META: RESEARCH IN HERMENEUTICS, PHENOMENOLOGY, AND PRACTICAL PHILOSOPHY
VOL. IX, NO. 1 / JUNE 2017: 86-104, ISSN 2067-3655, www.metajournal.org

# Foetal Space in Real Time: On Ultrasound, Phenomenology and Cultural Rhetoric

Tom Grimwood
University of Cumbria

**Abstract**

The development of four-dimensional ultrasound pre-natal scans carries with it an intriguing range of philosophical questions. While ultrasound in pregnancy is a medical test for detecting foetal abnormalities, it has also become a social ritual in Western culture. The scan has become embedded within a discourse of the parent's ante-relationships with their future child as much as it is a screening function. Within such a scene, the advance of technology – the move, for example, the increasing addition of dimensions to pre-natal imaging, from 2D to 3D and 4D – is inextricably merged with the spatial rhetoric of the foetus. Drawing on both Heidegger's insights into the relationship between the human and technology, and debates within feminist cultural theory, this paper explores how these spatial and temporal rhetorics of the foetal ultrasound relate to the philosophical motifs around self, knowledge, gender and the technical image. It charts these relationships through an analysis of two classic images of the foetal self, before considering how the fourth dimension of ultrasound – that of real-time image streaming of a foetal scan – enhances, develops and critiques these motifs.

**Keywords:** Heidegger, Technology, Feminist Philosophy, Ultrasound, Visual Culture

## I. The Spatial Rhetoric of Real Time

The development of four-dimensional ultrasound pre-natal scans carries with it an intriguing range of philosophical questions. While there are, of course, many clinical studies regarding the clinical effectiveness and benefits of incorporating a live streaming video into the otherwise static three-dimensional imaging, the potential risks of higher-than-usual levels of ultrasound energy, as well as the possibilities of viewing a foetus' responses in real time to external stimuli (see, for

example, Martínez-Moratalla et al. 2012; Kim et al. 2005; Deng et al. 2011), these all rest on broader interfaces between particular cultural and philosophical trajectories. As Nick Cantlay has argued (2011), ultrasound in pregnancy is a medical test for detecting foetal abnormalities, but unlike most medical tests it has become a social ritual in Western culture: the scan has become embedded within a discourse of the parent's ante-relationships with their future child. As such, the prenatal scan can be visualised far more as a chance to see and "meet" their baby for the first time, and to take home their first "family picture," whilst remaining generally unaware of its screening function. Within such a scene, the advance of technology – the move, for example, the increasing addition of dimensions to pre-natal imaging, from 2D to 3D to 4D – is inextricably merged with both the visual culture of contemporary culture, and the spatial rhetoric of the foetus: a rhetoric which situates the foetus as a hybrid 'object-person' for parents to view, engage and conceptualise. Heidegger (1993a) famously reflected on this blurring between technology and human creativity in his essay on "The Question Concerning Technology". Here, he rejects the longstanding view that technology is merely an instrument of human activity, and arguing that it is rather an *enframing* which guides our interpretations. As such, the nature of the frame – the literal space around the image of the foetus – becomes a complex site of tension between the technicity of the ultrasound, and the cultural poetics of childbearing. Hence, while the technological developments that enable pre-natal imaging to be presented in real time raise a whole range of medical, ethical and epistemological questions, these all rest, I would argue, on a phenomenological question of how such a tension is negotiated within the enframing of the image itself.

It is all too easy to overlook such poetics; particularly in the shadow of the recent rise of materialist currents of thought within contemporary philosophy that pertain to offer a move beyond the perceived anti-science of postmodern thought, and a more enthusiastic engagement with technologies as sites of ontological significance. The turning-against the "linguistic turn" – Foucauldian discourses, Derridean texts and so on –

and a turning-towards a re-energised realism, critical of the anthropomorphic foundations of post-Kantian "correlationism" has, by now, become well-established in current debates. But we should be cautious about assuming too quickly that material realisms can extract themselves from unfashionable notions embedded within the phenomenological tradition, such as hermeneutics or cultural rhetoric. As Arthur Bradley has argued, theories which aim to disturb our sense of technology as inert and instrumental – from technological determinists through post-human theorists and speculative realists – all too often find themselves returning to traditional antinomies: "man and matter, idealism and materialism, anthropocentrism and techno-scientific realism" and so on (Bradley 2011, 161). In doing so, the rapid expansion of our technical capabilities – the every-growing hyper-realisation of screened images in all areas of culture – frequently carry with them embedded rhetorics that are harder to discern; leading to what Allenby and Sarewitz describe as "a flight into tradition barely disguised by the language of high technology." (2011, 11)

