Sound Minds

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(this is work in progress)

As a result of the growing public and legal interest in abortions much attention has been devoted in the recent philosophical literature to the idea of 'personhood'. If the 'right to life' is said to belong to a person, then at what point in time from the moment of conception does a person 'come into being', and therefore come to have that right? I might venture to say that the word 'person' here is loaded, since the interest in 'person-hood' or 'personal identity' obviously predates the current debates, and can arguably be traced all the way back to dualist notions about the world, where it was common to assume that an immaterial self that is distinct from the human body which it comes to inhabit is what gives that human body a distinct selfhood or identity- normally meaning some special kind of self-consciousness. Whether from

the recent or classical perspectives the notion of identity or personhood also implies *sameness*: the right to life of a fetus is a right to a continued life in the future, that is, in the future of that same organism. Likewise, the immaterial self has typically been portrayed as a substance that essentially remains the same –even as, per Plato, it finds itself ignorant in this life of what it used to know in its previous state. In some religious narratives it also has to be the same after death. In other words, identity (meaning an identifiable object of discourse) and sameness (accounting for whatever changes this object may undergo) are typically assumed to be reflexive: whatever has identity must retain it –i.e. remain the same- over time. The anti-abortionist argument loses some, if not all of its moral force if the notion of sameness or continuity is denied; likewise, the dualist argument loses some, if not all of its metaphysical force if sameness of that ethereal substance is denied.

In what follows I shall tentatively –perhaps even adventurously- steer a sort of middle, if somewhat twisted course in this well-trodden terrain,

essentially suggesting to take sound (or its vibrations) seriously both as a progenitor and a continuing function of self or consciousness. But I must forewarn you that I am simply throwing out a middle-of-the-road idea here (neither *physicalist* nor Platonic) that I assume can be pursued more professionally, whether in favor or against, by those of you who are or may become interested in these matters.

Let me begin by asking you to throw out any grand theory we may have about human consciousness and identity and to focus instead on some simple but basic biological facts we know about sound and hearing, or about just one of our sense organs. Of our five so-called 'external' senses hearing seems to stand out as having very distinctive biological features that are well-worth taking note of. Indeed, one has good reason to wonder if it is not sound that first gives birth to sentience. There is no reason yet to think of 'sentience' in terms of a full-blown binary model where this commits us either to an immaterial Cartesian self or a Humean bundle of impressions. We can rather as observers think of

this sentience initially and more modestly in the context of its association with a single biological organ. In this context we can note the following: our ears begin to form during our prenatal existence weeks before any of the rest of our sense organs. This must already tell us something. Also, while our other sense organs - including our eyes- are developed by the time we are born, it is only our ears which are already in a position to function while we are still in our mothers' wombs. Do they function there? Well, nothing prevents sound waves from reaching our auditory receptors in the uterus. It stands to reason, therefore, to suppose that our ears –unlike our eyes, or our senses of smell, taste and touch- in fact do begin to function while inside the uterus, before any of these other senses. Once again, the word 'function' here may be suspected as a cover-word: the ears may function, it could be concurred, but so does the heart: surely, however, it cannot be claimed on this basis alone there is a *subject – a sensory* something- yet of whom it could be said that *it hears*. But let's hold judgment on this. What is hearing, after all, if it is not the sensing of sound? Indeed, what is a *subject*? All we have

before us here and we are dealing with is simply a biological organ. We know that its function is fundamentally different from that of the heart. In the case of the heart 'functioning' just means the motor-activity of the pumping of blood. One organ is simply going about doing its business all by itself, so to speak. In the case of the ear, on the other hand, functioning does not just mean that all the organ does is simply to activate movement: rather, its function in effect *is* the registering –indeed, the *sensing*- of an external impression: sound. But how can we understand this? Strictly, going by a basic logical distinction, we should concede to having an identifiable *object* in the fetus whose function is *to be thumped* by sound, but it is at the same time and in principle at least a *subject* that somehow *senses these thumps*. But so far, the thumping and the sensing seem to be intertwined: sound waves that thump the organ, and those ripples in the fluid of the cochlea inside of it, or those of the swaying hair cells attached to that fluid, are all the same waves. Viewed from one angle, we have a sensory organ and an impression – a subject and an object. But

looked at from another angle, subject and object seem to be indistinguishable from one another!

Can we say that this reactive functioning of the ear in the fetus –a situation where two aspects of a phenomenon seem to be indistinguishable from one another- already implies *hearing*? Someone might say that hearing is a cognitive experience that can only be ascribed to a person, or to a complete nervous system, whereas what we have before us is simply a picture of a physical organ being physically affected. Hearing, it might be added, surely involves more than just sound waves reaching the ear, or more than just there being a simple sensory something as subject.

But *why* should we jump to assuming a fully cognizant self –one which we normally identify ourselves with- must already be there? As observers, why not assume or content ourselves with the account instead that a sentient *something* –whatever it is- is all there is at this point? After all, it is, and need only be, the simple sentience by the first of our main sense organs. Even if we

incorporate into the picture the eventual functioning of the classical five sense organs of a fully sentient subject, we find nothing added to the function of sensing sound than there is already in the fetus: we can still trace sound waves from the ear canal all the way to neural stimulations in a specific region in the brain, where distinct sounds finally become registered. The actual physical process or journey of the sound waves through the ear canal to the rippling fluid-filled cochlea, eventually causing chemical transmitters to produce electric signals to the brain is the same process. This is the full-range of the auditory experience. Indeed, the *impact* of sound waves on that region of the brain –that is, the electric signals- can actually be scanned in the fetus –even if, that is, it is claimed different sounds cannot yet be properly distinguished from one another, and that they require a fully-evolved sentient or cognizant subject before we can regard hearing as an attribute.

