

From Function to Surface: Phenomenology of the Thinking Organ

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DOI: 10.22034/IYP.2021.140210.1026

Abstract

Neuroscience and its attendant subdisciplines, including, so it supposes, philosophy, hold that there is nothing more to self and society than what is in the brain. However, two centuries have yet to resolve the philosophical objections to such claims, much less resolved the binding problem that would link mind and brain or arrive at a general, materialist explanation of consciousness. Just as ideological and economic blinders beset this discipline, they limit philosophy to account for the nature of this 'thinking organ' – what that means and if it can even exist. Taking the work of Hegel, Heidegger, and Deleuze, and neuroscientific results, I consider the phenomenology of the Organ. I argue that understanding this object requires distinguishing concepts such as function and activity, Capacity and regulation, and surface and recognition. Results show that the ability to arrive at a thinking organ as the Organ is uncertain but worth the pursuit for the services done to science and ethics.

Keywords: Phenomenology of the Organ, Brain Science, Philosophy of Neuroscience, Heidegger, Hegel, Body without Organs.



introduction

Organs in place of ideas: Reductionism has social and ideological motivations

All we would hope to know about the human is supposed to be in the brain. An electrode set at the right place can remove the sense of self, as it can remove the recognition of your mother's face. We should thus expect nothing more of epistemology, psychology, linguistics, sociology, or any other of the human sciences than what we would expect to receive from an informed analysis of a brain scan in the proper experimental setting.

The force exerted behind such claims is a behemoth – hundreds of billions of dollars and tens of thousands of publications (Eklund et al., 2016). Nevertheless, the fundamental philosophical criticism leveled against such arguments remains. As Husserl puts it in his *Philosophical Investigations*, they are a category error (Husserl & Moran, 2001, pp. 55-56), mistaking behaviors for physiology, signs for instruments, and, more generally, placing observations in place of concepts. (Heidegger 1968, 8) That a part of the brain's anatomy, the caudate nucleus, for example, is associated with feelings of love (Villablanca, 2010), attaches a concept to observation, and tells us little about either love or the cognate nucleus. That such research gets the press, it does seem more to be about commercial value as a source of treatment, enhancement, and manipulation. It supports a reductionist ideology where the subject is invested only with utilitarian, capitalist functions.[1] They, in turn, receive their genealogy and axiology by the positioning of facile Darwinist drives as an explanation of will and human motivation.

However, this system gives us access to an agent manipulating the environment *as an organ*. If the brain is the agent governing the whole organism, the selective advantages of the whole organism must match the selective advantages of the brain. However, that is not what we see with organs – the heart's function is to circulate blood, and no principle of natural selection is *a posteriori* going to give us the structure of the heart.[2] Instead, this system also implies an agent working apart from the organism unless the only real organs of the agency are those of reproduction.

Whether it is the utilitarian 'selfish gene' or the "trillion handshakes" (Tallis, 2012, p. 234), computational and Darwinist explanations of consciousness quickly amount to their own form of dualism. The revolutionary child psychologist Eleanor Gibson (1987) called this "Crypto-Cartesianism." Here computational theories of cognitive science seat immaterial consciousness within the material brain as a set of calculations that becomes, like Descartes' soul, effectively transcendent. These calculations deflect agency and activity away from the material Organ.

The philosophical underpinnings of neuroscience swing between reductionism – love is only firing in the caudate nucleus – to mysticism – brain matter transubstantiating into immaterial consciousness. Such extremes entail some conflict at their base. It has three sources that must be addressed.

The language of neuroscience is entrenched in the concept of an autonomous subject. Especially in analytic languages such as English, 'I have a pain in my arm' requires a subject separate from the body. We are not rid of the soul because we still have faith in grammar.[3] This is entrenched with the legal self and the social contract. After all, though they may lose the hand that signs the bill, their face may age, and their cells divide, even neuroscientists want to conserve the association of their bodies with the contents of their bank accounts.[4]

The need to assert that the locus of agency is nowhere comes up against the need for social beings to recognize agency in others as basic units of social relations. Recent, fascinating neuroscientific work on the importance of the social has not resolved this issue but intensified it.

So, we are at once beasts who have transcendent brains, agents who do not act, scientists whose genes tell their brains to make science so that they can make reproduce. It is no wonder that we see in the simulacrum of the reasoning cortex and reductionism to animal drives little more than the dualism of the charioteer in Plato's *Phaedrus* with the animal and the rational both pulling at the bit, the old dualism repeated despite the hype and grant money.

This is where phenomenology can come in to clear the air. Though much effort has been devoted to embodied experience, much less often has the Organ (in part or whole) been an object of investigation.

We will examine some of these rare incarnate instances while maintaining our own set of principles.

Pierre-Jean-Georges de Cannabis (1802/1844, 137) laid down the position of the materialist mind in 1802: the brain secretes thought like the liver secretes bile. Essentially, 'neuropsychology' can only claim much more than this by succumbing to Crypto-Cartesianism. We shall see that the choice of the digestive organs was influential in shaping the implications of his analogy. Understanding the Organ requires understanding what it is for itself as an independent being. This entails distinguishing its function, which it does *for* the organism and the activity it does. However, when philosophers have created phenomenologies of the specific manner of being pertinent to their particular Organ, they tend to come up with different results; and this is because they have taken as the object of their investigation an organ that easily slips from activity to function, from function to agency. It is then straightforward to conflate function and activity and arrive at 'Crypto-Cartesianism' or solipsism. Heidegger's problematic reading of the Organ will show that activity is wrapped up in its Capacity. However, we will show that Capacity is ultimately no more essential to the Organ than activity. Capacity and subservience to the organism are essential only for relations outside the Organ through regulation.

