

# Herder's Theory of Common Sense: The Birth of the Concept of Synesthesia

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## Introduction

This is an essay on the concept of “common sense (*sensus communis*)”. It may be the Kantian one that should be first mentioned in the history of aesthetics. As well known he maintained in the *Critique of the Power of Judgment* (1790) that the faculty to judge the beautiful or “taste” is subjective but can lay claim to universal validity and gave this faculty the name of “common sense”. Here this concept might make a drastic transformation from the “sound human understanding” (in Scottish School like Reid and in German Popular Philosophy like Mendelssohn) to the faculty working in the mental status prior to the formation of concepts (= taste).

However, this transformation took place only in one side. For we can, roughly speaking, hardly find a marked difference between the common sense as “taste” in Kant and the one as “sound human understanding” in that both of them mean “the sense common to all people”, but this concept has been also used as “the sense common to all five senses”. This use, which can be traced back to Aristotle, seems, however, to “exist only as subliminal stream in the preindustrial modern times”[1]. The aim of this essay is to illuminate this use of the concept of common sense as “the sense common to all five senses”. For this aim I take up Herder's theory of common sense to be integrated into the saying “we are a thinking sensorium commune” (Herder 1985-2000, I 743f.) from the *Treatise on the Origin of Language* (1772). It has received increasing attention of many thinkers like Cassirer (Cassirer 1994, III 37-41) or Merleau-Ponty (Merleau-Ponty 1945, 271). It is in the context to introduce the concept of “synesthesia” into philosophy. Synesthesia, namely a phenomenon in which one type of stimulation evokes the sensation of another - for example “color-hearing” where a person sees color when he or she hears tones - has been reported since ancient times, its medical or psychological researches have developed from the second half of the 19th century - though it is only in this about 30 years that the researches have developed in a real sense - and today many thinkers have an expectation that in this strange phenomenon we can get a clue to explain (one of) the sensory side of human being. And it is Herder's saying above that is often mentioned as its beginning [2]. I have, anticipating the conclusion, no reluctance in seeing Herder as a pioneer of the concept of synesthesia. But the previous views that Herder is a pioneer of the concept of synesthesia do not show enough reason. In this essay I shall discuss what did Herder mean by saying “we are a thinking sensorium commune”, in which context did he so [3] and finally why can he be seen as a pioneer of the concept of synesthesia - as that which opens up new horizons for the concept of common sense as “the sense common to all five senses”.

## 1. Herder on Sensorium commune

### 1.1. Sensorium commune as the Assumption of the Theory of (the Origin of) Language

Herder said “we are a thinking sensorium commune” as an answer to the question “how are sight and hearing, color and word, scent and sound, connected?” (Herder 1985-2000, I 743). This shows already how much interest in the problem of the connection of the five senses did he have, but why does such a problem arise in the theory of (the origin of) language?

The aim of the *Treatise of the Origin of Language* is to show that the origin of language lies not in the God but in the human being in itself [4]. For this aim, based on an anthropological observation that “the sensitivities, abilities and drives to art of the animals increase in strength and intensity in inverse proportion to the size and diversity of their circle of efficacy” (Herder 1985-2000, I 713), Herder describes the human being as a kind of defective animal which lacks what in the case of the other animal species we call “instinct” (711). In spite of such a defec-tion, the human being can survive in this world because he has “the freely effective positive force of his soul” (719) instead of the instinct. Herder calls therefore the human being “a crea-ture with awareness (ein besonnenes Geschöpf)” (ibid.). This “awareness (Besonnenheit)”, i.e. reason in the broader sense, makes the human being what it should be, but at the same time makes also language possible. It is therefore when the human being can “acknowledge” one as distinguished from another by means of a “characteristic mark” that he or she takes awareness, and Herder sees the original form of language in this “characteristic mark” which makes “acknowledgment” possible (722f.).