But surely hearing must start *some time,* and it need not necessarily mean hearing by a fully cognitive subject that distinguishes 'properly' one

sound from another. At some stage this indeed has to be the case. But at inception, all we have is the thumping and its effects. In any case, looking again at the biology of the ear, the cochlea's constitution already registers differently pitched sounds – this is a basic part of its function. And as said anyway, whether it is a sophisticated distinction of sounds from one another or a primitive sound or just pitch distinctions in sound the underlying physical account of how that happens is essentially the same, whether a properly cognitive subject is said already to exist or not. In this basic sense, the physical and the sentience accounts are co-extensive, making it hard for us to understand why at the primitive stage level sentience or hearing is denied altogether. Indeed, the only reason for such denial seems simply to be the preconceived but tenuous notion that a fully cognitive subject must first exist for us to attribute hearing to it. That it is a tenuous notion is clear from the fact that we do not normally assume that hearing be associated with biological organisms that are fully developed or cognizant, whatever we might mean by that. Someone might claim that ants or birds for example

–or *bats* for that matter- respond reflexively to sound but do not hear it. But surely, such a claim either presupposes the issue of contention, or it latches one meaning instead of another to the same word. We surely do not need to imagine ourselves to be bats or birds –or to attribute consciousness or self-consciousness to these- to acknowledge that their biological constitutions involve their being sentient to sound, in whatever sense we mean by this.

As functioning organs in the fetus the specific difference between the heart and the ear that brought the ear to our attention is hopefully by now quite clear. I will say more about it in a minute. Before doing that, however, it may help to consider another sense organ, the eye, contrasting its function vis-à-vis light with that of the ear vis-à-vis sound. This may further highlight the unique function of the ear and its association with sentience. I have already pointed out that a basic distinction between the eye and ear is the pre-natal functionality of the latter. Indeed, we are told it takes several weeks after a child has been born and

it opens its eyes before ‘seeing’ becomes properly ‘functional’- before the eye becomes attuned to discrete space, and then time, thus allowing the child to begin to identify faces –including that of its mother. But there are two additional, interrelated and, in my view, significant differences between the eye and the ear to take account of, the first more commonly known than the second. While both sound waves and light particles eventually end up as electric impulses in the brain, light-rays reaching the eye have to be re-configured in the retina for those rays to become interpretable as images that replicate their objects in the external world. This fact is commonly known. What it tells us is that light rays reaching the eye do not retain their original configuration as they become the images we see. In contrast, and perhaps less commonly known, sound waves that reach the ears retain their configurations as we hear them: whether as they travel through the ear canal to the cochlea, or as the rippled effects produced in the fluid in the cochlea itself causing the hair cells to sway, or as the swaying itself of those hair cells before electric impulses to the brain are produced, the

configuration of the sound waves remains the same. The word used to describe this unique effect on the sense organ by the external agent is tonotopic, a one-to-one correspondence of sound waves –the data received- with the swaying movement of the hair-cells in the cochlea. In other words –and this is the second and I believe major difference between light and sound- unlike light and what we see, there is a *generic identity* between sound and what is heard, or between the sense-impression and its registration in the auditory receptor. This is a feature –later also shared by taste and smell- that must give us pause. We sense it as grown-ups when we hear the sound of an engine *inside* our heads but see the object causing it *outside* of our heads. It tells us that, unlike the case with light and its impressions on the eye, sound and its impressions on the ear are generically identical. More particularly and especially in the inception phase of the ear, there seems to be a generic identity between cause and effect, or sound and sentience –a notion reinforcing the claim made earlier about an identity relation between subject and object- a sensory organ and the impression

upon it by an external agent. If sound is sensed by the organ and the two are indistinguishable at the moment of contact for being generically identical, what we seem to end up with is simply sentience *as* sound, or which *is* sound, however hard it is for us to imagine what exactly this is.

Now, something that is in one sense a subject and in another an object may at first seem to us to be a peculiar notion –perhaps denying the self-evidence of the the law of excluded middle. But arguably, this may be so only if an object of reference is already identified or presupposed. However, we are not yet in a position to identify such an object. Indeed, as *observers,* we may never be able to identify such an object in the first place, though each one of us may eventually be better positioned to identify themselves. All we were able to do in this case was to identify *two* factors, one which we took to be a cause and the other its effect, the one being mapped onto the other. It is the union between them that we could *describe* (rather than *refer to*) as what we called a '*sentience as'*. This is not an altogether unheard of situation: we are told that a

sub-atomic particle has embedded in its nature a 50% chance of inclining in one direction or in the other, making it an extraneous factor in which direction it in fact will incline. In computer science this dual state of the particle is apparently being experimented with to replace current binary digital technology, with intentions to create another leap in computing power. Likewise, it is not far-fetched to assume that, at its inception, sentience can be described by sound and hearing in the same breath. Being a sentient subject and sound data are one and the same thing, or are two sides of the same coin. I must straightaway point out here that this elementary formula neither identifies yet what sound –and therefore, subject- we are talking about, nor does it more importantly yet explain to us how sentience in this union can be understood, or how a separation may eventually develop between this sentience and sound- what might be described as a so-to-speak sentience *of* sound or *to* sound rather than a sentience *as* sound. In other words, although the basic principle of subject-object identity here may be clear, we are still in

need of understanding how and to what this principle applies.

But already, it seems to be a reasonable hypothesis to suggest that at the earliest stage of sentience, which is typically the sentience of the pre-natal ear, we can *as observers* at least claim that –for the human species at least- being and hearing are the same. Or –simply- *to be is to hear*, and likewise conversely!

Many insights, as well as complications, arise from this claim. For example, what about the dualist notion of the self, or of personhood? Indeed, does this account identifying subject with object, or self with impressions we receive, correspond with or corroborate Hume's –or, more generally- *physicalist* accounts of the self? On the other hand, what about abortion or philosophical debates of pain? Or Cartesian first-person narratives ascertaining selfhood? I will try to address some of these issues below. For now, what should hold attention is having identified a theoretic ground-level for sentience from which we can trace the evolution of

consciousness. At this level at least, if not farther, Hume's identification account seems to fit quite well. But its articulation –as we shall see- will leave that account behind.