Understanding the Organ also requires that we cup it in the hands of radical empiricism. If the thinking Organ is that which is so often invested with a *ghost in a machine*, then we cannot at any stage abandon its flesh, and this means we must understand it as an enclosed surface and understand its activities as surfaces as well.

We should prepare ourselves for an inadequate result, which would point to the weakness of my phenomenology or the fact that, as we have known since Husserl, there is no consciousness without a world. There is no self without society. The inadequacies of understanding the living Organ and the ideology of debasing the human and the flesh do not excuse us from the pursuit.

2. Phenomenology of the body leaves no space for the Organ

Some of the most profound thought of the 20th century has been devoted to the philosophy of the body. Long before contemporary techniques of intervention and observation led to the impasse we face, Heidegger placed us as selves in the world, and Freud placed us

within the physicality of our drives. Figures such as Henri Bergson and Maurice Merleau-Ponty successfully ventured into empirical psychology and phenomenology. Merleau-Ponty's *Phenomenology of Perception* is a foundational text that lays out the connections between a psychological phenomenon and the primary position of the embodied subject. There he employs observations of phenomena, such as phantom limbs, to argue for the placement of the whole organism as a living, active, situated being (2002, 87-95). Along the way, the phenomenologist refutes Cartesian dualism, physicalism, and Bergsonian duration. The basis of his argument is that clinical observation results do not confirm these theories. When submitted to phenomenological analysis, observations suggest a different relation between mind and body. Merleau-Ponty. He does not try to replace a concept ("love") with an organ ("caudate nucleus"); instead, he uses the psychiatry and neurology of his day to engage with theories of the self and arrive at new concepts.

More recently, a few brave neuroscientists have attempted to confront Western philosophy on their own terms. One of the best is Antonio Damasio, who uses vast arrays of data showing that, as he believes, Descartes was wrong (Damasio, 2008) and Spinoza was right (Damasio, 2003). His conclusions and philosophical methods are similar to those of Merleau-Ponty. However, the vast progress made in the intervening sixty years makes his work valuable for philosophers, especially his later work on the neurology of the social (Damasio, 2018). From the point of view of ratiocination, the faculty of reason, the work of George Lakoff and Mark Johnson (1999) has shown that concepts and their relations are inextricably dependent on the body's lived experience in the world. Experimental ethics has shown the relationship between the body and moral persuasion.[5] Over the last 20 years, much criticism of neuroscience has coalesced into Multi-E models of cognitive science – embodied, enactive, ecological, and environmental (Shapiro, 2014). Meanwhile, important observations have been made regarding the neuroscientific basis of body consciousness. Discoveries of the afferent system mapping and engaging with the body have shown how the brain perceives the body and how consciousness affects and is affected by these systems (Craig, 2002).

This remarkable body of work, from the phenomenology of Merleau-Ponty to contemporary obesity research (Ruppel Shell,

2019), makes great strides to elucidate and problematize the relationship between self, brain, and body. Here the body emerges as an increasingly complex agent. However, we need a view of what it would mean to have a particular body part, an *organ* be an agent in and of itself.

This is because most of this work is devoted to systems of perception. Organs of perception do not perceive themselves. The eye does not see itself, nor the brain feel when touched. If we took the second part of the Cannabis analogy ('the liver secretes bile') and replaced it with 'the eye emits nerve impulses,' we have a much more amenable but much less clear illustration. Another reason is that the Organ is viewed as a servant of the organism. 'Organ' is the Greek word for 'instrument.' To suggest that an organ is an instrument means that something must be using that instrument, an agent separate from it, and we are back with the homunculus. A thinking organ must not be an instrument but an agent in and of itself. The non-dualistic, embodied, and enactive self has as its subject the whole organism and not an organ. If we aim for not agency or the desire to live but merely having an activity, this can be observed by both Organ and organism on equal terms.

The dissolution of the two was to be found in the post-War 'Body without Organs.' The phrase first appears in the conclusion of a play by Antonin Artaud. It is taken up as a central image in the philosophy of Giles Deleuze and Félix Guattari more for its articulation in their reading of the author's schizophrenia than for the sense of the phrase itself. Though the image transforms in its meaning through fetishism, myth, and intentional encrustation throughout their project, it retains its content as an undifferentiated sentient/insentient force. It never loses the initial associations given it by Artaud:

For you can tie me up if you wish,
but there is nothing more useless than an organ.
When you will have made him a body without organs,
then you will have delivered him from all his automatic reactions
and restored him to his true freedom.[6]