In this paper I want to pursue the phenomenological question of the ultrasound through three points. Firstly, I want to suggest that despite these impressive technological advancements, the spatial rhetoric of the foetus remains a hermeneutic problem to be thought through. I will explore this by drawing on both Heideggerian and feminist themes to explore how the spatial and temporal rhetorics of the foetal ultrasound have traditionally related to the philosophical motifs around self, knowledge, gender and the technical image. Secondly, I will chart these relationships through an analysis of two classic images of the foetal self before, thirdly, considering how the fourth dimension of ultrasound – that of real-time image streaming of a foetal scan – enhances, develops and critiques these motifs.

## II. Figuring the Foetus: The Astronaut and the Metaphor

To interpret the ultrasound image philosophically – rather than an object of medical analysis – necessarily involves reflecting on the question of the image in general within

philosophical practice: that is, the work of visual culture as a constituent part of philosophising itself. All thinking, Schopenhauer once argued, is done through pictures (with the exception, he adds, of mathematics); yet which pictures *become visual* and which remain obscured – that is, which images govern and order the surfaces of philosophy itself – is crucial to the sense of argument itself. In her famous treatise *The Philosophical Imaginary*, Michele Le Doeuff echoes the likes of Derrida, De Man, and Schopenhauer and Nietzsche before them, in arguing that metaphor and image is inseparable from "pure" theoretical speculations (Le Doeuff 1989, 6). Indeed, the visual can supersede, beyond words, what philosophical expression attempts to clarify and represent. As Le Doeuff suggests, if the very construction of a "discipline" entails something is repressed within it (1989, 114), then such metaphors and images can be read as a way of revealing what the philosophical text unconsciously represses. It is, in fact, the inevitable slippage between the metaphorical and the literal that provides western rationality with its foundation (1989, 2). But more than this: what constitutes the images of philosophy can no longer be thought of as stable, framed representations. The visuality of philosophy resonates, morphs, and blurs. In that sense, its logic is premised inherently on the rhetorical power of the image.

With this in mind, the link between outer space and inner space, planetary and amniotic, is well-known within Western culture. As Rothman comments, the "fetus *in utero* has become a metaphor for 'man' in space, floating free, attached only by the umbilical cord to the spaceship." (1986, 114) Subsequently, even from the earliest ultrasound images could be seen as visual representations "where the foetus is not only 'already a baby', but more – a 'baby man', an autonomous, atomized, mini-space hero." (Petchesky 1987, 64) The problem, as Rothman goes on to note, is that this double projection is enabled precisely because women's existence is erased. "But where is the mother in the metaphor? She has become empty space." (Rothman 1986, 114)

It is tempting to align women as "outside" and women as "empty space" as broadly the same thing; but, as Walker

argues, "silencing does not entail a simple sense of absence" but "that is actually involves something we might more appropriately refer to as r*eadable absence*." (1998, 27, my emphasis) The process of denial inherent in the construction of a discipline enacts a silencing or repressing of troubling voices. In this way, just as the foetal icon carries multiple meanings that serve to "hide" femininity through its very making visible, "so the disciplinary nature of philosophy bears testimony to its exclusive (or indeed repressive) mode of operation." (Walker 1998, 17) As such, the *external* limits of the foetal image, and the philosophical subject, can in fact be read *internally*, through the materials of their construction.

