

Lambert-Kant correspondence

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1 Brief overview of Lambert's life and thought

Johan Heinrich Lambert (1728-1777) was a Swiss-German mathematician. Lambert's correspondence with Kant is interesting, among other things, because at the time of the exchanges between Lambert and Kant, the former was much more well-known than Kant. Today, Lambert is still somewhat remembered in the field of mathematics for his contributions in

- non-Euclidean geometry;
- proofs of the irrationality of π (he is claimed to be the first to prove that π is irrational, although Euler had already hypothesised it);
- hyperbolic geometry.

He also contributed in science, for instance in the field of cosmogony: both in the "Only Argument for the Existence of God" and in the correspondence, Kant mentions Lambert's work on a theory of the origin of the world which was very similar to the one proposed by Kant himself.

For the understanding of the Lambert-Kant correspondence, however, Lambert's philosophical work will be particularly important. He is often claimed to have wrote two main philosophical works:

1. *Neues Organon* (1764);
2. *Anlage zur Architectonic* (1771).

He is also often claimed to have taken an original position in the movement of criticism of and opposition to the Wolffian tradition, by bringing a synthesis between Wolff and Locke. In particular, this synthesis is achieved by a renewed interest in scientific knowledge and experience, without abandoning some Wolffian themes and inspirations. For example, in the *Organon*, the synthesis can be seen in place:

- in the *Dianoitologia* (concerning method), Lambert follows generally Wolff;
- in the *Alethiologia* (concerning the first and most simple elements of knowledge), he follows Locke.

Lambert's philosophical methodology is particularly interesting within this context, because it is one of important themes emerging from the correspondence with Kant.

2 Themes in the Lambert-Kant correspondence

The correspondence between Kant and Lambert, henceforth just the correspondence, appears to initiate in occasion of the appointment of Pastor Reccard in Königsberg. The less mundane reason behind the first letter from Lambert seems to be an interest in Kant's philosophical ideas and methods. Lambert, indeed, claims that when he read the *Only Possible Argument for the Existence of God*, he discovered an extreme similarity between his and Kant's ideas. Lambert then mentions his own *Neues Organon*, claiming that Kant might agree with it. Let's start from here to try to reconstruct Lambert's and Kant's views on some of the topics covered in the correspondence.

1. *Criticism of the Wolffian method* Especially on Lambert's side, we find in the correspondence many remarks on how the Wolffian method in philosophy needs to be changed. Kant, within the correspondence, remains silent on this issue, but we find in the *Critique* numerous criticisms to Wolff and his approach to philosophy. In the first letter from Lambert, he writes:

Wolff has brought approximately half of the method of mathematics into philosophy. The other half remains to be worked on, so we know what to strive for (10: 54)

One way to understand what he meant claiming that Wolff brought "half of the method of mathematics into philosophy" is by relying on the second letter from Lambert (1766), where he writes:

Wolff assumed nominal definitions, and without noticing, shoved aside or concealed all difficulties in them (10:64)

On the basis of this latter remark, one might hypothesise that Lambert criticism towards Wolff with respect to mathematics is that Wolff tried to introduce mathematical precision and methods into philosophy, but he only did it half way and, hence, it created further problems. We can thus interpret the former remark from Lambert as suggesting that his idea for a new philosophical method is to go all the way through with mathematical methods.

