

Lisa Birke

Graduate Seminar: Bojana Videkanic

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Presentation/Essay:

The Philosophy Lobe: Jean-Francois Lyotard's: *Lessons on the Analytic of the Sublime*  
meets Cognitive Neuroscience.

Over the past sixty years, the field of cognitive neuroscience has made intriguing new discoveries and has developed models for looking at how the brain processes and interprets information gleaned from the world through experience. This research presents the mind as a complex and interconnected, yet highly specialized and mostly determined system. I will compare these ideas with Immanuel Kant's (1724-1808) intuitions about brain function documented in the *Analytic of the Sublime*, a selection from his seminal *Critiques*. In particular, I am interested in how sensory experience bridges conceptual understanding through reflective judgement, in the methodology of taste and the sublime. In this discussion, I will be referring to Jean-Francois Lyotard's *Lessons on the Analytic of the Sublime*, chapters one, seven and nine, providing both a summary of elements of Kantian thought, as well as, Lyotard's analysis of some key points. Because I am a complete novice in the study of brain science, I will refer to the textbook *Cognitive Neuroscience* (Third Edition, 2011,) by Marie T. Banich and Rebecca J. Compton, to support my comparisons. I will also use the research of Michael Gazzaniga, his 2009 Gifford Lectures entitled *Who's in Charge* (also published as a book in 2011,) and his book *The Mind's Past*. Gazzaniga's theories about free will and "the interpreter" provide a contemporary perspective to Kant's thesis on the process of thought.

The aim of Kant's Critique, as outlined by Lyotard, is an attempt to reunify or to build a "[bridge] between the theoretical and the practical" facilities of knowledge (Lyotard, 1). At the time Kant was writing, Rationalist ideas were debated in relation to Empiricist thought. The former places the basis of knowledge in the mind, where concepts are arrived at through reasoning. The latter believes knowledge resides in the experience of nature and is supported by the scientific method of analysis. Kant, from this perspective, is attempting to reunite the field of

philosophy, in general. The unification of the faculties of imagination and understanding, is accomplished, according to Kant, through reflective judgement. Reflective judgement is a *feeling*; an automatic function which brings about sensations of pleasure and displeasure (4, 9). For the sake of brevity, I will not be able to examine the detailed differentiations of the act of reflection outlined at length in the text. However, it is important to highlight the distinction that is made between aesthetic reflection, which sits more on the side of sensation and intuition (pleasure and displeasure), and moral or teleological (finality) judgement, which can be said to rest more on the side of knowledge and logic (4-5). Moral judgement is divided into feelings of delight into which we invest an “interest”, or a means to an end that denotes desire. Desire “implies there was a lack” and involves a “time awaiting” it (162). Categories of delight include the esteemed or good, the useful, and the agreeable, which are subjective and accorded moral judgement (161). Moral judgement is also founded in objective law. This law “does not result from the interest of the will in the good, it dictates it” (168.) We see here, a guiding and pre-determined principle for moral judgement. Pure aesthetic reflection, on the other hand, which involves ‘taste’ and the estimation of the beautiful, occurs outside of desire and expectation. It is, a principle that Kant says is merely subjective and happens a priori (2, see also 160-163).

In the chapters covered here, Kant’s views of the Idea of nature and the supersensible are only touched upon and we are not given a full picture regarding the ‘how’ and the ‘why these ideas come about. In Lyotard’s text, reflection, is shown to be governed by a moral legislation which is guided by the supersensible Idea of freedom—that is, the possibility of free will making its own determinations within a universally understood moral sphere. One could suggest that Kant believes in a type of determinism, but one that flip-flops indiscriminately between the control of the thinking self and a transcendental Idea (49). Referencing Kant’s *Critique of*

*Aesthetic Judgement*, Introduction, V: “The Principle of the Formal Appropriateness of Nature [for its ends] is a Transcendental Principle of Judgement”, we can gain a little more insight.