## III. Foetal Horizons

In this context, the four dimensional scan may offer a prime illustration of Heidegger's argument (1993a) that the essence of technology is obscured by our very relation to it. The fact that we use it implies its essence is use; but rather, Heidegger claims, technology is itself a way in which the world is revealed to us. And true enough, the greater the simulation of the self – the better the graphical representation of the foetal body, the closer the interface between viewer and object – the more the technicity of the image is simultaneously seen and unseen. The spectacle of the image is immersed in the knowledge of the technology involved in its production. Yet, the success of this technology is to draw focus on to the foetal image as an object in its own right, and obscure the "enframing" of the screen, the wires, the lube, and so on. Walker argues through Le Doeuff that this is an *active* "not seeing". "The eye functions as a site of ambiguity, an ambiguity that is as silent as the eye itself." (Walker 1998, 33)

This specific rendering of the visualisation of the foetus has two implications. First, as Barbara Duden argued in the 1990s, the iconic power of the foetal image is specifically related to technology's sense of mystery. Bringing attention to the dark space surrounding the foetal image – the backdrop of the womb itself – she notes this effectively (and affectively) re-draws the limits of interpretation. "Losing a real horizon, we have lost the sense for obscurity; with immodest revelations, we have lost the

power to discriminate between the seen and the shown." Second, this ambiguity is not rooted in the absence of technical capability; it is not the trace of an image yet to be revealed once logistics allow for it. After all, the clarity of the four-dimensional image is already a vast improvement in clarity from the two-dimensional scan. But as Walker notes, "the invisible does not lie outside the field (or terrain) of the problematic, but is rather an integral component of its internal space, its structural possibility." (Walker 1998, 48) The ambiguity of vision when approaching the foetal image is key, ironically, to its rationality.

This can perhaps be best seen in two classic yet contrasting visualisations of the foetus: the popular images of photographer Lennart Nilsson (Duden 1993) and the anti-abortion lobby's short film, *The Silent Scream* (Ginsburg 1989; Petchesky 1987; Newman 1996) Duden contrasts Nilsson's photographs of 1965, displaying *The Drama of Life Before Birth*. The images, of an unborn foetus' "development", have been the focal point of cultural theorising of the prenatal space. It is this same image that "floats", literally and metaphorically, in Nilsson's photography and in through foetal discourse (Petchesky 1987, 57). The power of this representation lies in its reflection of a scientific lust for the knowledge that until the advent of powerful new visual technology remained hidden inside the pregnant woman's body. Reflected in stories of conception, where the male sperm is described as active against the female egg's passivity, "the moral of the achieved conception narrative emergent in contemporary Euro-American culture is, quite simply, 'science fathers itself'." (Franklin 1993, 543) The relatively obscure scientific evidence of Nilsson's later photography and *The Silent Scream* is shaped by the foetal image that "is not the image of a baby at all but of a tiny man, a homunculus." (Petchesky 1987, 61) While Nilsson's 1990 images are abstract, coloured shapes, the metaphors are continuously astronomical (Duden 1993, 585), relating the process of conception to the exclusively male domain of exploration and conquest.

We may well be reminded of the image with which Hannah Arendt introduces her classic text *The Human*

*Condition*: a swift interrelation of the space race between the USSR and the USA, and the natal laboratory.

> In 1957, an earth-born object made by man was launched into the universe… The immediate reaction, expressed on the spur of the moment, was relief about the first 'step toward escape from man's imprisonment to the earth.' And this strange statement… unwittingly echoed the extraordinary line which, more than twenty years ago, had been carved on the funeral obelisk for one of Russia's great scientists: "Mankind will not remain bound to the earth forever."
>
> It is the same desire to escape from imprisonment to the earth that is manifest in the attempt to create a life in the test tube… and the wish to escape the human condition, I suspect, also underlies the hope to extend man's life span beyond the hundred-year limit. (1998, 1)