2. *Interest in a new method for philosophy* One of the shared interest which emerges from the correspondence is the one towards a new method for philosophy. Lambert is the first, in his first letter (1765), to mention this topic:

What could be more natural than my desire to see whether what I have done is in accord with the method you propose? I have no doubts as to the correctness of the method. The only difference will be that I do not count under "architectonic" all the things heretofore treated in metaphysics and that, on the other hand, I maintain that a complete system of metaphysics must include more than has previously been thought. I take "architectonic" to include all that is simple and primary in every part of human cognition, not only the principia which are grounds derived from the form, but also the axiomata which must be derived from the matter of knowledge, and actually only appear in simple concepts, thinkable in themselves and without self-contradiction, also the postulata which state the universal and necessary possibilities of composition and connection of simple concepts. We do not get any material knowledge from the form alone, and we shall remain in the realm of the ideal, stuck in mere nomenclature, if we do not look out for that which is primary and thinkable in itself in the matter of objective material of cognition. (10: 51-2)

Notice that in this long quote Lambert combines, once again, elements of Wolffian inspiration such as the "principia which are grounds derived from the form", and remarks on a Lockian spirit, such as the emphasis on the simplest elements of cognitions. Notice, furthermore, that the idea of "axiomata which must be derived from the matter of knowledge" would be inadmissible within the Wolffian framework.¹

On this topic, Kant voices his own ideas. In his second (the first is missing) letter to Lambert (1765), he writes:

All my endeavours are directed mainly at the proper method of metaphysics, and thereby also the proper method of philosophy as a whole (10:54)

And this remark is preceded by the following consideration:

I have finally reached the point where I feel secure about the method that has to be followed if one wants to escape the cognitive fantasy that has us constantly expecting to reach a conclusion, yet just as constantly makes us retrace our steps, a fantasy from which the devastating disunity among supposed philosophers also arises; for we lack a common standard with which to procure agreement from them. (10:55-56)

¹Notice that a similar idea comes up in the second letter from Lambert (1766), where he writes:

From gives us principles, whereas matter gives us axioms and postulates (10:65)

We also find interesting remarks in Lambert's second letter to Kant, concerning the difference and comparison between the Leibnizian-Wolffian method and the one of mathematics:

6. According to the Leibnizian analysis, which proceeds by way of abstraction and analogies, one arrives at more highly complex concepts the more one abstracts, and for the most part, at nominal relation concepts that concern the form more than the matter.

7. On the other hand, since form consists of nothing but relational concepts, it can provide nothing but simple relational concepts.

8. Accordingly, the really objectively simple concepts must be found by a direct inspection of them, that is, we must, in good anatomical fashion, assemble all the concepts and let each one pass through inspection, in order to see whether [...] there are several concepts included in it or whether it is indeed simple. [...]

With these propositions in mind I have no hesitation in saying that Locke was on the right track when he sought the simple elements in our knowledge [...] Euclid does not derive his elements from either the definition of space or that of geometry but begins instead with lines, angles, and so on, the simple elements in the dimensions of space. (10:65-66)

Within this quote, we find numerous interesting themes. On one hand, the contrast between the method used in metaphysics of abstraction and analogies, which leads to more and more general concepts, and the method of anatomy, which searches for more and more simple concepts, which is proper of geometry. On another hand, we can see how the Leibnizian-Wolffian method is not completely abandoned, but it becomes part of a more refined system, which has a generally Lockian spirit. In this direction, we can also notice Lambert's interest in simple cognitions and the analysis of our knowledge.

3. *Interest in Cognition or general Phenomenology* The correspondence witnesses a growing explicit interest of Kant in the topic of the elements of our knowledge and/or cognition. The apex of this can be found in the last letter from Kant (1770), where he exposes his plan for a "General Phenomenology":

The most universal laws of sensibility play a deceptively large role in metaphysics, where, after all, it is merely concepts and principles of pure reason that are at issue. A quite special, though purely negative science, general phenomenology (*phenomenologia* [sic] *generalis*), seems to me to be presupposed by metaphysics. [...] It seems to me, too (and perhaps I shall be fortunate enough to win your agreement here by means of my very inadequate essay), that such a propaedeutic discipline, which would preserve metaphysics proper from any admixture of the sensible, could be made usefully explicit and evident without great strain (10:98)

