, vol. 2, p. 411–412.

²⁸ É. Condillac, *De l'art de raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 620.

²⁹ *Ibid.*, p. 631.

³⁰ *Ibid.*, p. 632.

a mistake” although all are used to referring to inner sentiment.³¹ While evading the opportunity to recreate the history of knowledge of particular subjects of knowledge, Condillac would limit himself to justifying the universal character of knowledge. This knowledge concerns the very principles with regard to the genesis of human knowledge. Thereby Condillac referred to the universal character of human cognitive constitution and to the equally universal conditions attendant on this knowledge.³² He also seemed to bring to mind the argumentation characteristic of the a priori justifications in the sense of the Scottish philosophy of common sense, and the justification of the objective character of the a priori conditions of knowledge in the sense of Kant's epistemology.

At the same time Condillac, who belongs to the heritage of empiricism and to the philosophy of the subject, seemed to integrate the evidence of the inner sentiment with the evidence of facts, or, at least in many case, the external sentiments. He stated: “I could as well call the evidence of fact the knowledge of some phenomena that I perceive in me: but because I know such facts (“faits”) only through the inner sentiment, I call them the evidence of inner sentiment.”³³ The evidence of fact is nothing else but their personal observation (“par notre propre observation”) that must be at times limited to judgements on the basis of others' testimonies, whereas in relation to the latter only some of them can be attributed with evidence, hence knowledge acquired by way of personal observation, when in many other cases this knowledge is very uncertain (“fort douteux”). The value of this tradition, more or less certain, depends on the very nature of facts and the competence of witnesses, their coherence, and also the coherence between the different conditions of the message,³⁴ therefore it depends on the requirements determined by the methodology of history. The facts alone are “all things that we perceive.” The sensualist Condillac is therefore forced to admit that this knowledge is limited, because those facts may equally concern things that exist and only such that only seem to us when they actually are different. This type of evidence concerns legitimately only the very fact of the existence of the body and its attributes, as to whose character our knowledge is insufficient. In particular, this means that, as mentioned above, we cannot come to know the absolute attributes of bodies because we do

³¹ Ibid.

³² Ibid., 633–634.

³³ É. Condillac, *Logique*, in: *Oeuvres philosophique de Condillac*, vol. 2, p. 411–412.

³⁴ É. Condillac, *De l'art raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 620.

not know their inner nature. We are doomed only to know the relational attributes that obliquely prove the existence of absolute attributes by virtue of the principle of cause and effect, although we do not know their inner nature.³⁵ He states in more general terms: “the evidence of facts must attend on the evidence of reason,”³⁶ and that already in relation to the statement of the existence of bodies to which we come on the basis of inference, i.e. that our sensations, and here again the evidence of sentiments is necessary, result from the reaction of the bodies on our cognitive organs.³⁷

Therefore indeed our knowledge of “facts” with regard to bodies deals only with phenomena (“phénomène”) and their laws (“lois de la nature”) which however, if this is possible, should be formed in a system (système).³⁸ Physics that studies them cannot be limited to a simple accumulation of facts, but they should be order in the form of a causal-effectual system, and the phenomena should be made into laws.³⁹ This knowledge is supposed to be methodical, for it is conducted first by way of observation (“observation”). This observation is comprehended as turning a particular attention to a thing under observation, an accurate comparative record of its attendant facts and circumstances under which facts are approached. Another form of the approach to facts is supposed to be experiment (“expérience”), which is most likely understood as a planned and designed operation.⁴⁰

All the above limitations with regard to various kinds of knowledge account for Condillac’s general methodological postulate. Following the traces of “good physicists” (“bons physiciens”), he wants to learn to combine the evidence of reason with the evidence of facts as instanced by some problems of the physics of his times. It was treated then as a conglomerate of sciences, in particular its respective inquiry methods comprehended as the knowledge of its proper reasoning (“raisonner,” “raisonnement”), which to a large extent corresponds to Descartes’ methodology which is also a “mix of conceptual analysis, empirical corroboration and metaphysical explana-

³⁵ Ibid., p. 636–637.