The foetal image does not simply carry multiple meanings, but rather projects meaning-as-potential within the structure of its visuality. The visualising of the foetus is, itself, a fixation of the foetus "outside" of the female body. "'Evidence" shades into fantasy when the foetus is visualised, albeit through electronic media, as though removed from the pregnant woman's body, as though suspended in space.' (Petchesky 1987, 70) The context is quite literally removed and consequently what we are seeing stands simultaneously for the certainty of scientific innovation and complete obscurity. Nilsson's original images pertain to "dramatise life before birth", but could not exist in a literal sense without the womb's containment (Newman 1996, 11). Subsequently, without horizon the eye does not see but accepts (Duden 1993, 574); and "a picture of a dead foetus is worth a thousand words" (Petchesky 1987, 57) precisely because of its numerous, sometimes contradictory, projections of western philosophical reason that are read simultaneously due to the erasure of context. "The pervasiveness of the metaphorical interchanges between foetal and planetary imagery, and their substitutability for one another, offer an example of recontextualisation in which different orders of life itself become analogies for one another." (Franklin et al. 2000, 35)

The "screaming foetus" that fights the mechanised abortion shows up a significant relationship for the viewer between "man and machine", human life and technology. For on the one hand, the relationship of humanity to the womb/earth is

a classic narrative. While the earth, the unchanging, the natural, is inherently good, and subversion of the natural is to be resisted, the "natural good" is not immediately visible, and "seeing" it involves a spatial separation. This idea can perhaps be dated back to Plato and beyond: but the Platonic Cave myth, when seen as a metaphor for the womb, also provides us with an example of "the task" of philosophers and scientists alike. To see "true" knowledge, the prisoner must escape his shackles in the cave (his womb dependence), and escape the cave which involves the infliction of pain by walking through fire (birth). Significantly, when the philosopher has reached the outside and seen the "light" of the Good, his task, Plato is quite clear, is to re-enter the cave and free the other prisoners (*Republic* 514a-517c). If we continue our metaphor, this corresponds to the fervent intrusion of the womb by "images" constructed by the male gaze (Cartwright 1995, 8). We can only see the "good" of nature through technological and scientific narratives: hence, Nilsson's images are constructed using the soft focus and backlit ambiance of camera, while the presenter of *The Silent Scream* necessarily dresses in the manner of a doctor. The ultrasound image of the Silent Scream implies, through the cultural use of ultrasound pictures as "snapshots" for the family album (Duden 1993, 585), a wanted child, already part of the family, already a life (Ginsburg 1989, 104). Hence the moral and the scientific meanings of the foetal image are intrinsically bound up in the tradition of western ontology (Petchesky 1987, 59-60). Consequently, the visioning of the foetus from the "God's eye view" of the camera provides further transcendence from the situated viewpoints in "real space" that science previously offered (Newman 1996, 107).

## IV. Background and Backlighting

In turn, the four-dimensional articulation of the foetus in real time provides a double movement of interpretation: both immediate access to a picture of a specific "life" – meeting "our baby" – and deferral to the non-immediate mysteries of technicity which frame this access. Exploring this interpretative movement is key to unpacking the possibilities of this four dimensional image. Traditionally, the cultural

importance of foetal representations is potentiality; not as natality, but – to paraphrase Heidegger – potentiality-towards-death. The image of the explorer astronaut carries associations of militarism, conquest and violent struggle: from the European expansion to the New World to the Cold War technology behind technological development of the space race and birth control. It is the slip between "space" in the sense of literal containment and background, and "space" in the sense of a visual image of the universe (the final frontier etc.), that is crucial to this argument.

In this sense, it is worth noting how the history of technology is concerned with "typically some kind of probe or stick" rather than a "container" such as a cup or a bowl (Sofia 2000, 187). Artefacts for containment, meanwhile, are not only read metaphorically as feminine, they are also associated with women's traditionally domestic roles. While Sofia acknowledges that the aggressive tools and machines hold more interest than the passive containers, she uses the philosophy of Heidegger to maintain that containing is "not as simple a function as we might first think." (Sofia 2000, 191) Heidegger claims that when we fill a jug, we pour into emptiness, and it is this emptiness that constitutes the jug as a "holding vessel". For Heidegger, holding is ambiguously two-folded: the void actively takes and keeps. This points to an activity of background/ containment that argued against the grain of the western philosophical canon (Sofia 2000, 181). Because the notion of dwelling is at the root of the German words for both "building" and "being", it is apparent that agency is always engaged with its background/containment (Heidegger 1993b, 349). To be is to always be *within* something.