Leaving aside the similarity of some of these ideas to what we then find in the *Critique*, it is worth noticing that in the remarks of Lambert quoted above it is easy to see his interest in the elements of our knowledge, in the simplest and most fundamental elements of our cognitions, in the source of justification for our knowledge. The question as to whether Kant had already an interest in these topics - previous to the correspondence - cannot be pursued here, but it is still worth pointing out how Kant appears at least to have adopted some expressions and terminology from Lambert. For instance, Lambert in his second letter (1766) writes:

I think this shows that if we want to avoid omissions, premature inferences, and circular reasoning, we had better work piecemeal, demanding to know at every step only what is capable of being known. I think it has been an unrecognized but perennial error in philosophy to force the facts and, instead of leaving anything unexplained, to load up with conjectures, thus actually delaying the discovery of the truth (10:63)

The just quoted passage is actually also interesting in other regards, i.e. concerning the relationship between metaphysics and science.

4. *Metaphysics is needed for science;*

At 10:62 Lambert writes:

There is no denying it: whenever a science needs methodological reconstruction and cleansing, it is always metaphysics. The universal, which is supposed to reign in that science, leads us to suppose ourselves omniscient, and thus we venture beyond the limits of possible human knowledge.

It is well-known that Kant will take up a similar position with regards to the relationship of philosophy and science, but even more interesting is the comparison with the end of the Preface of the *Institutions de Physique* of Emilie du Châtelet:

Several truths of physics, metaphysics and geometry are obviously interconnected. Metaphysics is the summit of the edifice; this summit is so elevated that our image of it often is a little blurred. This is why I thought I should begin by bringing it closer to you, so that, no cloud obscuring your mind, you might be able to have a clear and unassailable view of the truths in which I want to instruct you. (XI.)

3 Lambert's comments on the Inaugural Dissertation

Together with Kant's last letter to Lambert, he sends his "Inaugural Dissertation" . The last letter of Lambert to Kant (1771) contains three interesting comments on the Inaugural Dissertation, two of which concern Kant's characterisation of time. For the moment, I will only say couple of words on the first comment of Lambert. Then, we will get a look to how Kant characterises time in the Inaugural Dissertation, and how this resembles the *Critique*. Finally, we will address Lambert's two criticisms on time, and Kant's late response to one of these two objections in the *Critique*.

On the first comment of Lambert, already in the Inaugural Dissertation we find an opposition between knowledge obtained from sensibility and knowledge obtained from the understanding. On this, Lambert writes:

The first main thesis is that *human knowledge*, by virtue of being knowledge and by virtue of having its own form, is divided in accordance with the old *phenomenon* and *noumenon* distinction and, accordingly, arises out of two entirely different, and, so to speak, heterogeneous sources, so that what stems from the one source can never be derived from the other. Knowledge that comes from the senses thus is and remains sensible. just as knowledge that comes from the understanding remains peculiar to the understanding.

My thoughts on this proposition have to do mainly with the question of generality, namely, to what extent these two ways of knowing are so completely separated that they never come together. If this is to be shown a priori, it must be deduced from the nature of the senses and the understanding. But since we first have to become acquainted with these a posteriori, it will depend on the classification and enumeration of [their] objects. (10:105)

3.1 Kant's characterisation of time in the Inaugural Dissertation

1. "The idea of time does not arise from but it is presupposed by the senses. For it is only through the idea of time that it is possible for things which come before the senses to be represented as simultaneous or successive" (Inaugural Dissertation, 2:399)

Cfr. in the *Critique*: "Time is not an empirical concept that is somehow drawn from experience. For simultaneity or succession would not themselves come into perception if the representation of time did not ground them *a priori*" (B 46)

2. "The idea of time is singular and not general. For no time is thought of except as a part of the same one boundless time."

Cfr. in the *Critique*: " (4)Time is no discursive or, as one calls it, general concept, but a pure form of sensible intuition. Different times are only part of one and the same time [...] (5) The infinitude of time signifies nothing more than that every determinate magnitude of time is only possible through limitations of a single time grounding it/" (B 47)

3. "Therefore, the idea of time is an intuition. And since, insofar as it is the condition of the relations to be found in sensible things, [...] it is a pure intuition."