³⁶ Ibid., p. 637.

³⁷ Ibid., p. 636.

³⁸ É. Condillac, *Logique*, in: *Oeuvres philosophique de Condillac*, vol. 2, p. 412.

³⁹ É. Condillac, *De l’art de raisonner*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 637.

⁴⁰ Ibid., p. 637. In the *Logique* observation calls for all relations and circumstances of the respective phenomena. The same, in: *Oeuvres philosophique de Condillac*, vol. 2, p. 412.

tion".⁴¹ This thesis seems legitimate even if we fail to forget the violent critique of the "esprit de système" made by Condillac. It concerned the systems of the second scholasticism, and also the solutions of seventeenth-century metaphysicians, or even the ambitions of modern science to build systems, if we operate with abstract hypostases. He would behave like an iconoclast when he placed on one level the accomplishments e.g. of Descartes, Leibniz, Spinoza and Malebranche with the texts on astrology.⁴² Although he saw in them a synonym of unjustified hypotheses or even illusions of metaphysicians, then nevertheless he did not avoid systematic explanations and sought to outline a whole, that is, systematic vision of reality. And that was not only with regard to natural science (physics), then thought to be a standard of a methodology competitive to traditional philosophy, and also with regard to technological disciplines, in the eighteenth century still defined as "arts," and politics.⁴³ The basic requirement is concern about their foundation on the basis of facts. Experience is supposed to provide proper facts ("premier fait"), the foundation of the first principles of a system ("ce fait sera le principe du système").⁴⁴ As regards further scientific procedures, it is possible to use speculations ("conjecture"), if they do not have an a priori character, like metaphysical systems, because of their empirical basis.⁴⁵ The correspondence between Condillac's epistemology and Descartes' solutions can be found also in relation to the ideal of universal method that the analysis (in both cases modelled on mathematical method) was supposed to be, but in fact it combined the procedures of analysis and synthesis.⁴⁶

⁴¹ D. M. Clarke, *Descartes' Philosophy of Science. Studies in Intellectual History*, p. 97. As regards the bond of empiricism and rationalism in Condillac see F. Tethoré, *Condillac ou l'empiricisme et le rationalisme*, Paris 1864; repr. Genève 1971.

⁴² See especially chapter XI that summarises the analyses of the previous chapters: É. Condillac, *Traité de système*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 194–195. As regards Condillac's understanding of a system see especially E. McNiven Nine, *A Critical Study of Condillac's "Traité de système"*, The Hague 1979, p. 22–47. Condillac's critical considerations concerning witchcraft see in the *Encyclopedia* under the entry *Divinasion*, in: *Encyclopédie ou dictionnaire universel raisonné des sciences, des arts et des métiers, par une société de gens de lettres*, vol. 4, Paris 1954, p. 1070–1073. On the context of this position see R. McRaye, *The Problem of the Unity of the Sciences. Bacon and Kant*, Toronto 1961.

⁴³ See especially the conclusion in: É. Condillac, *Traité de système*, in: *Oeuvres philosophique de Condillac*, vol. 1, p. 204–217.

⁴⁴ *Ibid.*, p. 206–207.

⁴⁵ S. Janeczek, *Logika czy epistemologia?* [Logic or Epistemology?], p. 501–514. Cf. I. F. Knight, *The Geometric Spirit*, p. 52–78. See more E. McNiven Nine, *A Critical Study of Condillac's "Traité de système"*, The Hague 1979. On the context of this position see R. McRaye, *The Problem of the Unity of the Sciences. Bacon and Kant*, Toronto 1961.

⁴⁶ See S. Janeczek, *Logika czy epistemologia?* [Logic or Epistemology?], p. 189–198, 564–585.