Herder gives the following example:

Let that lamb pass before his eyes as an image. . . . As soon as he develops a need to become acquainted with the sheep, no instinct disturbs him, no sense tears him too close to the sheep or away from it; it stands there exactly as it experiences itself to his senses. White, soft, woolly - his soul, operating with awareness, seeks a characteristic mark - the sheep bleats! - his soul has found a characteristic mark. The inner sense takes effect. This bleating, which makes the strongest impression on the soul, which tore itself away from all the other properties of viewing and feeling, jumped forth, penetrated most deeply, remains for the soul. The sheep comes again. White, soft, woolly - the soul sees, feels, takes awareness, seeks a characteristic mark - it bleats, and now the soul recognizes it again! “Aha! You are the bleating one!” the soul feels inwardly. The soul has recognized it in a human way, for it recognizes and names it distinctly, that is, with a characteristic mark. . . . “The sound of bleating, perceived by a human soul as the distinguishing sign of the sheep, became, thanks to this determination to which it was destined, the name of the sheep, even if the human being’s tongue had never tried to stammer it.” The human being recognized the sheep by its bleating; this was a grasped sign on the occasion of which the soul distinctly recalled to awareness an idea. What else is that but a word? And what is the whole of human language but a collection of such words? So even if the human being never reached the situation of conveying this idea to another creature, and hence of wanting or being able to bleat forth this characteristic mark of taking-awareness to it with

his lips, still his soul has, so to speak, bleated internally when it recognized the sheep by it. Language is invented! Invented just as naturally, and as necessarily for the human being, as the human being was a human being. (723f.)

In this example (the sound of) bleating of the sheep is a characteristic mark. The human being hears bleating of the sheep with awareness, and when he or she meets it again, he or she recognizes it as “the bleating one”. Thus he or she brings the sheep into language as “the bleating one”.

But this example can explain only the scene to bring “the bleating one” or widely sounding things into language, not silent things. Of course we have words expressing silent things. How can this be explained? For the solution of this aporia Herder introduced that question “how are sight and hearing, color and word, scent and sound, connected?” By asking so he tries to explain the scene to bring silent things (color, scent etc.) into language, not separately but at first by securing the connection between tones and these (silent) properties and then by unifying the characteristic marks into tones.

To this question Herder answers as follows:

Not among themselves in the objects. But what, then, are these properties in the objects? They are merely sensuous sensations in us, and as such do they not all flow into one? (743)

He answers, namely, that color, scent etc. are connected in the way that they “flow into one” (as “sensuous sensations in us”). What is the “one”? As the subsequent sentence “feeling forms the basis of all the senses, and this already gives to the most diverse sensations . . . inward, strong, inexpressible bond” (744) shows, it is “feeling (Gefühl)”. And it is those saying “we are a thinking sensorium commune” that lies between these two citations. So this saying means that the five senses are at bottom one and the same as feeling.

Here Herder refers to such examples as “children and formerly blind people” testifying that “even . . . vision was . . . to begin with only feeling” (745). That is, the so-called “Molyneux’s problem” or the problem whether, if a person born blind can feel the differences between shapes such as spheres and cubes, could he or she similarly distinguish those objects by sight if given the ability to see, which had been heatedly discussed since Locke’s *An Essay Concerning Human Understanding* (1690, II.ix.8), and the answer to this, based on the experimental date, that when a person born blind was first able to see, he or she did not know the shape of a thing and could not recognize one thing from another [5]. From this Herder shows a model that feeling “unfold[s] . . . through hearing . . . to still finer sensuality [=vision]” (Herder 1985-2000, I 749). Thus the five senses are explained genetically as those which are differentiated and metamorphosed in the process of development of individuals from one sense which “forms the basis of all the senses”, namely “feeling”. And we see the five senses as distinguished only because “with much effort we learn to separate them in use” (744f.), but in the complete phase of development we forget this process of learning.

From the above Herder’s saying “we are a thinking sensorium commune” may be interpreted sensorially as follows for now: the human being exercises their five senses together,

based on that they are originally one and the same as feeling [6], even in the developed and differentiated phase and is exposed to the outside world by exercising all five together.