Before addressing how that needs to be done, and by way of highlighting once again the unique role of the ear, let me briefly talk about pain as a proposed gauge for fetal selfhood, especially in abortion debates. I have tried to highlight the unique role of the ear so far by contrasting it with that of the heart and of the eye. But it is not sound and hearing that is mostly cited in abortion and philosophical debates, but pain. Pain that is or may be felt by the fetus is surely a strong anti-abortionist argument, and while the sensing of pain was once thought to be somewhat elusive for not specifically being identifiable with any specific organ, now we are told that the precise location of the receptor nerves in the brain that are associated with pain have become identified and can be monitored. Whereas the physical impact causing pain is not limited to one organ, nonetheless nerve cells throughout the body can in fact react to that impact, sending

signals all the way to the brain, especially after a certain period –anything from 12-24 weeks- of gestation. Why, it may then be asked, not associate pain with primary sentience? Surely, after all, the fetus can *feel* pain far more dramatically than it can hear sound.

It is important for us to see why this this line of thought is flawed: simply, there is no single organ that can be objectively identified as an intermediary between the spread-out nerve cells in the body where the cause of pain starts and the region in the brain where the effect is automatically registered. Likewise, there is no *single cause* or original point from which such pain may originate, and thereby be mapped onto a single organ. To claim the fetus *feels* pain, or *is* in pain, nevertheless is therefore to make the untenable assumption of a still unidentified, ethereal subject in the middle; or alternatively to suppose that the entire nervous system at inception functions as a single organ –which it clearly does not. In clear contrast, in the case of sound it was not claimed that the fetus is a subject in the first place. Indeed, the assumption there was that the fetus

was not a subject yet, and that we were still seeking to identify what might be one. But here to maintain that *something* or *someone* must feel the pain is to *ascribe* personhood or consciousness to that someone or something. But this would be more like *conferring* that personhood or consciousness to the fetus rather than *inferring* it from the available data. It may well be a morally or religiously justifiable position to take, but it is neither logical nor evidentiary.

Pain and hearing do not therefore belong to the same bag of sensations or experiences, and of the two we have good reason to believe that hearing is primary, and that pain presupposes a subject, or sentience. This is just to say that if and when pain is felt in or by the fetus –whenever that happens- then that would be so insofar as there is already a sentience *to* or *of* in or by the fetus. Of course, the uncertainty as to when this happens makes pain an important factor to be dealt with in abortion debates. Perhaps to close off this part of my presentation I should just add that the above 'observer account' that questions the conferring of

‘subject-hood’ to the fetus on account of pain is quite different from the philosophical account which also questions the self-affirmation of subject-hood that draws on so-called private experiences, like the feeling of pain. I will address this latter account below.

But let me now come back to the ear and to the tricky part where what is needed is to provide a coherent account of whether and how sentience develops –how, to begin with, to identify what ‘sentience as’ might be, based on the ‘to be is to hear’ formula that I suggested was anchored to a single sense-organ at the ground-level; and how this develops to consciousness, beginning with the leap from sentience *as*, to sentience *to,* or *of*.

Here it may be important to begin by repeating what was said earlier that, considering the hearing organ only and what is called “tonotopic mapping”, there is good reason –barring an important exception which I will mention forthwith- to take the Humean account seriously. As already said, subject and object, or cause and effect, cannot at

that stage be distinguished from one another. I described this ‘to be is to hear’ formula as an elementary principle. According to this formula one cannot in principle here imagine the thumped *object* -namely, the auditory apparatus- to be anything but a continuously changing series of sound impressions following one another through time, Humean-wise. The outer structure of the physical organ indeed remains the same for all intents and purposes, but its inner sensory parts would be in constant flux as different sounds from inside and outside the body impress themselves on it. By itself, this formula now confronts us with a quandary: while its account of ‘sentience as’ in theory answers to the subject-object sameness, in that sounds are indistinguishable from their impressions, the account so far significantly leaves out an explanation for a more important and underlying sameness, namely, that of the ‘sentience as’ itself. On the assumption of constantly disparate sounds reaching the ear from different directions, our account leaves us with a constantly fluctuating sentience, or a series of short-lived ones, mostly different from one another, and each one

disappearing almost as soon as the waves of a particular sound subsides. In this kind of state we cannot envision or expect there to be a sentience that stands out, and that we can describe as having a single identity –indeed, even one that fluctuates. For, as said at the beginning of this talk, the essential criterion for identity is sameness, meaning that whatever sentience we suppose there to be at any one instance must be generically the same as what there was the instance before, at least for a certain duration of time. Therefore, what we described earlier as a sentience-as must, strictly speaking, have endurance or sameness. The prerequisite for such a sentience cannot be a series of disparate sounds, but must be a single continuing sound –what ideally would constitute a generically constant impression at the causal end of the auditory receptors that will ensure a generic continuity at the reception end, a sentience that would thereby have enduring identity. In the plethora of sounds that reach the fetus, one that we are told stands out is that so-called whooshing noise that permeates the fetus's general auditory environment: though undulating, it is a *sui generic*

fluid white noise whose waves impress themselves on the hair cells at the receptor end, making this a *sui generic* sentience at that end. This, then, ensures an enduring entity that is at one and the same time a sound and a sentience, an object and a subject as considered in different lights.

We cannot describe this incipient sentience except to say it is a *sentience as sound*. In effect, that may be all the nascent 'sentience as' there is –but now importantly being a *subject* of some description, and providing us with a potential backdrop for the sensing of different sounds. One can imagine it already as being a resonance from the cochlea's surface, or also a kind of empty music sheet where musical notes can later be inscribed. I will say straight off that for non-hearing fetuses this initial sentience is most likely activated by other senses, sound waves probably being registered as reverberations or rhythms in the spinal chord or vibrations in the skull, and translated as electrical impulses directly into the brain.