The subject of Artaud's work is, indeed, freedom but the freedom of a person with schizophrenia to work against the chains of correct thinking, to resist his medical, American, and divine captors'

insistence against the logic of his ravings. Even the autonomic nervous system is to blame for binding him to involuntary movement, movements his will did not authorize. He would then be a Cartesian soul, only will and reason on his own terms. However, this is not a soul delivered from the body's restraints or a body that never had a soul; it is a body delivered from the soul. Moreover, the science of body consciousness has sought to do this. The body without organs has created, as it were, a single organ that is not an instrument but pure agency. The body without organs acts as a total being, with, at times, a diverse, deep, destructive, but continuously contiguous surface of activity. The capacities of all the organs rendering their specific services in the chorus are extracted. Inchoate and hyper-voluntary flesh leap forth.[7]

A clear understanding of the Organ must demand that, whether it thinks or secretes insulin, the results be the same, and this feature distinguishes the phenomenology of the Organ from the phenomenology of the body. If the phenomenology of the body is primary, the Organ is always an instrument and never goes beyond the boundaries of functionality. We will see that when we strip function from activity, we are left with the Organ as that which has the Capacity to act and engage with the organism through Capacity and regulation.

Hegel's liver leads to activity

An early and indicative version of Husserl's critique of psychological positivism comes in Hegel's *Phenomenology of Spirit* as a refutation of phrenology, psychologism's 18th-century microcephalic aunt. In arriving at what makes conscious activity distinctive, Hegel could not accept that a simulacrum existed between mind and body – that a set of activities could manifest themselves in some part of the anatomy. The then-popular science of registering bumps on the scalp could not indicate the personality because bumps could not serve as a sign of activity, nor could they be an instrumental cause. As Hegel is part of the modern *episteme*, his views regarding functions and activities are similar to ours, yet the medicine of his time preserved a different metaphysics. The open fissures in his positions are attractive.

Organs of the body, the heart, and liver, though active, exist in and for themselves, the nerves, and the brain as well.[8] In his

terminology, this means they are dialectically closed circuits. They host the being-for-self of the spirit/mind, but they cannot be equated to it, and their forms do not operate in some semiotic or analogous fashion – as the form of the grape does not affect the taste of the wine. Hegel refutes the fallacy of formal and functional resemblance – that the Organ for recognizing beauty should be beautiful, that for memory like a Rolodex, or that for smell like a rose. He would, by extension, be highly skeptical of our fMRI-fueled fascination with attaching brain regions and behaviors. Spirit/mind is characterized by its activity whose forms and marks are incompatible with an organ (§ 324–339).

Let us start with a passage from the beginning of his argument, a passage significant for the history of the Organ as the origin of thought:

Now, in ordinary life, anger, e.g., as such an internal action, is located in the liver. Plato even assigns the liver something still higher, which some even regard as the highest function of all, viz., prophesying, or the gift of speaking of holy and eternal things in a non-rational manner. However, the movement which the individual has in his liver, heart, and so on cannot be regarded as wholly reflected in itself; instead, it is present in such a manner that it has already taken on a corporeal aspect in him and has an animal existence turning outwards to an external reality. (§ 326)

Hegel's reference is to Plato's *Timaeus* [9] The author holds that the lesser gods made man with two souls, one in his head and one in his liver. The soul in the head is rational and must control the "nigging beast" that is under the animal influence of the gut. In sleep, as it were, when the head does not lord over the lower soul, dreams, and visions appear. For Romantic Hegel, these visions may even be greater than the rational. The *Timaeus*, indeed, had behind it the heptoscopic tradition of ancient ritual when signs of the cosmos were reflected on the surface of the liver of a sacrificial animal.

Nevertheless, it was also the case that there was a material understanding of how the four bodily humors affected emotions. From Plato's time, the "animal spirits" were taken to be of a different metaphysical order than higher thought. It was a lengthy, philosophically, and theologically uneven process before all emotions were regarded as immaterial. Throughout the history of medicine,

humor did not just prompt emotions as states, nor were they merely signs of emotions. Black bile *was* melancholy, and choler *was* anger. They were *liquid, ichorous feelings* (Paster, 2014). From Hippocrates to Galen, to the Christian Church Fathers, to the great Islamic physicians, emotions, and even their related thoughts, could be material.

Hegel does not say that anger is "hosted" by the liver or that bile is a "sign" of anger in the sense that endorphins are mere causes of a "state" of elation. He holds to the ancient tradition of the materiality of senses of humor in order to, at least, give a phenomenal location of their activity. However, like the activity of organs, humors are distinguished from other states by limits to the scope of their function and application. Bile may be anger and subsist in the liver, but it only expresses itself outwardly as anger within the confines of the body. Should it become expressed by an angry word or the packing of a dueling pistol, that would have to involve the liver and the agency of the spirit as the author of the subject's activity. Furthermore, this is how Hegel approaches the corporality of thoughts in general. He continues:

On the other hand, the nervous system is the immediate repose of the organism in its movement. The nerves themselves, it is true, are again the organs of that consciousness which is already immersed in its outward-directed activity; the brain and spinal cord, however, may be considered as the immediate presence of self-consciousness, a presence which abides within itself, is not objective and also does not look outwards. In so far as the moment of being which this Organ has is a *being-for-another*, i.e., is an outer existence, it is a dead thing and no longer the presence of self-consciousness. This *being-within-itself*, however, is by its very nature a fluid system in which the circles cast into it immediately dissolve, and no *lasting* distinction is expressed.