Kant believes that the drive of our cognitive faculties is in trying to understand nature and its laws. The laws are perhaps beyond the cognitive abilities of the intellect, but we still want to make ‘sense of the world’. This is seen when Kant writes,

Despite the uniformity of things of nature according to universal laws, without which we would have no form of general empirical knowledge at all, it is quite conceivable that the specific variety of the of the empirical laws of nature with their effects might still be so great as to make it impossible for our intellect to discover an intelligible order in nature;... (285, Kant. “*The Critique of Judgement*”, in *Basic Writings of Kant*, edited by Allen W. Wood.)

Even though we might not be able to arrive at concepts for ordering the natural world, we can “reconcile ourselves to the thought” (288). There is a certain satisfaction that our ego gains by being able to rationalize and conceptualize experience. There is a slight contradiction here.

How can our cognitive faculties separate us from nature, through the freedom of thought, if this thought or knowledge has been afforded us through nature itself? For me this question relates to the nature versus nurture debate. Nature, here, being the pre-determined and wholly uniform system what I will call ‘the grand scheme of things’, and nurture, our learning through experience suggesting a plasticity of the brain in being able to adapt and change through stimulus—thus presenting a more egocentric position. In the debate, I see Kant’s ideas swinging between these two sides. Perhaps this is also the paradox Lyotard alludes to throughout his text?

I will consider here the ideas of Michael Gazzaniga, a cognitive neuroscientist famous for his split brain research. He proposes a very direct perspective on the ‘interest’ we take in objects and the ‘feelings’ we have about them:

The brain is for making decisions about how to enhance reproductive success...In its capacity to carry out that task, it can do a lot of other things, which come along for

free... Yet once we realize that the brain can be explained only in terms of how it handles information and makes decisions, we gain precious insight into mind/brain relations. (*The Mind's Past*, Gazzaniga, 35).

Kant makes an allusion to this drive in his Critique when he writes, "For the beautiful is directly attended by a feeling of the furtherance of life, and is thus compatible with charms and a playful imagination" (Kant, 307). I can't help reading this as specifically referencing beauty in terms of male desire, even though it is not explicitly stated as such in the text. I believe that it is also implied in Kant's discussion of 'interest' that is involved in desire (see, Lyotard, 163, 224).

Returning to Kant's idea of moral judgement, another 'driver' of our cognitive faculties could be in this moral imperative. Gazzaniga quotes the social psychologist Eliot Aronson who believes that "we all want to shift our beliefs so we can hang onto the proposition 'I am nice and in control'" (Gazzaniga, 138). Could Kant's emphasis on a moral legislative idea be expressing this innate sense that we all desire to be nice, or *good*, and that judgement and reflection is a manner in which we feel we are able to exert control over external stimulus? Also, could *goodness*, have been evolutionarily beneficial for the propagation of our species, whose success is contingent on working together?

Now that we have examined some of the possibilities of 'why' we might be driven to engage in thought and how this relates to the idea of 'nature', I would like to examine some of the 'how?' this happens. We need to define some more of Kant's terms to develop a more solid basis for our comparison with the biological brain functions that I will introduce. The 'faculties', in Kant, are defined as: "a group of 'primary' propositions that are a priori conditions: the definition of thinkable objects, the axioms of the synthesis that can be performed on them" (Lyotard, 15). Seen in this light, the faculties are a pre-existing or pre-programmed system that the brain uses to process information. Under the 'theoretical', (already defined as the Rational,)

we find in Kant, and here re-evaluated by Lyotard, an *understanding* that “is logical in the transcendental sense of determining realms of jurisdiction and territories of legislation.” (3). Objects and experience in the world is seen by the mind, a mind that uses reason and logic to construct concepts and models for understanding these objects and experience. The practical side of knowledge, (exemplifying the Empirical point of view,) is a direct experience of things in space and time using the senses. This is based in nature, and utilizes a combination of the imagination, intuition and practical reason—or what Kant describes as the “faculties of the soul”. (3)

Both faculties point directly to a ‘subject’: the *judging* ‘subject’. This is shown when Lyotard writes,

“For Kant, what one calls the subject is either the subjective aspect of thinking, and as such consists entirely in the tautology that makes feeling the sign, for thought, of its state, thus the sign of feeling itself because the “state” of thinking is feeling; or else the subject is only a ground zero where the synthesis of concepts is suspended (in the first Critique) or is the ever receding horizon of the faculties’ synthesis (in the third Critique) (25-26.)