As already noted, a significant transformation here must take place which it is worthwhile to dwell on: in the absence of this basic sentience, subject (here meaning sound) and object (here meaning the ear, or-in the case of defective hearing- what compensates for it by other senses), are indistinguishable from one another. Indeed, the latter cannot but be seen as an *object.* But once we have a part –a 'sentience as' -that has specifically become singled out by the whooshing noise, thus having continuity and an identity, we now find ourselves dealing with with what must be considered a *subject* here (a sentience as) in place of the object (the physical organ) we started out with. In its capacity as what senses, *it* is now -by virtue of this- a subject. While we cannot pinpoint what that is, exactly, it now appears to be a single though submerged subject, a *something* that can now be described as subsisting in an otherwise fluctuating environment, its *being* consisting precisely in having that identity. This is finally why the formula 'to be is to hear' seems to be an apt fit.

Shall we say this likely sentience is a sentience at the ground-level, or of the first-order? What we would mean is that we may have explained the general principle that being is hearing, but we are still short of understanding how the identity of *a particular hearing being* begins to form; or what selfhood really means. After all, it is not the identity of the physical organ (the object that is thumped) that eludes us. What we are now confronted with and having to identify more clearly is that ethereal substance we will later call a 'subject' (or a consciousness) in the proper or fuller sense. To say that our object (the organ) has now yielded a subject as a result of the whooshing noise may help us introduce the nature of the subject –it is a sentience *as sound*- and, more specifically we can now say, as the undulating sound of the fetus's fluid environment. But this is only one side of its ineffable nature. Its more challenging side to explain is its sentience *to sound* –its emergence, if you will, from a sound being to *a being* that is sentient *to* sound –a process that involves or requires there to be a *something* that can now be sentient to sounds, whether of itself or that *are not*

itself. This is surely what consciousness of an other- as well as what later we can understand as self-consciousness- means. It is a consciousness *of.* How does such a sentience evolve? Remaining with sound, how might we account for the possible leap from the ground-level of sentience *as,* to the first level of sentience *to,* or of consciousness. Is it possible to hypothesize how that happens, how sentience evolves?

Following the same kind of reasoning we have used so far we can once again postulate what in one sense and in the first instance could be an *object* of a thumping sound, and what could act as an identifiable or specific sound at the causal end as a source or subject. Let us first consider what our object here might be: we can with reason now say, having established a ground-level sentience-as which has become a distinctive feature or configuration of the hair-cells –a resonance or a music sheet- that this now could be an object that can be thumped by another sound. All it is is an identified but general being of sound in the physical space of the auditory receptors. Its nature being a

sound sentience, it is not hard for us to imagine that sounds can be registered in or on it, thereby allowing it to be considered once as a sentience-as which is an object that is thumped, but in another light also as a sentience which senses that sound, or as subject. It is not just a sentience which *is* sound: it is a sentience *to* or *of* sound. Such a sentience, then, would in theory at least qualify it as a sentience that hears, or, as *a hearing being.*

So now we must again look for a potential singular sound (a generically single entity) as subject or as a thumping sound. As will soon become evident, we will have a lingering question here of whether at this stage we need to account only for one such sound as we did the first time, or if discernment between more than one such sound is required for a sentience to one. Let us leave this question aside for now as we first seek to identify one such sound, one that can be identified from amongst the clatter of sounds reaching the fetus: such a sound -as an entity that can be singled out- must have identity, that is, ensure sameness from one instance to the next. Such a sound would thump its object, this

latter now being the ground-level sentience-as already established. This would be ready once again to acquire a dual role itself, in one respect as an object being thumped and in another as a sentience to or of that thump. What might we consider as a likely generic sound that replicates itself on our sentience-as, making this now a subject itself?

There is (at least) one sound that seems to fit this requirement. It is a recurrent thumping sound. It is a tonal rhythm. It knocks like clockwork, or even an alarm, on the auditory receptors, and specifically now, on the already established sentience as in those receptors. Indeed, it is the most direct of identifiable sounds reaching the ear of the fetus, not as waves from outside its body but immediately through the veins that are proximate to the inner side of its ear-drums. This is the rhythmic beating of the fetus's own heart, as blood is pumped and made to rush in regular and ordered intervals through the veins. One can imagine this recurring rhythm to be almost like a wake-up call, as a tonal inscription on the sentience as. If there is one likely specific sound (or impression) that could be

responsible for awakening or forming an enduring sentience *to,* it must surely be this rhythmic knock.

We can imagine that the constant heartbeat is now mapped onto the backdrop sentience or inscribed in it as a recurring tonal rhythm, each instant echoing the one before it, its recurrence ensuring sameness, its distinctness from its backdrop signaling an awakening of a sentience *to* in the midst of the flapping waves of the fluid. It is as though the recurring sound waves of the heartbeat that blow systematically at the 'sentience as' hair cells set aglow the rudimentary flames of that ethereal subject –the sentience to- that will forever remain indefinable. I use the expression 'set aglow' purposely here, as it describes the manifestation of something, like a flame, from something else, like wood. But less poetically, we might think of it as a second-order resonance or a *projection* in some yet-undefined form of the impressions of the heartbeat. In due course, as we shall see, this subject can still be described as a projection of impressions, whether of sounds, or of other data. Here, then, it appears that it is a tonal rhythm that awakens basic

sentience, making it into a hearing being with identity that is sentient *to* sound. Not surprisingly, this tonality may also be all that remains once brain functions degenerate, as I shall point out at the end of my talk.