It is possible that Hegel has a reference in the back of his brain in this particular passage of the *Timaeus* to the "mirror" of the liver. This mirror is the surface of the sacrificial Organ, which expressed the will of the gods in the ancient world. In Plato's mythic imagery, it takes and gives impressions to and from the head. While the ichors of the senses of humor may be emotions – so much more measurable bile, so much more anger – they do so only within the orbit of their own operation. The brain and nerves are vessels filled with fluid

(consistent with the theory of the time). That fluid bears impressions upon it like the ripples of a pond, but is not identical to them, is not changed by them, and holds no residue. The mark of the spirit is the motion of its activity, and these organs are merely conveyances of it. He continues:

Meanwhile, the spirit itself is not abstractly simple but a system of movements in which it differentiates itself into the moments, but in this very differentiation remains free. As spirit articulates its body into a variety of functions and allows one particular part for only one function: so too, the fluid *being* of this *being-within-self* can be thought of as articulated into parts. Furthermore, it seems that it must be thought of in this way because the *being* of spirit, which, in the brain, is reflected into itself, is itself again only a middle term between spirit's pure essence and its corporeal articulation, a middle term which therefore must partake of the nature of both; the corporeal aspect must therefore also be present in the middle term in the form of *immediate* being. (§ 327)

Thus, the body participates with the spirit but in an *immediate* sense, which signifies passivity, subordination, and limited dialectic movement for Hegel. However, this is not merely because the spirit/mind is a homunculus hidden within the body but because it is primarily an agent of activity. Organs can only host and facilitate this activity because, in part, the very distribution of their functions means they do not form a whole. Hegel reverses the mechanistic views both contemporary to him and us. To replace his terms with contemporary ones: it is not the 'agent,' which is the middle term between brain activity and bodily activity, but brain activity which is the middle term between agent and activity. True to idealism, the body, like neuroscience's agent/self/soul, can now be safely removed and let the unencumbered spirit fall down the rabbit hole of history.

Spirit's *being for itself and for another* is that which acts, and this distinguishes Hegel's episteme from that of the classical age. While traditional medicine regards there to be two types of tissues: basic – those typical to that part of the body itself – and sporadic – those which transverse body parts[10] – Hegel characteristically makes these categories of *relation through movement*, just as Cuvier and Lamarck determined anatomy through function. Bile is anger, but only in, and then on, the flesh; nerves and the brain convey angry thoughts

and trigger angry actions but only convey them further. The mind is not the body because it does things for and by itself and beyond itself.

The central role of activity brings up one of the most vexing problems of behavioral psychology. For example, a history of damage to the frontal cortex is more often found in people convicted of violent crimes. Nevertheless, you can find plenty of people who have a history of front-cortical damage, who have never struck or murdered anyone, and many people who have done so with no such damage. (Sapolsky 2018, 54, ch. 16) "Violent crime" is not an epileptic seizure; it has a complex set of situations, opportunities, consequential antecedents to the act, and circumstances around it. As Kraus (1964, 56) wrote: "You can identify that someone was the murderer by their penmanship, but you cannot identify by someone's penmanship that they are a murderer." In this gap, the subject operates within its anatomy and the latitudes and confines of circumstances. No faculty or disposition is an act, nor must it invariably determine one.

This philosopher exemplifies the standard approach the West has taken to the phenomenology of the body and its parts in the modern period. When an activity associated with the soul is also associated with an organ, it can have a relationship of identity in subservience to the body and not its activity (as in the case of the liver). Alternatively, it can be a seat of activity (as in the brain or the sense organs) that operates as an instrument that performs a discrete function other than the product itself. In this, Hegel is no different than St. Thomas Aquinas.[11]

A truly Canabis-like materialist notion of the brain must be closest to that of Plato's and Hegel's liver, where the activity itself is material; the liver, with its queer mirrorlike Capacity, seems to depart from the scene of the philosophy of not just of thinking organs, but of organs in general. This makes a difference because the type of Organ a philosopher uses matters to the results obtained from thinking about it, even if the effort is to arrive at a concept of the philosophy of both Organ and organism.

Heidegger's eye sees only itself

one may find Phenomenology's most extensive discussion of the Organ in Martin Heidegger's *Grundbegriffe der Metaphysik (Fundamental Concepts of Metaphysics)*. These lectures delivered in

1930 greatly influenced his followers, yet the author did not take them as complete and were not published until 1992. His arguments wander, backtrack, prevaricate, and include critical 'notes to self.' In many cases, they take long, exotic voyages without ever arriving in port, which is the case with his discussion of the Organ.

After the publication of *Being and Time* in 1927, Heidegger spent most of his later career developing elements of that transformational work. The phenomenology of animal being is part of his aim to arrive at the foundations of *dasein* as a position of the embodied human in time. He does this deductively: to get access to what it means to have a human body, let us consider what it is to have a non-human body. He excavates three essential distinctions: humans are world-forming, stones have no world, and animals are poor in the world. To see why animals are poor in the world, we can turn to zoology (212),[12] Moreover, this leads us to question the nature of the organism and then the Organ. For this, he uses familiar techniques, taking up the "specific manner of being" of the Organ and organism. His examples are specific – the dog, the eye, the amoeba. Moreover, because of his method, the results are particular to the example and, I shall show, detrimental to understanding the specific being.