### 1.2. Sensorium commune as the Consequence of the Criticism on the Immediate Perception of the Beautiful

The above theory of common sense in the *Treatise on the Origin of Language* is the one which the claim that language is generated only through ear by acknowledging the sounding characteristic marks required. So if this claim fell down, such a theory of common sense would lose its validity. In fact Herder seems hardly to prove this claim. This is, however, only one side of his theory of common sense. We have to consider another side of his theory of common sense, that is, theory of common sense in his aesthetics.

In the *Critical Forests* (1769, 4th Grove) Herder takes up the problem of the connection of the five senses as follows:

Tone and color, eye and ear - who can commensurate them? And where creatures lack a common organ of sensation, as it were, who can unite them? But does this disunity abolish the laws of beauty and grace as such? Can anyone prove that there are no certain rules whatsoever relating to these qualities in the objects themselves? (II 283)

At first sight, Herder seems to doubt the connection of the five senses. If it were impossible to “commensurate” and “unite” “tone and color” or “eye and ear”, “the laws” or “rules” “of beauty and grace” would be lost. But it is “where creatures lack a common organ of sensation”. Thus this citation has to be interpreted as follows: the human being, which “a common organ of sensation” - a sensorium commune - is, can “commensurate” and “unite” both “tone and color” or “eye and ear” and is therefore endowed with “the laws” or “rules” “of beauty and grace”.

So Herder says that “feeling is, as it were, the first, surest and truest sense to develop; . . . and only over time are the other senses unfurled from it” (325) and that they “operated together and conjointly” (297) [7]. He has already got the viewpoint that the human being is a “sensorium commune” in that his or her five senses are originally one and the same as feeling and operate together even in the developed and differentiated phase, prior to and without presuming his theory of (the origin of) language according to which language is generated only by hearing.

It is the basic policy of (the 4th Grove of) the *Critical Forests*, that is, the criticism on Riedel’s *Theory of the Fine Arts and Sciences* (1767) that required such a theory of common sense. At the beginning of (the 4th Grove of) the *Critical Forests* Herder cites Riedel’s doctrine that “the beautiful”, which is the “ultimate end” of the human being besides “the true” and “the good”, is perceived by means of “taste” or “a special fundamental faculty” “by which the soul is immediately convinced of the beautiful” “without rational inferences” (Riedel 1767, 7f. =Herder 1985-2000, II 250). But according to Herder taste is “nothing more than a habitual application of our judgment to objects of various kinds” (256). That is, “a reflective operation of the soul” (253), by no means the one to perceive the beautiful “immediately”. Thus Herder takes up what does not perceive the beautiful immediately for, as it were, the methodic skepticism [8]. In the end he reached the standpoint that “there is nothing in the world of which I am immedi-

ately convinced . . . other than that I exist, that I feel" (Herder 1985-2000, II 252; cf. IV 236) - not Cartesian "cogito, ergo sum" but "sentio, ergo sum" [9].

Herder's claim to place feeling in the basis of the five senses comes from here. So his theory of common sense is not only the assumption of the theory of (the origin of) language but also the consequence of the criticism on the immediate perception of the beautiful. In this respect it plays a role of the hinge to link the theory of (the origin of) language and aesthetics.

## **2. Synesthesia: From a Viewpoint of Contemporary Neuropsychology**

Then why can such a theory of common sense be seen as a pioneer of the concept of synesthesia? Now I shall answer this question first by making it clear what is synesthesia exactly and then by solving the problem why can none of the earlier concepts of common sense (as "the sense common to all the five senses") than Herder be seen as synesthesia (this is lacking crucially in the previous views that Herder is a pioneer of the concept of synesthesia).