As Sofia argues, the neglect of the container in western thought is not just through anti-maternal bias, but also through the situating of the container as "background". Heidegger argues that the essence of technology lies in the ordering of this background, what he terms as "enframing". "Enframing is the gathering together which belongs to that setting-upon which challenges man and puts him in a position to reveal the actual, in the mode of ordering, as standing reserve." (Heidegger 1993a, 329) The background becomes "standing-reserve", in that its presence is constituted only through the mode of its

revealing. "Whatever stands by in the sense of standing-reserve no longer stands over against us as object." (Heidegger 1993a, 322)

For Duden, the background, or "horizon", is rather simply eliminated in the iconic foetal images. In the case of Nilsson's images, this is quite literal: the foetus' are removed from the mother's womb and subjected to backlighting and colouring. At the same time, our capacity for "seeing", argues Duden, is distrusted, and instead faith put in technological devices that see "beyond" the horizon of the physical (Duden 1993, 571). The resort to astronomical imagery is part of the move to represent the invisible, beyond the horizon. Rather, the result is "misplace concreteness", because "without the limits given by the horizon… the gaze cannot come to rest, it loses its power to generate a place." (Duden 1993, 574) Scientific vision blurs in to philosophical ideology. The foetus is presented against an "infinite cosmos", an eternal "other" (Franklin et al. 2000, 33). Man leaves the earth and the maternal womb becomes a starry night sky (Newman 1996, 18).

This conflation of space allows visual imagery to move beyond mere allegory or parallel comparison. As clear as the image itself may be, there remains a blurring of specific and universal. In Nilsson's images, the "background" of the picture, in the sense of what shapes the object we see, is the use of backlighting. Such lighting, projected on the foetal corpse almost gives the impression of a halo. This mysterious, mystical appearance is of a transcendent self: there are connotations of the baby Jesus, both man (specific) and God (universal). Likewise, Ginsburg notes the anti-abortion lobby's use of the "conversion power" of the visual foetus as the central element to *The Silent Scream*. The "seeing" of the foetus *in utero* implies a biblical "witnessing" of Truth itself (1989, 104-5). Contrary to the misguided idea of science at war with religion, this mystery feeds the scientific ontological assumptions: the immaculate conception reinforces the Aristotelian idea women as "mere" containers; in assuming the divine form, Jesus "conquers" death. The logic of the image follows a constant shifting from the specific to the total, from the metaphorical to the literal and back. As Mondzain argues, the icon "harbors the generating principle" of the transition from a "plastic" space *within* a representation to a "territory" of power (Mondzain 2000, 62).

Through these associations, the prenatal space of the maternal womb, that is "hidden" from the public gaze, is re-constructed within public discourse through metaphor and image. "The management of women's reproductive capacity is also a management of social space" (Stormer 2000, 113); and hence, "as a critical concept, prenatal space does not refer to the womb in a strictly corporeal sense but to a layered set of practices and symbols that create a space that is at once physical and imagined." (Stormer 2000, 136) And in this sense, whether presented in four, three or two dimensions, the representation of the foetus is always grounded on this spatial rhetoric.

## V. Spatial Rhetoric, Real Time

"When we look into the ambiguous essence of technology," Heidegger writes, "we behold the constellation, the stellar course of the mystery." (Heidegger 1993a, 338) But likewise, the "mystery" surrounding the conception and reproduction of the human self is central to the sacredness of the foetal image in both Nilsson's images and *The Silent Scream*. If we follow Heidegger that, at the point of revealing that which reveals is concealed, and the "essence" of technology is obscured by man's relation to technology, then the apparent absence of woman therefore could be figured in terms of this mystery. Indeed, it could lead us to claim that the presence of mystery *is* the very absence of women. As such, the woman *is* present in the foetal image, or rather, a representation of her absence is present. Indeed, this problematizes the notion that women are entirely "excluded". As Le Doeuff argued, women are more often included; but under particular guises and strictures. Likewise, the "seeing" of the foetus as an icon depends upon the constant re-inscribing of arguments that remain ambiguous over the use of literal and metaphorical "space". Just as the "free" transcendent self of western discourse is normative and dependent (ironically) on the constant shift between the metaphorical and the literal, so the exclusion of the feminine is never entirely one or the other.