Just like cannabis, his choice of Organ determines his results, especially in the case of phenomenological investigation. In the above passage, Hegel picks three examples of three modes of activity and openness. Heidegger, for the same end, takes only one – the eye.

This is because Heidegger shares our philosophical opponents. He views Descartes' dualism as a foundational error that results in taking consciousness as the primary mode of being (208). Thus, Cartesian mechanistic explanations of the body are also fatally flawed, and Heidegger finds, as do we, reflections of the same flaws in the mechanistic biology contemporary to him (though he could not have seen Crypto-Cartesianism coming). Taking up an organ so important is his riposte. Both Descartes and Heidegger are drawn to sensory organs as places that give us entry to thought. Descartes can link the anatomy of the eye to the nervous system and thus account for "impressions" made upon the soul in the pineal gland near the optic nerve. As an organ, the eye gives him access to the activity of the mind, theorizing about the eye the relationship between the two. Sensory organs give Heidegger access to the mode of being of the animal in the world because we can "transpose" (202) ourselves into it

through our observations of being in the world, which you cannot do with a stone. However, the aim is not to show where the soul is present (as in Plato's *Timaeus*) but where it is deprived. After Heidegger discusses the Organ, he will take up drives and instincts as accessible features to transpose us into the animal experience. The eye can show how the animal has the Capacity to see but does not see. What has the Capacity but not the content of that Capacity is poor; animals are thus poor in the world. Heidegger richly demonstrates this conclusion, despite his foray into the Organ.

Let us first accentuate the positive and reorder his arguments to summarize them. As the Organ in Greek is the 'instrument' by which an 'act' is performed, we would be tempted to compare the Organ to the tool or equipment (*Zeug*), which received ample treatment in *Being and Time* (Heidegger, 2010). However, the Organ is something different because it is not ready-to-hand but is part and parcel of the organism itself (230, 231). Part and parcel are essential.

In his article "What is an organ: The Phenomenology of Organ Transplantation," Fredrik Svenaeus (2010) argues that since we can transplant organs, something Heidegger did not consider, then we have begun to view them more as tools as removable and replaceable, like Heidegger's famous hammer. However, Svenaeus does not examine any of the cases in the *Grundbegriffe der Metaphysik* (217, 218, 221, 225) where the phenomenologist argues that the Organ is not a tool. Inside or outside the body is not the principal reason why organs are not tools. Just as with Hegel, activity is more important than location. First, the tool has "serviceability" (*Dienlichkeit*, 215). It can be put into service – put to use. The Organ has subservience (*Diensthaftigkeit*); it does its own thing in serving the organism (225-226). This is a difference in the nature of their respective activities. When removed, the Organ can do virtually nothing of the act it does when within the organism.[13] A hammer can hammer wherever it is.

The Organ's subservience is based on a capacity (*Fätigkeit*) which is what the Organ can do. We have eyes because they have the Capacity to see. They are in a state of readiness (*Fertigkeit*), primed for the activity to fulfill that Capacity. Capacity most determines the Organ's existence: "Capacity as a particular kind of potentiality for being, for having and offering possibilities, is not merely distinguished from the readiness for something through its character as a form of potentiality. Rather, being capable and being ready for...

announce a fundamentally different manner of being in each case" (222). For the Capacity incorporates the Organ into itself and retains the Organ within itself. The Organ remains an organ as long as it is retained within the organism (227). Indeed, this is what most distinguishes the account of the activity of any organ, but it is more richly conceived in organs that deal with chemistry or secretions. The Organ's Capacity (under normal, healthy conditions) is not ready-to-hand; it is constitutive of the organism's being.

This is determined by the particular nature of the Organ's subservience. An organism functions, again, because it does something *for* the organism. In very artificial conditions, such as that Svenaeus mentions, the activity might be done without the presence of the host – an 'Organ without a Body' – but that activity then does not contribute to the functioning of the organism's life. It performs its function, but it does not fulfill its Capacity. The eye in a vat can continue sending signals, and the liver excretes gall, but they will not do anything there. The stimulus-response mechanism is a means of incorporating Capacity with subservience. A better, more general, term for this process is "regulation."

Capacity only exists when the function is executed somewhere else because Capacity is affected by regulation – the motor cortex moves the muscles of the eye that have sent a signal to the visual cortex, the glial system informing hepatocytes to produce more bile. Capacity without regulation would then make the Organ into something serviceable (it could make bile if it got the signal) but not in service, and so no different than the tool. Thus the permeability of the Organ with the organism comes from the permeability of their capacities – it is not the eye that sees, but the organism, yet the eye has the Capacity to see. The activity and the instrument for it are inseparable in function and in time, though regulation governs the Capacity above activity. Regulation is a common term I am introducing. Let us tentatively say it is the joint act of subservience. It seems that Heidegger does not consider regulation, even in his later Zollikon seminars that dealt mainly with medicine, as a means of incorporating Capacity and subservience.[14]

In Heidegger's final account, the ability of the Organ to perform its function and the organism to perform that activity are both parts of the same living process. The Organ performs it in service to the organism as alive and the organism performs it as a result of drives, or simply

because it is alive. Drives and urges permeate the organism's Capacity and serve to regulate its activity (229) outside the organism in contrast to the communication inherent to regulation as a separate concept.