But now it may be reasonably claimed that being sentient to *a* sound only makes sense if that sound can be contrasted with at least one other. After all, what we are now dealing with is not just a sentience-as, which is identical with sound, but a second-order sentience, which is a sentience that *discerns* sound. And discernment of *a sound* would make sense –it may be argued- only in the context of a discernment of at least two separate sounds. Allowing for this to be the case we may consider *another* sound as a likely candidate, one fulfilling the same requirement of identity and continuity, and is objectively identifiable. Unsurprisingly, it is the same in kind and nature as the first, but its pitch is different, as is its route, now reaching from *outside* of the fetus's body and as waves beating at the ear-drum through the ear canal rather than from the blood veins. It is louder, stronger. It is the

rhythmic heart-beat of one's mother. Once again it is a recurrent tonal rhythm that is set apart from the plethora of indistinct sounds, and is sufficiently the same in nature as the first rhythmic sound to be identifiable, but sufficiently distinct to be discernable. Can we say that it is specifically now and not before, or by virtue of this different rhythm and pitch which we can envision as another distinct sound impression, that the discerning condition for the sound subject becoming sentient to sound becomes satisfied?

There are two inter-related issues here we have to unravel, the first to do with answering the question we just asked ourselves; but the second and more basic one is that of the mother's heartbeat: If, going by what was suggested earlier, at inception to be is to hear, and a being requires a continued or sameness of sound impressions to qualify as a being with identity, we may at first find ourselves having to conclude that what we now have before us are *two* hearing beings or subjects, rather than one subject projected by the first sound impression and that is now sentient to a second sound impression.

After all, as far as the fetus is concerned there is only *one* sensory receptor. It now registers *another* rhythmic beat. Does the first sound subject –the sentience-as- here find itself split into two, becoming two subjects? We seem to be spared this problematic conclusion because, assuming two subjects, each one now would anyway be sentient to the *same* heartbeats –either that of itself, in which case there will be one subject; or that of the mother's, in which case, this being the same impression, we again will have just one subject; or of both, also implying one subject according to the same reasoning. Whatever configuration we choose, therefore, we end up with one subject.

However, our original question remains: does the sentience-to first form by the first heartbeat, and thereupon move another rung up in the sentience ladder by becoming sentient to the second heartbeat? Or is the simultaneous sentience to both heartbeats necessary for the first leap in sentience?

An argument in favor of the latter choice is that *a* primary sound cannot be discerned by itself, but

must have at least one other sound with which to contrast it –not just silence. But this may be true –if it is true- only if we distinguish already between subject and discernment, or to assume there is already a sentient-to subject. If, on the other hand, we assume that the subject is *constituted* by discernment, the contrasting requirement ceases to be of significance.

In any case, it does not matter to the argument at hand which of these two processes happens to be the case: because, either way, we now already have a clear account of how the leap to a sentience-to might take place. Whether in accordance with a consecutive or a simultaneous sentience of these two basic rhythms, the mother's heartbeat in any case now acts as the gateway to the wider world of fetal sound impressions. Becoming a sentient-to sound subject means to begin to develop the capacity to sense other sounds, slowly climbing up the ladder of sound-sentience rungs, in each case maturing further, and in time, becoming capable of sensing other impressions as well.

However, this is not to say yet that the sentient-to subject we have is subjectively conscious of itself. Even if it makes perfectly good sense to suppose that it can now be sentient to other sounds we must not presume this will involve a sentience of *itself*, as nothing assures us that it thereby comes to have a subjective sense of its *own distinctness* from *those* sounds. After all, its being aware of *something,* or having become *sentient to*, need not imply having awareness of whether *that* something is itself or something else, or imply its awareness of there needing to be such a distinction in the first place. All it means is that its auditory environment has expanded. The sense of itself as a distinct being awaits much further development, and probably develops after birth, as we shall see. So we might now ask, what is it, exactly? All we have as an answer so far is that it is some kind of glow or *projection* of sound impressions, first of the heartbeats, then of other sounds. As a projection the word 'ethereal' seems apt, but for all we know this may become better defined one day as some kind of resolution of sound waves, or as a different

kind of wave. This *may be what it, and all its consciousness at this stage, amounts to.* But this is no small step!

As said, it is still a rudimentary or basic sentience, but it already has developed the potential to becoming sentient to other, disparate sounds that reach it…first, those coming from within her mother's body, and later those that come from outside. Even so, it has not yet learnt to distinguish itself from those sounds.

It is not preposterous to claim that positing such a subject or a 'sentience to' that is not self-conscious makes sense: as already noted, we are for instance generally content to accept the being of a such a subject –a 'sentient to'- once the child is born and opens its eyes –that is, even when it still cannot distinguish between itself and the light rays that reach it, or to differentiate between them. In this case, the space filled out by the light impressions and the child's sentience is a mere continuum. Before birth, there is no reason to think that the situation is different, in this case sound being the

fetus's main environment, and the space filled out by sound impressions and sentience also being a mere continuum. One presumes that, as more sounds infiltrate and are noted, a gradual ascension from one consciousness-rung of sound to one above it takes place, and a honing of its skills at sound differentiation becomes enhanced, commensurate with the genetic development of the deep structure of language in her brains – what we are now assured is a significant factor in the development of awareness. Furthermore, our subject now being a 'sentient to', it becomes theoretically possible also to hypothesize the sensing of pain or of impressions other than sound.