Kant, although implying the existence of ‘outside’ transcendental force, always brings his Idea back to the controlling and morally guided concept of mind. A separation from nature occurs—in that nature is experienced from the viewpoint of an independent entity, or observer, that exercises reflection—and this points to a certain type of freedom. Kant shows that moral and ethical laws are able to prescribe what is good and bad, and right and wrong but that one is still able to make one’s own deductions or choice when confronted with these types of decisions (168). I would argue that these choices can be based on previous experience and memories, or on intuitive a priori presuppositions—we know when things are right or wrong and act accordingly. Again, we can relate this to the ‘nature versus nurture’ debate, which is still active in scientific and theoretical circles.

Now, I will examine some of the current *physiological* theories of the mind's "faculties". Kant was not far off in describing a multifaceted and interlinked system, especially in relation to his givens of understanding: apprehension, reproduction and recognition (21). In actuality, however, it is not as simple a dualistic model as the one he proposes: the clean split between sensing and understanding. Although these happen independently of each other, and in specialized areas of the brain, the process is far more complex. Gazzaniga notes that "ninety-eight percent of what the brain does is outside of conscious awareness" (Gazzaniga, 22). The moment we are confronted with an object in space, in the mere act of seeing it, an estimated thirty areas of the brain become instantly involved. Most of the regions are reacting before we even have any idea that something is going on. First, visual information is dismantled into signals representing colour, light, and movement. This information is then encoded and sent to a different region to be evaluated and reassembled into a 'what' and a 'where' category. (The stimuli are transferred by neuronal cells through an electro-chemical process.) In discussing this 'brain cell', Gazzaniga writes, "as with molecules, each is built to do only its own thing. The vast human cerebral cortex is chock full of specialized systems ready, willing, and able to be used for specific asks. Moreover, the brain is built under tight genetic control (41). Gazzaniga is presenting a determined system that is directed by the instructions built into our genes. He believes that all the capabilities of each neuron are pre-programmed. Whereas, the information can follow several existing paths, there is no room for developing a new path or system.

Let us return to the path visual stimulus takes through the brain. Colour and other direct visual cues are encoded in the visual cortex after travelling down the optic nerve from the retina. The location of the object is determined in the parietal lobe, and the object is classified as being a 'specific object' in the temporal lobe. The information about the object now travels to the frontal

cortex where “railroad switches” divert the information to other areas of the brain that deal with memory, emotive, and motor response (Banich and Compton, 340, also see chapters 6-8, and 10-13). The frontal cortex acts like an ‘Executive’ director, deciding on how behaviour should be instigated to react to the sensory information. According to Stuss and Benson, as discussed by Banich and Compton, a conscious self-reflection or “metacognition” happens only after information has passed through the Executive or Supervisory region in the frontal lobe. It is here that one is able to reflect “upon a cognitive process” (340). During metacognition, we are able “to develop abstract mental representations of the world” which enable us to determine how to act— willing action (340). These functions are carried out in various areas of the brain, and again are interconnected. The parietal lobe has a role to play in this high level cognition. It is noted by Banich and Compton that this region is “[1] integrating information from various sensory modalities, [2] integrating information from the sensory world with information stored in memory and [3] integrating information about an individual’s internal state with information from the external sensory world (28).

Following a similar hypothesis, Gazzaniga believes that an integral mechanism of our higher cognitive abilities and consciousness, reside in the left hemisphere of the brain. He calls this mechanism “the interpreter”. He writes,

There is a special devise in the left brain, which I call the interpreter, that carries out one more activity upon completion of zillions of automatic brain processes. The interpreter...reconstructs the brain events and in doing so makes telling of errors of perception, memory, and judgement.” (Gazzaniga, 1-2)

Gazzaniga believes the interpreter makes us think that there is a ‘self’ and often manipulates information and action to preserve this illusion. It provides us with a false sense of control and free will, and the sense of a “cohesive whole” (23). It is also “keeping our stories together,” as it

were (26). He relies on experiments that show that most of the regions of the brain are active in responsive action approximately half a second before we are even aware of being presented with a stimulus (72). This notion of an ‘interpreter’ seems to support Kant’s notion that all thought is guided by a unifying principle, or that ‘something’ carries out or causes automatic reflection or judgement. This action also seems to be universal. This is seen in statements such as: “absolute necessity of judgment, present in subjective feeling,” calling “for the communication of the subjective feeling by everyone” (Lyotard, 48).