The greatest virtue of Heidegger's discussion is that he is at great pains to avoid introducing vitalism or some other external agent into an organ or organism. This is, of course, to avoid the pitfalls of Cartesianism and to arrive at an account of the animal without anthropomorphism. In our case, it allows us to isolate the Organ from the Crypto-Cartesian function.

There is, however, one signal problem with the formulation of Capacity and, thus, subservience. If Capacity precedes the Organ that possesses it – if we need to see before we have eyes – then the Organ must be uniquely suited to it. Nevertheless, how do we know the eye is the way to see? If seeing is one thing, why do eyes have different structures for different organisms? Heidegger would answer that this is because different organisms have different beings in the world and afford different capacities suitable to that being. Therefore seeing is not one thing. How, then, would we come up with a notion of being in the world which would give us the seeing that we would need to arrive at the Organ of the eye? It would seem unlikely that we could arrive at the human or bee's eyes (230) by this method. This is, in fact, a similar problem to that mentioned above with the murderer and handwriting – many different forms could be adaptive for the same activity, and you cannot arrive at the form from the activity alone.

This is most evident if we replace the eye with another organ – Hegel and Timaeus' liver, for example. Let us match one of Heidegger's signal statements demonstrating Capacity with an analogy:

- 1a) Can the animal see because it has eyes, or does it have eyes because it can see? (218)
- 1b) Does the animal digest because it has a liver, or does it have a liver because it digests?

We can reduce these statements to their individual capacities:

- 2a) Can the eye see because it transmits nerve impulses to the visual cortex, or does it transmit nerve impulses to the visual cortex because it can see?

2b) Does the liver produce bile because it emulsifies fat, or does bile emulsify fat because it is produced in the liver?

With each of these formulations, we find that their point needs to be revised. Yes, we have eyes *so that we may see*. Necessity is the explanation of Capacity. However, by 1b, we already find that the liver does help digestion, but we have something other than the liver to do what it needs to do, and we could conceive of something to replace the liver. With 2, we move closer to physiology. Something else could transmit to the visual cortex And process light waves differently. Moreover, especially with 2b, other things could and do emulsify fats. The fascination with the eye has led the phenomenologist into a tautology. The meaning of "see" is inseparable from the eye. It functions as a metaphor for perception. Bats 'see' with echolocation; we say a dog 'sees with its nose.' Heidegger alludes to this in the Zollikon conversations when he says we "see" with our hands in a dark room.[16] Seeing comes to be what it is through the regulation of the organism and the response of the Organ at any stage of organs, phylogenic and ontogenic. As Steven Jay Gould argued, evolution cannot be played backward; neither can the answer to necessity.

The eye is a traitorous organ, as are all the senses; what it does is hard to distinguish from its bodily subject. The digital 'all or nothing' property of nerve responses and the difficulty of distinguishing perception from memory can easily allow excluded middles and solipsisms to slip in.

So, we are left only one message cast from Heidegger's unsuccessful voyage: that activity of the Organ is the execution of Capacity, and the organism's activity regulates Capacity. However, the Organ's activity is not determined by Capacity, but Capacity is determined by activity. The activity of bile in the gut is the liver's Capacity, which makes it subservient to the organism's Capacity to live. The activity of thought in the body and world is the brain's Capacity, which makes it subservient to the organism's Capacity to live. With life, we always return with Heidegger to Dasein.

However, there is still a figure in the shadows of this activity which we first must outline in relief before we can conclude. Later in his discussion, Heidegger writes, "And yet, there is no avoiding the self-like character of capacity, i.e., its instinctual and intrinsic self-proposing." He would instead not take this path, as it opens up the

possibility of a vital force or a self only realized in consciousness. In our terms, it opens up the unwanted possibility of a hidden agent separate from Capacity itself. However, distinctions in capacities suggest a self-definition that gives them outlines in activity and space. This is property (as in personal possession, *Eigentum*) that is assimilated (*eigenommen*) into itself, moreover, which it governs (233).[17] In Hegel, we also have a definition of activities within the organs that correspond to Galen's fundamental distinction between basic tissue and sporadic tissue. The Organ exists within the "self-proposing" of its Capacity, but it also exists within the boundaries afforded by the limits to its Capacity.

In contrast, Artaud's body without organs is revulsion toward any choral anatomy. For him, the voices of separate capacities and the give-and-take of regulation restrain the voluntarism of the patient. His existence is one of porous borders between the inner and outer and an absence of them within. Artaud's body is all one Capacity and no subservience. Let us examine a couple of uses of the Body without Organs to prepare our final point.

Empiricism turns Cartesian

As Slavoj Žižek lays out in his *Organs without Bodies*, the transition from Heideggerian contemplation of phenomena to Deleuze's empiricism is one where the 'present-at-hand' and the 'ready-at-hand' are coalesced: "this standard attitude simultaneously considers objects as isolated positive entities occupying a particular location in abstract geometric space, as objects of contemplative representation, and as objects perceived through the standpoint of the subject's existential engagement, reduced to their potential use within the horizon of the subject's interests, projects, desires, and so on" (Žižek, 2012, p. 26). Furthermore, the coalescence of the material and spiritual is a central feature of Deleuze's empiricism which is often *effectively* identical to materialist mysticism. In the terms we have examined, the Body without Organs is one where there is no real estate (i.e., *Eigentum*) within the body, there is no subservience, there is only the whole Capacity of the organism (though like the egg that appears in *Capitalism and Schizophrenia*, or the chrysalis, it cannot be called an organism); and even this 'self' in its schizoid diffusion of identity, is

unstable. It is a body issuing junk, "fluids and insufflations" (Deleuze, 1990, p. 88).