I do not mean to discount the importance of the development meantime of the fetus's other senses –that we may know little about. But the sound narrative as a primary physiological feature seems both apt and sufficient to explain how sentience begins to evolve –even, as already said, if tonality is somehow sensed or registered directly in the brain, perhaps through sensing skull or spinal chord vibrations, as must be the case with fetuses with

defective cochlea. Once born, of course, other senses kick in. Not surprisingly, once again, the primary sense organs that immediately come into play after birth are those, like sound, where data and sense –cause and effect- are generically identical, namely, those of taste and smell. In both cases, what are tasted or smelled by the newborn are exactly the tastes and smells of the objects themselves. The impressions of these are also tonotopic. That is why, like sound which we hear *inside* our heads, we smell not only *with* but also *in* our noses; and we taste not only *with* but also *in* our tongues. At some point all these sensory organs begin to align themselves with one another, each one adding another dimension to the perception of the other, as light for instance now comes to be aligned with sound, or taste with smell, the aggregation feeding into what was classically called a *sensus communis*. Presumably, as all this happens, the process of the further evolution of a being self continues in both of its respects as a sentience as and a sentience to. Sound continues to be its anchor.

Classically, this *sensus communis* was regarded as being distinct from the *self* properly so-called. It was simply a brain center into which all the five sense-organs fed their data. As to the *self,* this was a contentious issue: was this a mind or soul, did it exist before the body, does it have existence after the body's decay? Eschewing these speculations, and remaining for now with our singular sense organ, and with the sentience we found reason to hypothesize, namely, our sentience to sound, I submit that we need not confer on this *self* more than its simply being a further developed or higher-order evolution of the *subject* "sentience to", now becoming sentient to a plethora of different impressions. For us as observers, by its very nature at its inception that subject is, and will always remain, inscrutable. After all, as far as we know none of us can be that subject, or feel its experiences. In addition, we cannot fix our referential gaze on it as we might on a physical object. But going by our observations all we can do is to hypothesize its existence as a logical requirement or force, just as we do in countless cases in the world of nature, as in those about

quarks or dark matter or energy. If it starts this probable existence in virtue specifically of sound impressions, its next phase of evolution after its birth will in all likelihood become defined by all the other impressions that will come to press themselves on it -initially, for instance, those of the taste and smell of its mother's milk.

As already suggested, its sentience to or of cannot initially be considered as a consciousness of *itself.* As a newborn it is sentient to the smell of its mother's milk, but not initially yet conscious of the fact that this smell is distinct from itself, just as, immediately after birth, the newborn is not yet conscious that it is distinct from the light rays that fill out its retina. One may assume here that its initial reflexes to light and taste are not yet processed through the brain or a single nervous system. Perhaps this is a state or condition where the sentience of the fetus is alike to that of primitive organisms that react to their surroundings without necessarily having consciousness of themselves as individuals. We can't of course put ourselves in the place of those organisms to

determine whether they experience self-consciousness, but we can with good reason hypothesize some sort of inscrutable sentience in primitive organisms –to sound, among other things- without thereby transgressing any rational laws.

At some point, however, this 'sentience to' develops consciousness of itself –that is, it starts to set itself apart from the complex data it receives. As evolved sensory beings, we know that this is how we eventually find ourselves –that we distinguish between ourselves and the data we receive. How did we come to do that?

I suggest this may first happen (to us) by negation, or by first coming to be aware that the other that there is sentience *of* is *not* oneself. But to imagine how this might happen we now have to consider our sensory subject as a newborn that moves in the environment of the external world. In this context, the child's awareness that the data it receives is *not* itself most likely happens as it begins to *interact* with that data –by discovering that this data is affected by its movements, for example when an

object suddenly rattles or moves as its hand touches it, or a face disappears when it moves its head. Body movement –accidental or non-voluntary to begin with- gradually teaches the child the distinctness of the sense-data from itself. This initial distancing of the other then becomes a prelude for a positive sense of itself –when the child later discovers it can *intentionally* affect impressions or data it had already distanced from itself. Intentional bodily acts that are set out to influence data are a clear signpost for the development of our ethereal 'sentience to' into a self-conscious being, an agent. Even so, having a positive sense of itself, or becoming self-conscious, precedes the more advanced stage of becoming conscious of other minds- i.e., other *actors,* or, strictly, *minds* that think differently from oneself- which, according to Theory of Mind literature, is a condition the child has been shown to acquire only after the age of three to four!

The child's distinct consciousness and her impressions remain structurally interconnected: we must not forget that her consciousness is that initial

and inscrutable echo or projection that is prompted by those impressions. Two questions then require our attention, how does an enduring interconnection between self and impression play out? And, how can we approach an understanding of that virtual echo or glow that is projected by these impressions? Perhaps an analogy here might help: in 3-D interactive computer games a player typically assumes the role of an actor whose actions and reactions are prompted almost entirely by the simulations produced in the game –whether those of her own making or those that are made to prop up suddenly before her. In part, that avatar's identity is *structurally* constituted by the interaction between it and the simulated environment. It is lifeless without that interaction. But it is also and in another part *intentionally* constituted by what the player consciously *feels* herself to be as she navigates her avatar. Again, it is lifeless without that intentionality. True, this would be a strange feeling –a double-consciousness, so to speak. But one of them is on behalf of that avatar. Can it not be in like fashion that the child develops a consciousness of herself insofar as she begins to navigate her own

body movement in an interactive external space? However ethereal and inscrutable that consciousness is, at the end of the day it is an intentionality prompted or projected by the impressions it receives from that space, just as the consciousness of being an avatar was prompted by the stimuli impressing itself upon it. Perhaps it is important to stress this is simply an example to help us understand how consciousness works, not a proof for something which is in its nature and with our tools unprovable. Eventually, such a consciousness would be a projection of the total sum of impressions and experiences she has in that external space. This, then, would constitute her identity –that is, a consciousness that she and others can ascribe exclusively to her.

Again, *we* can never literally put ourselves in that child's or any other's place and thus share that experience: that self-consciousness after all is not ours. But we do not need to in order to know it is there. We can imagine what it is like from experiencing our own self-consciousness. Indeed, as many philosophers have classically argued, this self-

consciousness must be primal, however undeveloped it may at first be. This goes against the grain of the thinking of many contemporary philosophers, like Peter Strawson, for whom the concept of person is primary, that is, presupposed for self-consciousness to make sense. I will address this contention in a minute. Meantime, again referencing the same Strawson on the subject, we can envision (what in our reckoning is) a brief continuance of this ethereal projection even after following the death of the body, or immediately after impressions have ceased to be registered in the brain. Time being relative, different ideas can be hypothesized as to the experiences, if any, that such an ethereal self can have during that state.