In placing Kant’s theories into the brain process just described, the “bridge” of reconciliation, or act of reflection could be said to happen first in the temporal lobe where we create the “what is it?” determination that provides a conceptualization of the visual cues. When our senses are presented with a physical object or an experience, the human mind has a pre-emptive desire to give this experience object/experience a greater meaning and to place it into a specific context or category. Kant calls reflection “that state of mind in which we first set ourselves to discover [ausfindung zu machen] the subjective conditions under which we are able to arrive at concepts” (as quoted by Lyotard, 26). Kant’s *reflection*, must also be tied to *feeling*, or emotive response. In cognition terminology, this takes place in the subcortical regions of the brain that are responsible for automatic or subconscious aspects of emotion (Banich and Compton, 367). Any type of ‘conscious reflection’, that instigates action in relation to this object, happens in the frontal lobe. Again this process seems to relate to Kant’s givens of understanding: apprehension, reproduction and recognition. I would argue, however, that these three processes occur both in the automatic visual areas that relate to Kant’s sensing, as well as, in the higher cognitive areas. We could say that apprehension, reproduction and recognition

happen continuously within the different regions of the brain as the information, carried by the neurons, is passed on and evaluated in each chain of action.

How is *feeling* directly engaged in brain process? The area that may be implicated in creating Kant's *feeling*, especially in relation to "taste", is an area tucked deep within the Sylvian Fissure that separates the two quadrants of the cerebral cortex. Neuroimaging suggests that this area is directly related to feelings of "disgust", in physical 'tasting', but also in the concept of distastefulness in general. This region also perceives the internal state of the body, the monitoring of heart rate, for example. It may also be responsible for feelings of guilt (375-376). Many of the regions in the brain exhibit this type of cross functionality. This may help to explain why it is difficult to perceive a separation in our perception of stimuli and physical sensation. Is it possible that the *feeling* of pleasure and displeasure comes about because the pleasure/pain centre is so closely linked with other processes in the cross lateral communication systems common in the brain?

In understanding how taste and the sublime may fit into our brain model, I will discuss an important distinction that is made in Lyotard's understanding of Kant's text: the manner or method in which we judge something. Manner relates to the way in which we sense and reflect on art, which "possesses no standard other than the feelings of unity in the presentation," and in that it does not follow any prescribed rules or "principles," as a method does (Lyotard, 6). In Banich and Compton's text, manner is discussed in relation to the frontal cortex, or in the role the Executive plays: "[i]n this manner, a single stimulus may result in a relatively automatic string of actions referred to as a *schema*" (Banich and Compton, 339). (This schema should not be confused with Kant's definition of schema, the "concepts of comparison" which occur in third rank in the process of the unification of sensibility and understanding (Lyotard, 27, 28). Banich

and Compton's schema could perhaps be better understood in relation to the 'headings' under which reflection falls (See 27-31). I will not have the time to cover these 'headings' in this paper.) The *automatic* manner, or in Kant's case *a priori* reaction, to stimuli occurs only when the experience or object is already known to the judging subject. This is the case when an experience has happened before, usually repeatedly, or an object is already familiar to the viewer; both have already been encoded and stored in memory in the Hippocampus (see chapter 10, Banich and Compton). Only in situations or in reaction to stimuli that are unknown, undefinable, or complex, does the conscious system jump in. We could suggest that the faculty of taste may develop as the Hippocampus stores information about similar objects over time. When moving from taste into the sublime, the object or situation is often not recognized and is thus not able to be defined by our automatic brain function. In these encounters, the highest order of brain function and *consciousness* kicks in—or rather kicks us in the stomach.