How does this mode of "seeing" change in regard to the development of the four-dimensional image? This is a significant question, given that the ultrasound image of *The Silent Scream* and Nilsson's photography both rely on the

evocation of depth from what can *only* be presented in a two dimensional form (it was more or less m" three dimensionality (Petchesky 1987, 60-1)). As a flattened two-dimensional sphere, the foetal space becomes less of a planet's nature and more of a clock-face. The idea of a "clock" inside the body – e.g. the "biological clock", the body "ticking over" – is not new by any means, but the issue of the particular imaginary of time our examples present to us is crucial. The clock implies a linear time of pregnancy, with an established origin and teleological destination. The clock as a technological device signifies a rejection of circular time – that more commonly associated with "nature" and its seasons, and also, more derogatorily, women and menstruation. The visualisation of circular time is commonly seen in the sundial: where the figures on its face are not counting, but stand in an order – first, second, third etc. This "natural order" is dependent upon the "natural light", i.e. the sun or the moon. The clock, meanwhile, is constructed within a specific history of European thinking, the enlightenment; and the clock is normalised and essentialised at a further specific point, which is industrialisation. In both historical moments, the shift in thinking regards the need to impose order on a world that at least appears to have none. Le Doeuff's analysis of Galileo's challenge to the pre-enlightenment "science", for example, focuses specifically on his re-working of time as an intelligible factor of physics. However, she notes that the "perfecting of the clock" is not a mark of technological progress, but rather its diffusion in to scientific discourse contributes "towards imposing a certain conception of time." Furthermore, the grounds on which Galileo takes mechanics in to the modern era is not rational principle but "affinity" – a principle more associated with alchemy, "which is extremely obscure." (Le Doeuff 1989, 36) If Nilsson's astrological imagery may be only an illusion of depth, the "mystery" of the stars remains a veil of wonder at the mastery of science.

The fundamental difference in the visualisation of the foetus is the idea that the technology of the clock is not "there" in the body, but needs to be imposed. As Franklin notes, "The idea that human reproduction, or more significantly, female reproductive capacity, is badly designed and in need of medical technological assistance, is not new." (Franklin 1993, 542).

Rather, what is "new" is the realisation of the technology to view the foetus, and with it, the necessity of the technological to view the "natural". Without the context of the mother, the literal containment of the foetus is rather figured metaphorically through the imaginary of normative public rationality. The classic images of the foetus do not simply present us with an unborn foetus, but a multitude of temporal agents: the innocent unborn, the natal subject, the dead soldier, the philosophical astronaut. Furthermore, the exact relation of the prenatal to the public is continually re-figured within these arguments. The contrasted images of the dead soldiers suggest a threat to the safety of the womb: yet as a defender of the rational, the autonomy of the foetus/man requires independence from the womb. The projection of the foetus as an "innocent" in need of protection from the maternal containment itself, whilst still within that containment, is juxtaposed with the transcendent conquering astronaut of the Cold War, whose escape from the earth/womb produces a technological divinity signified in the Blue Planet images.

The older ultrasound images – both 2D and 3D – only "froze" time, in this sense; transforming the science of abnormality examination into an object which, once sighted culturally, could be juxtaposed and framed by any number of cultural narratives. The foetus in four dimensions, meanwhile, does not "freeze" time (in the sense that the photograph "captured reality" in a single scene), but rather creates a new *ordering* of temporality. It is no surprise, them that this occurs at a further specific point in our cultural history: one where the traditional categories and concepts which distinguish the technological from the human are far less use for negotiating everyday practices regarding our social networks, our communications and our pre-natal parenting. For example, Allenby and Sarewitz note how "the Enlightenment approach glorifies the rigorous definition of problems, narrows options to arrive at a solution, moves decision making into the domain of experts, and of comprehensive action to 'solve' problems." (2011, 169) But, they argue, dealing with problems and solutions are, in their view, only the first "level" of conceptualising technology: simple cause and effect processes that apply solutions to clearly defined problems. But clearly, a technology such as the 4D