Later still in life, not surprisingly, sound and self retain their original alliance, as when we interrogate or probe ourselves as no one else can through language, using sound images as we do this; or as we make use of hymns or mantras, or listen to special rhythms or tunes or melodies in an effort to achieve a pristine clarity of our consciousness. Or even as we dissolve our individual identities into

that of a group or a crowd to the sound of a song or an anthem. Indeed, language and rhythm retain their roles as constitutive functions of identity, now also that of groups or communities or nations. Here again, the entities we speak of, though possessed with identities, are clearly immaterial- forces if you will- or higher-order substances. I shall return to say a few words about some of the above, but first let me turn our attention from the observation narrative I have focused on so far to the first-person narrative accounts concerning the self in the Cartesian debate.

I am still on the subject of sound, and personhood or identity. As already said, it is mostly pain rather than sound that figures in most of the abortion and metaphysical debates about the subject at hand – where either a personhood or an immaterial self is discussed. Invoking pain felt by the fetus in abortion debates clearly carries moral weight that cannot be ignored. But pain is also used in what might be called the 'metaphysical' debate. Whether used in this case or that, it has anyway figured prominently.

Typically, in a materialist view, it is argued that while it is not in question that *we* can and do observe the visible signs of sound or pain whether in a body or a brain –these are, after all, *public* objects- it is an altogether different matter to jump from this to the conclusion –on this basis alone- there is a self or a consciousness where these signs are being registered; or the conclusion –for instance in the case of the fetus- there is a self-identifying subject that is somehow conscious of these signs. In support of this view we are asked to consider the thought purportedly expressed by the simple sentence "I feel pain": for this sentence to be meaningful –that is, to be admitted as a coherent part of a language- it has been cogently argued- the referents of both the pronoun as well as the object have to be *in principle* meaningful. In the absence of a common language that already ascribes the word 'pain' with a common or public meaning, its use in this example cannot be a means to verify the referent of the experience, let alone of the pronoun. In other words, because the term 'pain' does not designate a *public* object that is verifiable alike to the term 'tree', it cannot meaningfully be

expressed in a first-order language. By this is meant that, on a first-language round, so to speak, speakers can only come together among themselves on agreeing to use terms that are observable to all. What each of them says she feels cannot be observed by others, and so not by themselves as others make similar claims or express similar behaviors. So long as it is 'private', then, the term cannot be said to have significance. On its account alone, therefore, we cannot infer there is an unobservable I as subject. By the second round in the language game, however, as the boundaries of language are expanded through experience, observation, and abstractions, the matter can be adjusted through the introduction of new terms that are not public, but which can now be introduced by mediation thus allowing one to say of herself, meaningfully, "I feel pain".

Likewise, it is also argued, the referent of the first-person singular 'I' is private. In order for this to be considered meaningful it has to go through the same language round as did the word 'pain': to have self-consciousness or to be able to think of

oneself as a person or an individual one already has to have formed the *concept* of person, which one could only do if the word 'person' comes to connote a public object, that is, has come to be used by language-speakers to have the meaning it has. The ultimate point of such arguments (whether about the self or about pain) is that any coherent theoretical discourse about myself or the world – such as that of Descartes' *cogito*- must be second-order or public, and would be meaningless if presumed to proceed solely from my private ruminations or feelings. 'I' can make sense only and to the extent that it could be indirectly extrapolated from the use of second- and third-person singulars, that is, by individuating others belonging to the same class and thereafter forming the concept that, insofar as it is observably peculiar to each one of them it must be what I feel is, or can claim to be, peculiar to myself. In other words, 'I', too, is coherent only indirectly, by mediation in a second-order language. That is why the *concept of person* is argued to be primary. Self-reference cannot be used as the ultimate source of a coherent theoretic discourse about the world.

Although these two language arguments –about self-consciousness and about pain- are generally viewed in the same light, and to support the same claim, there is good reason to suggest –as I have already done- they seem to conflate between two entirely different paradigms, and to presuppose similar terms of reference for the relevant experiences that are ill-suited for both. As already argued, sentience begins to evolve prior to and independently of consciousness of other minds, or a facility with language, or such feelings as pain. Once it has evolved the sensory subject, and surely before acquiring language, or –as already pointed out, before even becoming conscious of other minds- must at one point begin to sense other impressions, including pain, as a newborn if not as a fetus. And as for later, if I can claim to be making sense of an argument that sheds doubt on someone's claim they feel pain, this must surely be because I am in no doubt about what pain feels like when I experience it in my own case. Moreover, the argument casting doubt on someone else feeling pain would also make sense only if I cannot feel

certain of their experiencing pain when they do – which, however, I do, as for example when I feel instinctively certain of the pain exhibited by such people I care about as my children. As biological creatures we surely experience this kind of instinctive certainty and share it about harm to our loved ones with other species in the animal kingdom. It is not clear that a common word for that harm must exist among members of that species for them to experience pain or recognize it in their loved ones. In other words, it stands to reason to suppose that a child will have such basic experiences even if the community she was born into did not have, or had not yet developed the words for them; and that her mother would instinctively empathize with her child for experiencing that pain. Indeed, unlike public objects over which a community can more readily reach a language convention, a brief survey of the psychological literature anyway reveals a constant search for the right words and narratives that might more accurately describe private experiences people have. While it is true that language partly creates reality it is also true that it partly seeks to