Cfr. in the *Critique*: "(2) Time is a necessary representation that grounds all intuition. In regard to appearances one cannot remove time ..." (B46)

4. "Time is a continuous magnitude, and it is the principle of the laws of what is continuous in the changes of the universe. For the continuous is a magnitude which is not composed of simples."

Cfr. in the *Critique*: "The property of magnitudes on account of which no part of them is the smallest (no part is simple) is called their continuity. Space and time are *quanta continua*, because no part of them can be given except as enclosed within boundaries ..." (B 211)

5. "Time is not something object and real, nor it is a substance, nor an accident, nor a relation. Time is rather the subjective condition which is necessary in virtue of the nature of the human mind."

Cfr. in the *Critique*: "Time is not something that would subsist for itself or attach to things as an objective determination" (A 32)

6. "Although time posited in itself and absolutely would be an imaginary being, yet, in so far as it belongs to the immutable law of sensible things as such, it is in the highest degree true."

Cfr. in the *Critique*: "Our assertions accordingly teach the *empirical reality* of time, i.e. objective validity in regard to all objects that may have ever be given to our senses. And since our intuition is always sensible, no object can even be given to us in experience that would not belong under the condition of time. But, on the contrary, we dispute all claim of time to absolute reality, namely where it would attach to things absolutely as a condition or property even without regard to the form of our sensible intuition. Such properties, which pertain to things in themselves, can never be given to us through the sense. In this therefore consists the *transcendental ideality* of time, according to which it is nothing at all if one abstracts from the subjective conditions of sensible intuition ..." (A 35-6)

7. "Time is an absolute first formal principle of the sensible world."

Cfr. in the *Critique*: "Time is the *a priori* formal condition of all appearances in general ..." (B 50)

3.2 Lambert's criticism of Kant's characterisation of time

The first point of criticism of Kant's characterisation of time is that Lambert holds that time is not the most general concept with regards to change and events, duration is.

It [time] differs from *duration* in the way *location* differs from *space*. It is a particular determination of duration. Moreover, it is not an accident that perishes along with substances, and so on. These propositions may all be correct, they lead to no definition, and the best definition will always be that time is time. Time is a more determinate concept than duration, and for that reason, too, it leads to more negative propositions. For example, whatever is in time has some duration. But the reverse does not hold, in so far as one demands a beginning and an end for "being in time". Eternity is not in time, since its duration is absolute. Any substance that has absolute duration is likewise not in time. Everything that exists has duration, but not everything is in time, and so on (10:106-7)

In this passage, Lambert objects that time is not the most general concept concerning the happening of changes and events, but rather it is a particular determination of the more general concept of duration. A similar thought is expressed couple of lines after:

A long time is an interval of time or of two moments [*intervallum temporis vel duorum momentorum*] and means a definite duration. At this or that time, and so on, is either a definite moment, as in astronomy, the time of setting, of rising [*tempus immersionis, emersionis*], and so on, or a smaller or larger interval preceding or following a moment, an indefinite duration or point in time, and so on. You will gather easily enough how I conceive location and space. Ignoring the ambiguities of the words, I propose the analogy,

$$\text{Time : Duration} = \text{Location : Space}$$

(10:107-8)

The second point of criticism from the side of Lambert concerns the reality of time. Recall that already in the Inaugural Dissertation Kant claims that time considered in itself is an imaginary entity, whereas as a condition of our sensible experience it must be treated as absolutely real. Since this will become in the *Critique* the empirical reality/ transcendental ideality of time, I will just refer to this distinction in terms of empirical reality and transcendental ideality. Lambert objects to this in the following manner: “If changes are real, and changes can only happen in time, then time is real. If time is unreal, then no change can be real.” (10:107)