### **2.1. What Is Synesthesia, How and Where Dose It Occur?**

As shown (provisionally) in the introduction of this essay, synesthesia is "a phenomenon in which one type of stimulation evokes the sensation of another". The subject of this essay is, however, not such a "synesthetic metaphor" as "cool tone" or "sweet color" but the one as a physiological phenomenon. In order to limit the subject of research to the physiological one and to avoid muddle, it is proper to refer to the clinical features which Cytowic, one of the leaders of this researches, showed to diagnose synesthesia. According to him it is diagnosed as (1) to be involuntary (=unable to be conjured up at will) and elicited by the external stimuli (2) to be projected (=perceived outside the body rather than "in the mind's eyes") (3) to be durable, discrete and generic (=the second sensation to be led by the first stimulation is limited to almost one and unchangeable for a lifetime: for example, a synesthete who sees blue in a particular pitch of a piano does not see it in various colors such as red, white, black . . . but rather blue for a lifetime) (4) to be memorable (5) to be emotional and noëtic [10]. Based on these diagnostic criteria he tried then to locate where it occurs in the brain. By measuring the regional cerebral blood flow (rCBF) of the synesthete just experiencing it and getting the result that the metabolism in the cerebral cortex during experiencing it decreases abnormally (=it occurs not in the cortex), he drew a conclusion that it occurs in the limbic system which is located inside and formed prior to the cortex [11]. And he explains finally that "parts of the brain get disconnected from one another . . . , causing normal processes of the limbic system to be released, bared to consciousness, and experienced as synesthesia" [12].

It is true that this explanation is no more than hypothesis based on measuring rCBF of only a few synesthetes and there are also other explanations [13], but it seems at present most plausible (at least in properness of the diagnostic criteria and inference from them), so we shall continue referring to it. Here it is important to point out that before measuring rCBF Cytowic anticipated that synesthesia occurs in the limbic system, at least not in the cortex, and measured rCBF only to substantiate this anticipation. This is because the features of synesthesia appearing from the diagnostic criteria show already that this phenomenon does not occur in the cortex.

The cortex is the latest formed part of the brain and processes such (most) abstract information as language (the limbic system, in contrast, processes mainly emotion). If synesthesia occurred in the cortex, a cross-talk or connection of the senses would appear abstractly, transmitted by a kind of word or sign with meaning. But synesthesia is not experienced so. It is perceived to be spatially extended, discrete and durable and therefore not abstract but very concrete experience. For example a synesthete sees a particular color blue in a particular pitch of a piano. An abstract meaning shown by such a word as “blue” or “piano” does not intervene here. With the criterion to be “memorable” Cytowic gives the following example:

Suppose you meet Ethel and see a green blob. The next time she comes around you don't say, “Oh, it's Ethel,” you say, “Hey, it's green blob.” You remember the sensation better than her name. When you find out her name again, then you're sure because the synesthesia that goes with it is exactly the same as it was the last time. (Cytowic 2003, 94)

## 2.2. Synesthesia versus (Aristotelian) Common Sense

In the process of such an inference Cytowic meets (as expected) Aristotelian theory of common sense. It must be noticed that he looks on the view that synesthesia occurs in the cortex as dependent on Aristotelian theory of common sense [14]. Aristotle divided “the objects which are (directly) perceptible” between “what is perceptible by a single sense” and “what is perceptible by any and all of the senses”. The former is color for sight, sound for hearing, flavor for taste etc.. In contrast there is no sense to perceive particularly movement, rest, number, figure, magnitude etc.. But we perceive actually these properties. For example we can perceive movement of an object either by sight or by hearing. If so, these properties must be “sensibles common to all the senses” and in order to perceive them there must be “a sense common to all the senses” - In this way Aristotle came up with the assumption of the existence of “common sense”.

Aristotle assigned this common sense a function to discriminate between different modalities of the senses. For example sight discriminates between whiteness and blackness and taste between sweetness and bitterness. Then how are whiteness and sweetness discriminated (of course we actually discriminate between them)? Neither by sight nor by taste. Here common sense is required to discriminate between such different modalities of the senses as whiteness and sweetness.

Then if we apply such a theory of common sense, how can we explain the phenomenon of synesthesia? We may explain it as a state in which common sense fails to discriminate between different modalities. Why does it fail? It may be because of “sensibles common to all the senses”. That is, synesthesia can be explained as a state in which common sense is too confused by abstractness of properties “common to all the senses” like movement, rest, number, figure, magnitude etc. to discriminate between different modalities.