Let us examine Kant's definition of Taste and how it is distinguishable from the sublime. Taste is divided into the double heading of quantity and modality. Quantity is defined as "a judgment of the beautiful" that "is not immediately universal, but it immediately 'imputes' .., 'waits for' .., 'promises itself' .., a subjective universality in the name of a *Gemeingueligkeit*, of a universal validity" (Lyotard, 16). Lyotard explains modality as "the judgement of taste" that "unites...the 'favor' that distinguishes it from other delights with the form judged beautiful: this form cannot fail to please" (16). In other words, there are standards of taste that *should* or at least we *hope* them to be universally understood. Taste, and hence beautiful form, invokes pleasure. Pleasure arises through the relation of the faculties of knowledge to each other, which creates a sort of logical harmony. What follows in this aesthetic reverie is a sort of passivity when our mind "lingers" on "an attractive object" (7). This lingering is akin to *feeling* or *affect*:

Lyotard explains the idea of affect further when he writes, “for thought, to be informed of its state is to feel this state—to be affected” (11). Agreement between the faculties of the imagination—sensing the object—and then understanding the object in a universal way, brings about happiness and agreeableness.

In the sublime, understanding is stumped. Because there is no ground for building a concept of what is being experienced, reason (and hence, moral Idea), takes over understanding in its balance with imagination. Reason, sits more on the side of the imagination, in the division of the faculties, than does understanding. Rather than the imagination being subdued or ‘balanced-out’ by understanding, it is pulled away from it by reason, creating an abyss. Lyotard writes, “an abyss that repels and attracts an imagination is enjoyed to present the absolute” (24). Implied, is an uncontrollable push and pull that reveals great uncertainty, or uncontrollable ‘Nature’. The imagination has managed to “escape all subjective finality” and we are shown an absolute unknowable (24). Because the faculties are caught in a feedback loop and sensation is made aware of its own state, the sublime incites in us self-reflection—or a “feeling in our own selves of a finality quite independent of nature” (181). Lyotard shows Kant believes that “there are no sublime objects but only sublime feelings (182). This can be seen when Lyotard writes, “if imagination succumbs in its duel with reason, it is signaled in and as a ‘state’ of thought: it is felt. It is a displeasure” (23). The sublime then makes the subject hyperaware of his/her separation from nature through his ability to reason. I would suggest that this disconnectedness or rather “selfdom” brings about the utter sense of loneliness that seems to be one of the greatest afflictions of humanity, and that seems to ‘stab us in the heart’ in moments of the sublime.

In both Kant’s assertions about the process of thought, and in the cognitive neuroscience research I have presented, there is an automatic process of de-coding, interpreting and

reassembling of stimuli that leads to an establishment of meaning, concept and context.

Scientists are still not able to answer the question of why this happens, in the same way that Kant skirts around a definitive definition of what a moral, governing, and determining Idea actually is.

The suggestion is made, by Gazzaniga and by others, that the brain has evolved with a problem solving capability to allow us to make decisions that aid in our survival and reproductive success.

The sublime is a moment of 'extreme' experience. In this extreme experience, the automatic processes have determined that consciousness must step in to help make sense or 'to categorize' what is being experienced. The sublime presents only 'raw' sensation mixed with uncertainty.

Is it possible that the sublime manages to stump Gazzaniga's interpreter? Leaving us with the sensation that we not in charge at all, and that we are being tossed about in a pre-determined universe beyond the comprehension of our cognitive abilities? I would like to end on a salient, condensed quote taken from Lyotard's *Analytic*:

"This 'other feeling' is not named in the passage...It is a very obscure feeling; it has a moral foundation; it signals the supersensible sphere of thought...The 'interest' in question is free of all motive...listening to the law may simply produce in thought an interest in doing good" (227.)

Can we take comfort in, as Kant points out, that simply through the act of our mental processes and being engaged in the world, we are exercising our free will and some form of control. The comfort, for me, lies in the truth that humanity, or will is inclined towards the *good*.

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