describe it, including the reality of 'inner experiences'. Of course, a *discourse* carried out between our sensory subject as a grown-up and members of her language community in which she tries to *refer* to her self-consciousness or personhood or even pain when such words were not in currency would not initially work: such a discourse would definitely have to be second-order, based on a language already in use. But her inability at first to communicate her feelings does not mean she does not have them. In this regard, the language argument therefore seems to be a good one only insofar as it theoretically restricts what *others* can tell about my feelings –not what feelings I have. Furthermore, it stands to reason to argue further that it is the feelings that I have which I then use as a paradigm for what I come to assume others also feel, with whom I engage in a discourse in order to articulate the right words that describe them. This, by the way, may be just as true for feelings as for thoughts or ideas, where discourse can also fine-tune undeveloped ideas someone may have, such as what justice is. One might add here that a denial of so-called mental states or inner

experiences on account of their traditional association with spirit (e.g.,Wittgenstein) would seem too heavy a price to pay, given that such states and experiences can be explained in the neutral way proposed in this narrative.

Certainly the Cartesian narrative –and others like it, which use common language to prove self-consciousness in a presumed physical void- is surely circuitous, presupposing a language which itself involves my membership in a language community. Luckily, of course, being born to such a community is how I happen to find myself in this world. But this fortuitous circumstance does not warrant a denial of a primary consciousness. Nor, it might more radically be suggested, does the common language argument totally deny the possibility of some kind of private language I can devise all to myself in my void, however primitive one can allow it to be, and even though it is hard for us to imagine what this would be like, what it would consist of, or how this could be done –let alone how others could understand it.

Approached from the other end, though, the language argument extracts its own toll from the purely physicalist argument: because, it leaves out mention of something far more basic and significant about language, namely, that common language itself is primarily or predominantly a form of *sound* – discursive if not figurative. Even in self-introspective narratives, language typically consists of sound-images. We are therefore led back to square one, or to consider sound, which is where the contentious issue of the self must be settled, if anywhere at all. In other words, even though discursive language is necessary for the public confirmation of self and pain, this very confirmation is rooted in sound. And once we take sound seriously, we surely cannot ignore its role as a constitutive factor in the entity-hood of self, whether at the inception phase or at the level of an evolved or higher-order sentience –indeed, even at the level of collective identities, as as I shall soon point out. Whatever claim the language argument has, therefore, this is already predicated on the sound argument. I think we can thus rest assured here that the incipient self is in any case a

projection of an elementary sound, a rhythm, or the echo of one, long-time preceding membership in a communal language with which to construct a self-affirming propositional narrative. So much, then, for the main part of my talk.

I wish to conclude (what I already called 'my adventurous') remarks by briefly citing *Musicophilia*, that noteworthy collection of clinical cases narrated by Oliver Sacks, where he tries to impress upon us that musical form has an uncanny association with our deep subconscious, or inner selves, as evidenced by his studies on his patients. Music's pedagogic and therapeutic functions are now commonly recognized. But Sacks invites us to look at music's effect also from a new angle- its effect on his patients: looking at one paradigm example, we can consider the case of a patient who, whether as a result of a natural degeneration of her brain faculties or from an accident, has come to suffer from both factual as well as autobiographical amnesia. She cannot recount either events about the world in general, or about her own life. In addition, the patient can no longer compose

propositional speech. Her condition is pronounced as being irreversible. In one sense, we might reasonably claim that that patient is not the same person, or not quite the same person, she was before. Indeed, we might go as far as claiming that the person we knew is altogether quite gone –that all that is left now is just a body, bereft of the soul that once inhabited it. However, a doubt lingers: the patient, once a music lover or a professional pianist, seems to be responsive to melody, or even to be able to play a piece of music she played before. Parts of the right-hand-side region of her brain are still active. To some it might seem that this observable behavior is a mechanical 'leftover' – almost alike to the involuntary impulses of body-parts sometimes produced as the breath of life leaves the body: mere nerve-impulses expressed in face features indicating a familiarity with a tune or a melody, or even expressed in humming or playing it, does not warrant the conclusion that the patient's self is still in there. Sacks gives us a different view. Quoting numerous examples of similar cases to do with music –even ones, incredibly, where a patient who has recovered from

being unconscious as a result of a car accident takes to learning musical notation in order to transcribe a strange melody that suddenly manifests itself in his head when he comes out of his coma- insists on the unique role musical rhythm seems to play in our minds, making out music somehow to be an enduring zone binding us as persons to the outside world, or binding the outside world to us. He views it almost as a primordial chord of the self's being. Parting with the view held by one of his colleagues he emphasizes the enduring existence, as he sees it, of the sentient self even in the darkest of cognitive hours. Even when the so-called 'rational' part of the self has somehow dissolved, a musical or tonal sentience signifying continuity remains.

Sacks sees the music experiences of his cases as key to recognizing the enduring self, but he seems also convinced that music in one form or another –for example as anthems or melodies- also contributes to the formation of collective identities- such as those of nations. Indeed, we know that group and national ideologies are also articulated through language narratives. In all these cases we seem

ready to recognize the existence of these nations and groups, almost as higher-order substances, even though we are also aware of the fact that the identities of these entities are virtual or ethereal. For example, we talk about the reconcilable or irreconcilable faceoff between Zionism and Palestinian nationalism, as if these were bona-fide subjects. But behind all these projections –whether through songs and anthems, national narratives, languages, or collective memories, sound is immanent. Certainly, it does not cover all the cultural and experiential factors that contribute to the formation of those higher-order substances, but it lends credence to the claim that their identities, as that of the individual, are primarily constituted by some form of sound.

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Some points from talk to be followed up:
-Pythagoras (music recent at Cornell):
-Alfarabi –bk of Music
-Touch: when does this develop, and how?
-Sufism/ 99 names of God/healing
-subjective/objective..identity and sameness, phenomenology.
-Aristotle: De Anima/identification of subject and object: senses?

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