Aristotelian common sense is therefore a faculty to grasp abstract properties. If to this theory is added the result of contemporary neuroscience according to which the cortex processes abstract information [15] and abstract properties “common to all the senses” are replaced by a kind of word or sign, we can reach the view that “synesthesia occurs in the cortex, which processes the most abstract information, as a cross-talk or connection of the senses to be trans-

mitted by a kind of word or sign”.

However, both Cytowic's anticipation based on diagnosis of synesthetes and result of measuring rCBF disproved such a view that synesthesia occurs in the cortex. So he says that synesthesia is “almost the exact opposite of Aristotle” (Cytowic 2003, 91). While the latter is “a subtractive experience . . . pouring the experience of touch, taste, and smell through a coffee filter that held some qualities behind and only let abstract ideas like length, pointedness, or depth pass through”, the former is “an additive experience . . . combin[ing] two or more senses into a more complex experience without losing their own identities” (92).

Though Aristotelian common sense means thus “the sense common to all the five senses”, it does not embrace synesthesia but both of them make a pair. This is a schema that the contemporary neuropsychology explained. When we see Herder's theory of common sense in this schema, which consequence do we reach? Though it comes already in our view, I shall deal with this problem.

### 3. Herder as a Pioneer of the Concept of Synesthesia

It was because Aristotelian common sense is a faculty to abstract that it is not synesthesia. In contrast Herder's “sensorium commune” is not a faculty to abstract. It is true that he did not say in the *Treatise on the Origin of Language* that the human being is a mere “sensorium commune” but “a ‘thinking’ sensorium commune”. Thinking is nothing but a faculty to abstract. But to be a “sensorium commune” for the human being is undoubtedly the other matter than to be a “thinking” creature. For to “think” is to acknowledge characteristic marks with awareness, but because it is possible only by hearing, then to think=to acknowledge silent things requires connection and cooperation of the five senses - to be a “sensorium commune” - in advance.

This may be understood more clearly by remembering the position of the theory of common sense in (the 4th Grove of) the *Critical Forests*. There Herder claimed that taste, thought allegedly as the faculty to perceive the beautiful immediately, is in fact “a reflective operation”, prior to which the state of “sentio, ergo sum” exists. There must be no reflection or operation of abstraction in the human being as a “sensorium commune” which is an extension of such a self-feeling state (at least in this phase) [16].

This is the first concept of common sense which is not the faculty to abstract in the history of ideas [17]. Here the sensibles which are perceived by the different - seen from the developed and differentiated phase - senses “flow into one” without losing their particularities and concreteness. Of course it is possible in this case that the senses connect or fuse. Immediately after saying “feeling forms the basis of all the senses”, Herder reports in fact “the strangest phenomena” arisen from this connection as follows:

I am familiar with more than one example in which people, perhaps due to an impression from childhood, by nature could not but through a sudden onset immediately associate with this sound that color, with this phenomenon that quite different, obscure feeling. . . .  
(Herder 1985-2000, I 744)

This is none other than the example of synesthesia [18]. Of course there was no word or concept “synesthesia” in Herder’s time. But his theory of common sense seems to anticipate considerably the mechanism of occurrence of synesthesia which has been revealed only in this about 30 years by the neuropsychological researches.

## Conclusion

In this essay I limited the subject to synesthesia as a physiological phenomenon and understood it entirely dependent on the result of neuropsychological researches. But I did so not because I intended to reduce the philosophical or aesthetic argument about synesthesia one-sidedly to the natural scientific one without paying attention to difference of method [19] but because the result of natural scientific researches on synesthesia shows a very important suggestion to understand that the human being is a (rational and) sensory creature.

What is the suggestion? Let’s remember the difference between the cortex and the limbic system. The former processes more abstract information and was formed later than the latter. This can easily give the image that the outer stimuli are carried from (the brain stem via) the limbic system to the cortex linearly and processed as information; the abstract information processed in the cortex is therefore a medical barometer to distinguish the human being from other animals. However, according to the view of contemporary neuroscience it is false. “The flow of neural impulses is not linear, but parallel and multiplex” (Cytowic 2003, 156) and it is not unusual that the information processed in the cortex is fed back into the limbic system. Yes, “the number and nature of the recursive feedback circuits ensures that the influence of the limbic system is greater” (161). If so, we have to find the barometer to distinguish the human being from other animals not in the cortex processing abstract information but in the limbic system concerning emotion. And that synesthesia occurs in this limbic system will mean as follows: synesthesia shows us, however slightly, the not abstract information processed in this area, that is, emotion which is one of the sensory side of the human being - this is normally hidden under the abstract information processed in the cortex.