So if we are to arrive at an understanding of the Organ, we must reverse this surfacelessness to one of the surfaces, this will to one of Capacity. We must turn from the schizophrenic Artaud to the kaleidoscopic surfaces of his antithesis in *The Logic of Sense*, the Alice of Lewis Carroll. This is what Žižek seeks to do in reversing the organless Body without Organs to an entity (though he will not say it) with a function and no capacity or will:

Is, on the one hand, the productive flux of pure Becoming not the BwO [Body without Organs], the body not yet structured or determined as functional organs? Moreover, on the other hand, is the OwB [Organs without a Body] not the virtuality of the pure effect extracted from its embeddedness in a body, like the smile in *Alice in Wonderland* that persists alone, even when the Cheshire cat's body is no longer present? [...] 'Well! I've often seen a cat without a grin,' thought Alice, 'but a grin without a cat! It's the most curious thing I ever saw in my life!' This notion of an extracted OwB reemerges forcefully in The Time-Image, in the guise of the GAZE itself, as such an autonomous organ no longer attached to a body. (Žižek 2012, p. 26)

All is well and good, but we have seen that function never is absent without an agent, that the function is always for something, and understanding the Organ itself requires that we limit ourselves to activity and Capacity. The Organ without a body, like the Body without Organs, lacks subservience and Capacity. For Žižek, this gaze is active yet de-subjectivized. Subject, for him, always is at once Marxian and Freudian, and well should be if we consider that both are socially and historically positioned (as Žižek is at pains to repeat) in immanently fading bourgeois capitalism. However, like Heidegger's eye, this gaze and affectiveness is a subject in hiding.

For the gaze, even without a face, is never anything but the radical statement of subjectivity, "crystallized" in Deleuze's Time-Image or not. Moreover, like subjectivity, the gaze is also always a gesture and, like the smile, always a sign. This means a recipient, meaning the Organ without a Body, is not alone but part of a system of exchange embedded in the world. The eye has also fooled Žižek. This Organ without a body might be the liver of an ancient sacrificial sheep

bearing signs of the zodiac, but it is not Žižek's liver, Hegel's, mine, or yours. Perhaps it is even a thinking organ, but not one that allows itself to be both an organ and to think. Moreover, if we are talking about cinema, which Žižek implies here, the gaze, like the PoV shot, is a tool.

In a footnote to the above passage, Žižek reveals that this Time-Image, in its detachment from the body, can be compared to other metaphors for the attachment of consciousness to the brain. Thus, we have come full circle. A Body without Organs has a Cartesian will without parts; an Organ without a Body is (like?) a Cartesian consciousness outside of a brain. We still do not have an organ that thinks.

However, the gestural act in the gaze suggested by the above passage points the way to full contemplation of the surface through the gesture of communication, and this is where we begin to see, almost on terms consistent with the statement of Aristotle's in *Metaphysics* Θ (1050 α - β), that form is activity and activity form.

Activity is surface; the surface is a message

According to Deleuze, what gave Artaud the (completely inaccurate) impression of the snobbish, well-fed Englishman in Louis Carroll was the panoply of surfaces that the schizoid mind had to expand to depths. He fumed: "Jabberwocky' is a poem whose author took steps to keep himself from the uterine being of suffering into which every great poet has plunged." (Deleuze, 1990, p. 84) For Artaud and Deleuze, at this point, surfaces are taken to be sterile. However, like the uterine lining, the surfaces of the body are far from sterile. Though the boundaries of many organs themselves do not matter much for their functioning, the activity of their respective cells is entirely dependent on manipulations in their surfaces. That gives the Organ its particularity – Galen's 'main tissue.' If we speak of the products of an organ, they are also defined by their surfaces.[18] The chemical surface of bile is so astonishingly complex to inspire its own form of mysticism. I would press the reader to contemplate an image of the three-dimensional surface of bovine liver catalase.[19]

Moreover, we should be clear that the "structure" of the surface, its surface content, is not its only important characteristic if we understand structure to represent some Pythagorean or semiotic ideal.

If DNA is viewed as a language, a platonic system of signs, the surface of DNA is its quadripartite constituents. However, the manner in which it is enfolded is crucial to the molecule's activity. The surface structure of DNA determines, in part, which genes are expressed. Proteins, in turn, have a chemical structure, but their surfaces are also enfolded. Several diseases are believed to be caused by improper folding of proteins (Ellis & Pinheiro, 2002). Interestingly, some mutations and viruses – even new organisms – can emerge from a misfolding. This takes us to where Deleuze's surfaces begin to gain depth in the fold of the baroque (Deleuze, 2015).