ultrasound is far more akin to what they describe as a third level of technology – that is, a technical *condition*, absorbed within a myriad of inchoate resonances around its key terms of reference: self, knowledge, and technical image. The frozen image can be interpreted clearly under the question of *appropriation*. The visualisation of the foetus in real-time can, in turn, only be interpreted in terms of a user interface which, while certainly not devoid of appropriation, links to the wider practices of the technicity of everyday life. As such, this new ordering of temporality within the 4D ultrasound clearly moves us beyond the more traditional philosophical critiques of visual culture. In short: while still essentially a scan for foetal abnormalities, the 4D ultrasound can only be understood in the cultural context of real-time uploads to social media and rolling news updates to mobile technologies. Within such a context, the role of the frame is utterly present, perhaps even more so than before; but likewise, there is also a more intensive obscurity stemming from the extent to which technological artefacts have sutured on to the human body itself.

But this shift in understanding the extension of the human – the much-vaunted rise of the "post-human" subject – returns to a significant point about the way in which the re-ordering of temporality is intrinsically related, not to the steady progress of time, but rather the spatialisation of interpretation. The foetal image is never "on its own", because it's "own-ness" is intrinsically tied to the process of its own "revealing". Subsequently, the foetus' appearance as autonomous and un-engaged with its background/containment is a consequence of the very manipulation of that background. In this sense, the *temporal* is re-ordered through the *spatial*. While Nilsson's images seem to "fix" time in to one "moment", the spatiality of the image is not fixed because of its deliberate polysemy. Rather, it is constantly adjusted and shaped. The foetus, while providing a site of normative "independent selfhood", is never independent – the representation rests upon the use of the feminine background, the womb interior. The "void", to use Heidegger's term, where the woman should be, shapes the figure we see. If we can understand that behind the mystery and obscurity of the foetal image is a dependence on the spatial containment of the object, we might propose that the feminine

background is never *erased*, but manipulated. In keeping with the western philosophical canon, space remains passive: it speaks only the logic of its own dis-appearance. Temporality is only re-ordered through the medium of spatiality: the constant re-inscription of the feminine "background".

## VI. Re-Imaging the Foundations

If this constitutes a space of interpretation, then what alternative possibilities exist for the spatiality of the foetus in time? For Duden, the lack of background or horizon is signified through the loss of "haptic" experience (1994, 585). The subsequent numbing of the senses – "a disposition to take for real only that which has mechanically displayed itself" – leaves certainty in the place of wonder. Watching a prospective mother undergoing an ultrasound scan, she notes:

> The facile certainty with which Joanne's eyes perceive sounds that lie below the range of her ear is as characteristic for our times as the curious logic which takes a diagnostic image – a scientific, technological 'fact' – and transforms it in to lay evidence for the presence of a supposedly meaningful abstraction. (Duden 1994, 587)

So as in science, so too in philosophy. The alienation of the self roots itself in the abstraction of meaning amid mass culture. The representation of the science of the foetus is obscured in its recourse to a certain – "everyday" – set of social relations. When it becomes clearer that the representation of the foetus is a temporal signifier of western philosophy's basic masculinist ontological condition, the question of "what we are to do" becomes both more pressing and more negative. Duden's analysis, for example, leaves "us" with only two alternatives for those who try to "move" their experiences "out of the shadow" of the foetal image: "appropriate or reject one's own foetus." (Duden 1993, 590) Duden's appropriation, though, is ironically obscure. Despite the growing options available to women in this position Duden claims, the loss of the haptic experience of pregnancy, of the pre-visual unborn (such that it ever existed), is "below the horizon", and "there is no way back" (1993, 593). The foetus now dominates woman: "It's visible appearance colonized discourse, vision and… the experience of the potentially or actually pregnant woman."