Cytowic calls those who can experience such synesthesia themselves (=synesthetes) “cognitive fossils”, not negatively because they are left behind in the evolution, but positively “because they are fortunate to retain some awareness, however slight, of something that is so fundamental to what it means . . . to be human” (167). Herder understood already “something that is so fundamental to what it means to be human” under the term of “sensorium commune”. Here “something that is so fundamental to what it means to be human” was moved from the faculty to abstract into the sensory side - that we can today see in the phenomenon of synesthesia in a typical way - in terms of the traditional philosophical or aesthetic concept of common sense. This move is no less drastic, but absolutely other transformation of the concept of common sense than Kant and, following the young Herder’s own saying, the “restriction of philosophy to anthropology” (Herder 1985-2000, I 123).



## Notes

- [1] Nakamura 2003, 16. Then Nakamura asks “how are the sense common to all people and the sense common to all five senses connected each other as two sites of one and the same common sense and in which relation do they stand each other” and answers - though hypothetically - that “the synthetic and holistic faculty of perception to be based on the unification of the various sensations in the individual (the sense common to all five senses) corresponds quasi the unimpaired own power of judgment common to the people of a certain society (the sense common to all people), where the former makes the base of the latter. The latter is the outer appearance of the immanent former” (18). As I show later, this essay concentrates only on (the concept of common sense as) “the sense common to all five senses”, but it may be necessary to consider the relation between the two kinds of the concept of common sense in such a viewpoint.
- [2] As an interdisciplinary anthology collecting the results of latest researches on synesthesia (not only the synesthesia in a narrow sense I describe later but the common sense as “the sense common to all five senses”), see Adler ed. 2002. Also over Herder discusses the editor Adler himself those “totality of aisthesis” as a kind of the synesthetic. As long as I know, there is no historical survey of synesthesia as a philosophical or aesthetic concept (Nakamura says, too, that “the problem would not develop so well” [Nakamura 2003, 259]) except such entries as Lühe 1998 and Paetzold 2003 (both of them see Herder as a pioneer of this concept).
- [3] On the saying “we are a thinking sensorium commune” itself, there are already many studies (see e.g. Zeuch 2000, 142-48; Gaier 2003 as the latest), so I add here no new or original interpretation.
- [4] This treatise is the answer to the question “supposing men abandoned to their natural faculties, are they in a position to invent language? And by what means will they arrive at this invention?”, which the Berlin Academy asked in order to mediate between the then president of the Academy Maupertuis maintaining the human origin of language and Süßmilch maintaining the divine origin, and won the first prize. It is clear that this question demands the criticism on the divine origin of language. That is, it is impossible to answer the second question without answering the first question with yes. In fact, Herder's argument which we shall now see satisfies this demand (otherwise he couldn't have won the first prize). It is pointed out that it is disputable whether his argument was his real thought (cf. Saitō 1996), but I depend here only on the published text.
- [5] For this problem, see e.g. Morgan 1977; Utz 1990, 19-25; Degenaar 1996.
- [6] “Feeling” in this argument supporting the original homogeneity of the five senses is by no means the same as feeling in a narrow sense as one of the developed and differentiated five senses (= touch). It should be noted that Herder uses throughout the term “Gefühl” and not “Tastsinn” (or the like) at all and that this “Gefühl” is a very ambiguous word meaning not only “touch” but also “emotion” or “sentiment”.
- [7] For this point, see also Otabe 1990.
- [8] This can mean on the one hand that Herder's criticism on Kant's aesthetics in *Calligone* (1800) does not come out only after the publication of the *Critique of the Power of Judgment* (or the controversy in the philosophy of history before it) but can be traced back to this *Critical Forests*. But on the other hand Herder owes the standpoint of the criticism on the immediate perception to Kant - though precritical. For as the phrase “the Crusian-Riedelian maze” (257) shows, Herder criticizes not only Riedel but also Crusius, whom Kant also criticized in the same way in the *Inquiry Concerning the Distinctness of the Principles of Natural Theology and Morality* (1764: Kant 1902-, II 293-96). Herder followed such a criticism already in the *Fragments on Recent German Literature* (1767: Herder 1985-2000, I 421f.) before the *Critical Forests*. For this point, see Irmischer 1987, 55f..
- [9] For this point, see e.g. Zeuch 1998; Mellmann 2002.
- [10] Cf. Cytowic 2003, 73-76. For this essay which limits the subject to synesthesia as the physiological one and distinguishing it from metaphor, the 3rd criterion to be “discrete” is the most