All changes are bound to time and are inconceivable without time. If changes are real, then time is real, whatever it may be. If time is unreal, then no change can be real. I think, though, that even an idealist must grant at least that changes really exist and occur in his representations, for example, their beginning and ending. Thus time cannot be regarded as something unreal. (10:107)

A similar point is repeated at the end of the Lambert’s letter:

Till now I have not been able to deny all reality to time and space, or to consider them mere images and appearances. I think that every change would then have to be a mere appearance too. And this would contradict one of my main principles (No. 54, Phenomenology). If changes have reality, then I must grant it to time as well. Changes follow one another, begin, continue, cease, and so on, and all these expressions are temporal. [...] Time and space will be real appearances [...] I must say however that an appearance that absolutely never deceive us could well be something more than mere appearance (10:110)

It is interesting to notice that Lambert objects to the possibility that time might not be real while changes are real, without ever questioning the bridging assumption, i.e. that changes are only possible in time. This assumption, is clearly in place in Kant’s Inaugural Dissertation, e.g.:

Hence, it is only in time that the possibility of change can be thought, whereas time cannot be thought by means of change, only *vice versa* (2:401)

3.3 Kant’s response in the Critique

Even though Kant expresses always great admiration for Lambert (see 10:55, 10:277), he never answers to the Lambert’s letter with the objections to his theory of time. He will however include an “response” in the *Critique*, as we find clearly written in a letter to Bernoulli dated 1781 where Kant writes:

The excellent man [Lambert] had made an objection to the ideas concerning space and time, that I had expressed, and objection that I answered in the *Critique of Pure Reason*, pages 36-38 (A 36-39, B 53-5)

Kant’s answer in the *Critique* is what we would expect:

I admit the whole argument. Time is something real, namely the real from of inner intuition.

4 Further questions

1. Influence of du Châtelet on Lambert’s thesis that metaphysics is needed for science?
2. How much Lambert’s criticism of the “Leibnizian method” is actually directed towards the Wolffian version of rationalism?
3. Parallelism between Du Châtelet synthesiser of Newton and Leibniz and Lambert with Locke and Wolff;
4. Influence of Lambert on Kant’s conception of mathematics, in particular with regards to the difference between mathematical and philosophical method?
5. Interesting remarks in the Inaugural Dissertation on the continuity of space and time (especially in comparison with the *Critique*). There, Kant claims that we cannot intuit *quanta continua* and *infinita* (2:308), while later submitting that space and time are *quanta continua* (2: 399). This contrast seems to be addressed by Kant through the topic of *limits* (2: 405-6). For instance:

In these intuitions [space and time], the parts and, in particular, the simple parts do not as the laws of reason prescribe, contain the ground of the possibility of a compound. But, following the paradigm of sensitive intuition, it is rather the case that *the infinite contains the ground* of each *part* which can be thought, and ultimately, the ground of the simple, or rather, of the limit. For it is only when both infinite space and infinite time are given that any definite space and time can be specified by limiting. neither a point nor a moment can be thought in themselves unless they are conceived of as being in an already given space and time as the limits of that same space and time. [...] (10:405)

Bibliography

DU CHÂTELET, Emilie: *Institutions physique*. English translation: *Selected philosophical and scientific writings*, University of Chicago Press, 2009.

KANT, Immanuel: *De mundi sensibilis atque intelligibilis forma et principiis* (AA 02). English translation: *Theoretical Philosophy, 1755–1770*. Cambridge, Cambridge University Press, 1992.

KANT, Immanuel : *Kritik der reinen Vernunft* . English translation: *Critique of Pure reason*. Cambridge, Cambridge University Press, 1998.

KANT, Immanuel : *Briefe* (AA 10–13). English translation : *Correspondence*. Cambridge, Cambridge University Press, 1999.

LAMBERT, Johan H. : *Nues Organon*. Italian translation: *Nuovo Organo*. Editori Laterza, 1977.