However, the Capacity of these products via their chemical reactions is often in the field of communication. A structure has its particular surface so that it may interact with another surface. 'Like lock and key' goes the biochemists' truism. This acquires its most baroque version in the proteins of symbiotic organisms—a truly Deleuzian world. A plant in a symbiotic relationship needs to allow its fungal symbiont, for example, to trail itself up into the plant's root structure. There are benefits to this for both parties. However, the plant must also protect itself from pathogens that might infect it through the same passage. So plants and their symbionts have extremely complex structural surfaces, which means a very complex lock is only for a very complex key. Botanists call these structures 'decorations' put over the surfaces of the symbionts. Decorations have no other function than what, in the language of the field, is called 'recognition.'^[20] Though science is full of metaphors (like 'adaptive'), nothing distinguishes this kind of recognition from that of a face or a password – the assembly of correspondences that lead to an (electro-)chemical reaction, new physical information. Moreover, versions of this communication of surfaces can be seen throughout the biological and neurological activity. Furthermore, marching up from the roots to the tree to Newton sitting under the tree, we cannot empirically find any difference in the baroque recognition of these symbionts than in the far simpler recognition that takes place on the part of neurotransmitters. Regulation amounts to communication between the Organ and the organism, which occurs through electrochemical reactions. These reactions are what define and determine the Organ's Capacity.

Thus, we have been able to get by discovering that the Capacity of an organ is to act, and its activity is a surface. The extent to which this surface is communicative is its Capacity for regulation. Thus, rather

than being defined by subservience, Capacity is defined by regulation.[21] We should not be loath to admit that this can account for the brain's activity in thought, but that can also apply to the activity of a mushroom in a tree. Either these activities are distinguished by no more than the differences in their surfaces, or limiting yourself to the Organ alone is not enough to account for consciousness. So much, so far, the phenomenology of the Organ is able to reveal.

The preceding should be enough to argue that much more work needs to be done on the phenomenology of the Organ before we can arrive at anything approaching flesh that can think and find its place in the world of social and material essences and surfaces. However, this should not excuse us from engaging with scientific results, as the figures above have done, nor in recognizing that the path is narrow, the journey long, and the destination perhaps less appealing than was expected. At the least, we should recognize that our adversaries along the way have an ideology that, for social and scientific reasons, deserves all the bile we can secrete.

End Notes

1. See Žižek's (2012, 16, fn. 195) response to Daniel Dennett. I examine the radical ethical connotations of reductionist neurology in Trimble (2015).
2. See Fodor (2000, 191), who regards the argument of a brain seeking adaptive advantage as a "distributive fallacy." Note that this means he must accept an agent distinct from the brain, and so, like all computationalists, he was a Crypto-Cartesian.
3. "I am afraid we are not rid of God because we still have faith in grammar." *Twilight of the Idols*, Friedrich Nietzsche (1982, 483).
4. A lengthy and trenchant refutation of the "homunculus," agency, and free will ends with Sopolsky (2013, 613) arguing: "I can't myself imagine how to live your life as if there is no free will. Viewing ourselves as the sum of our biology may never be possible. Perhaps we'll have to settle for making sure our homuncular myths are benign..."
5. Consider the famous "trolley argument."
6. *To Have Done with the Judgment of God* in Artaud (1976).
7. See Deleuze (1990).
8. Unless otherwise indicated, subsequent references are to Hegel (1977) by section number.
9. Plato (1937, vol. 2, 49–50; 2012; in Greek, 1905, § 70dff.).
10. Galen, *Natural Faculties* (1.6).
11. Note his discussion on humor and agency in the *Summa Theologiae* Q. 48.2.
12. Unless otherwise indicated, all references are to Heidegger (2001).
13. "The hammer is not an urge toward hammering. As a finished product, the hammer lies outside the act of hammering. By contrast, something like the eye, which belongs to a capacity and subserves the Capacity of seeing, can do so only because the Capacity is itself intrinsically subservient and, as such, can take something into service" (226). Thus though Svenaeus may be able to arrive at a practical phenomenology to understand the experiences of transplant patients, it seems pretty likely that the received Organ will disappear in use even faster than the swinging hammer and, so long as it is healthy, stay so because the patient cannot put it in and out of use.
14. Though one place in the *Grundbegriffe* swerves towards this point: "That which the Capacity as such allows to arise and brings into relation

to itself, namely the Organ, is thus taken into service or released from service (as in the case of atrophy). An instrument cannot atrophy because it is never subservient and does not have the possibility of capacity" (230). Here we make the point that regulation leads to changes in activity on the part of both Organ and organism. Heidegger's point is one of distinguishing serviceability and subservience, ours of reconciling Capacity and subservience.

15. Consider cochlear implants, replacing some or all of the ear's anatomy with a microphone.
16. Heidegger (2001, 108/83)
17. Recall that in Heidegger's etymology *Eigen* (one's own) is associated with *Augen* (eyes) via *Eräugnis* ('to be made apparent'). See Buchanan (2016).
18. In another article (Trimble, 2020), I discuss the affective distinction *between* mental surfaces as enacted on the consciousness of a neurosurgeon.
19. <https://www.rcsb.org/structure/1TGU>.
20. E.g., Rasmussen et al. (2016) and Besserer et al. (2006).
21. We may add to this that regulation is executed by recognition, which is a change in the physical information of the organism. Consider common biochemical examples such as the Krebs cycle expressing different information at each step.

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