important. For it is possible for non-synesthete to pretend to be synesthete by using synesthetic metaphor, because synesthesia is “a condition knowable only through the reports of those who claimed to experience it” (73), but a test using the 3rd criterion to advance is effective to find such pretenders out. In this test, people are asked to report too many times (to remember) which sensation is evoked by which type of stimulation. It must result in that synesthetes report definite patterns of matching, whereas non-synesthetes report diffusely. In fact, Cytowic reports the expected result of the matching test which asked a color-hearing synesthete and a non-synesthetic control to report 432 times (99-110). From now on I use the word “synesthesia” only as the physiological phenomenon unless I notice.

- [11] Cf. 144-52; 166. So the limbic system is called also “the paleo-mammalian brain” and cortex, in contrast, “the neo-mammalian brain” (19-21).
- [12] 163. So synesthesia is by no means (mental) illness, and Cytowic suggests asking “why are some people consciously aware of synesthesia?” rather than “why do only some people experience synesthesia?” (165). Moreover, the percentage of synesthetes was estimated to be 1/100,000 (6) when he began to research on synesthesia (1980s), but probably because the increasing people have declared themselves to be synesthetes through (the spread of) the result of his research according to which synesthesia is not illness, in 1995 he adjusted upward “1/25,000” (Cytowic 1995). This percentage will continue to increase.
- [13] Here I mention two other explanations. 1) Harrison and Baron-Cohen proposes the “modularity theory”, according to which “in order for us to ‘know’ that a percept is visual, auditory, olfactory and so on, we must have developed a method of identifying information as being of one sensory kind or another. There is therefore likely to be a modular structure to sensation which allows for discrete identification of information as specific to sensory system. . . . Whereas in non-synaesthetes audition and vision are functionally discrete, in individuals with synaesthesia a breakdown in modularity has occurred” (Harrison & Baron-Cohen 1997, 119). On the one hand they describe Cytowic’s hypothesis as “the most controversial” and criticize that “he has no direct evidence to implicate a particular neural structure, given the ‘stunning shut-down of the cortex’ (Cytowic 2003, 152)” and “whilst considerable differences in rCBF were found in the comparison of control subjects with synaesthetes . . . , none of these differences were reported to be in the limbic system” (113f.). On the other hand they “recognize that they [=the various theories of the cause of synaesthesia] are not necessarily mutually exclusive” (120). 2) Ramachandran proposes the “‘cross-activation’ theory” according to which synesthetes have “some accidental cross-talk, or cross-writing”, based on the fact that “the most common type of synesthesia is number/colour synesthesia and the number area and colour area are right next to each other in the same part of the brain” and the “imaging experiments on people with synesthesia” which “suggest that showing black and white numbers to a synesthete produces activation in the colour area of the fusiform gyrus” (Ramachandran 2003, 76-78). This is different from Cytowic’s hypothesis in that the fusiform gyrus is in the cortex, but similar in that Ramachandran thinks that this cross-talk or cross-writing occurs because “we are all born with excess connections in the brain. In the foetus there are many redundant connections which get pruned away to produce the modular architecture characteristic of the adult brain. What . . . has happened in these people is that the ‘pruning’ gene is defective, which has resulted in cross-activation between areas of the brain” (80) - in short, we are all born as synesthetes, but most of us lose this ability over years (because we do not need it) and only those who continue to hold it accidentally can experience synesthesia - and that “the fusiform gyrus represents the visual appearance of numbers and letters, not the abstract concept of sequence or ordinality” (ibid.) - in short, synesthesia is not abstract but concrete experience, as I shall say now according to Cytowic.
- [14] 84-88. Here he refers to the book II, part 6 and book III, part 2 of Aristotle’s *On the Soul* at discretion.

- [15] Aristotle thought common sense to be in the heart (*On Youth, Old Age, Life and Death* [in the *Parva Naturalia*], 469a12). It is Descartes in the *Treatise of Man* (written in 1632-33, published posth. in 1664) who followed such a theory of common sense with moving it (along with imagination) to (the pineal gland in) the brain (Descartes 1996, XI 176).
- [16] But Herder's final goal is to grasp thinking (or cognition) and sensation as unified or continuous. It is mainly in *On the Cognition and Sensation of the Human Soul* (1778) that he developed such a thought.
- [17] Such an appraisal can evoke the objection that it is too much to say "for the first time in the history of ideas" because I never mention the other theories of common sense after Aristotle up to Herder and exclude the possibility to see them as synesthesia. Here I cannot afford to study all the theories of common sense after Aristotle up to Herder, but Descartes, for example, follows Aristotelian theory of common sense at least in that it is a faculty to abstract (see n. 15). Among the immediately preceding generation to Herder, Rousseau mentions in *Émile* (1762) "common sense" which "results from the well-regulated use of the other five" (called also "a sort of sixth sense" probably under the influence of Du Bos et al.), but it "teaches us the nature of things" or "ideas" and thus a faculty to abstract, too (Rousseau 1959-96, IV 417). In addition, Herder himself criticizes "all dissections of sensation in the case of Buffon's, Condillac's and Bonnet's sensing human" as "abstractions" (Herder 1985-2000, I 745). Only to such an extent I concluded "for the first time in the history of ideas". On this point Thiele, whose dissertation is the almost first study on Herder's thought from the viewpoint of synesthesia, says - though points out rightly that "synesthesiae begin . . . already before the perceptions" (Thiele 1989, 78) - that "those who experience synesthesia experience with it probably only consciously what others experience in the state of the genesis of significance" (123), but it is the other way around as this essay showed.
- [18] This means that Herder can be seen as a pioneer of the concept of synesthesia also because he referred to an example of synesthesia in a philosophical or aesthetic work for the first time. In the past, Locke's reference to the man who said "scarlet" is "like the sound of a trumpet" (*An Essay*, IV.iii.11) was seen as the first time (cf. Lühe 1998; Paetzold 2003), but he is "blind". Namely, he did not really experience scarlet and according to our diagnostic criteria we can hardly see it as synesthesia (but interpret in terms of the Molyneux's problem). Also Herder mentioned the same man in (the 4th Grove of) the *Critical Forests* (Herder 1985-2000, II 298).
- [19] Here I expect a criticism that I should deal with synesthesia in an own way of philosophy or aesthetics different from the natural scientific one. As an example for such an attempt, see a series of Böhme's studies on synesthesia from the viewpoint of (new) phenomenology (cf. Böhme 1995, 85-98; Böhme 2001, 87-100; Böhme 2002) or a reference to synesthesia in Seel's "aesthetics of appearing" (cf. Seel 2000, 57-60). I expect also a criticism that we can understand synesthetic metaphor as an artistic expression (under which I think "synesthetic poems" in the French symbolism like Rimbaud or Baudelaire) not in my standpoint that does not allow synesthesia abstractness but in the semantic standpoint. I can no longer answer such criticisms, but let me excuse that I wrote this essay under the prospect that supposing synesthesia as a physiological phenomenon makes synesthetic metaphor as an artistic expression possible (Ramachandran thinks that "it might tell us about the things like metaphor" [Ramachandran 2003, 74], too).

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