Unfortunately, Duden's argument over the obscurity of a "vision" that supersedes "sight" is lost, when the framework within which she reveals her "real-life" evidence is one of suspect suppositions and unreliable reminisces. Explaining the use of obscurity and scientific rhetoric in making science "visible" to the "masses", we are taken to a token Harlem immigrant. It is not the custom of the Caribbean, Duden relates to us, to apply calculated risk theory: the communal pooling of a pitiful amount of collection money is rather "a celebration of secularized Providence, a joyful expression of hope among the powerless." The Past is a foreign country, indeed. Newman is surely right to argue that "the right's insistent inscription of fetus as 'baby' and feminist demands to restore the woman's body to obstetrical representations *both* display a profound humanist nostalgia for the realist image." (1996, 113)

This not an assault on Duden's stylistic assumptions merely for the sake of it. While Duden appears to follow Petchesky and others in taking "sight" as problematic for the distance and objectivity it bestows on the subject (Petchesky 1987, 68), her alternative – a metaphorical shutting of the eyes so that the "haptic" may be felt – results in a confirmation of the very discourse she aims to destabilise. The recourse to the natural, primitive, somehow pre-narrative state inscribed upon those who reject (or "can only misunderstand") the dominant foetal discourse, is in itself a "natural" part of any discussion over invasive technological development. As natural, that is, as a Hobbesian state of nature: an imagined polemic "other", outside of the literal discursive space.

Perhaps, then, the point is not to simply resist this visualisation of the foetus – embedded as it is in a site of tension between technological clarity and rhetorical obscurity – or, indeed, to counter the image with supplemental myths which, as Duden's work shows, often merely reproduce the same tensions. Rather, the task is to identify and articulate the spaces in which such myths circulate and resonate; as these are, in turn, our spaces for interpretation. The background which Duden claims to have "disappeared" from foetal image, has rather continued to be constantly re-figured and re-processed. The fundamental problem within Duden's argument her assumption that the line "between the picture that shows

resemblance and the picture which represents an abstract notion" has eroded is figured *temporally* rather than *spatially*. Duden's insistence on the absence of woman takes the space of containment that is the foetus' background as *literally* "space", empty and devoid of function. But what Duden sees as a "lost past" can rather be seen as a different figuring of the spatial containment of the object. Subsequently we can question if this line between realist representation and abstract images *ever existed in the first place*, for they both involve re-figuring the spatial containment of the object in order to make it "visible". As we view the iconic foetus as something outside of the pregnant woman – though (necessarily, for its meaning to have effect) not outside of the cultural and political "womb" – this is, I would argue, is somewhat ironically the very moment woman can re-enter and re-shape the discourse at hand. While the image is dependent on the passivity of its containment, if we follow Heidegger's arguments, then we would find that it cannot exist without such a background. Furthermore, it is the construction and plasticity of such four-dimensional spaces that demonstrate how malleable the very foundational myths of our cultural rhetoric can be. The task then remains to figure spatiality and containment positively within that moment of visualisation; a task which involves engaging with the ways in which visualisation manifests itself not simply in our cultural practices, but our philosophical and political practices as well.

## REFERENCES

Allenby, Braden R., and Sarewitz, Daniel. 2011. *The Techno-Human Condition*. London: The MIT Press.

Arendt, Hannah. 1998. *The Human Condition.* Chicago: University of Chicago Press.

Bradley, Arthur. 2011. *Originary Technicity: The Theory of Technology from Marx to Derrida*. Basingstoke: Palgrave MacMillan.

Cantlay, Nichoas. 2011. *Sonographers' Experiences of Breaking Bad News in Prenatal Ultrasound (A Phenomenological Analysis).* Unpublished Doctoral Thesis. Lancaster University.

Deng, J., Burton, P., Mcdonald, D., Yates, R., and Fewtrell, M. 2011. "4D ultrasound of tongue movements during breast-feeding – would the findings lead to prenatal studies?" *Ultrasound in Obstetrics & Gynecology*, 38 (1): 245-246.

Cartwright, Lisa. 1995. *Screening the Body*. Minnesota: University of Minnesota Press.

Le Doeuff, Michele. 1989. *The Philosophical Imaginary*. London: The Athlone Press.

Duden, Barbara. 1993. "Visualising 'Life'." *Science as Culture* 3, Part 4, No. 17: 562-600.

Franklin, S. 1993. "Postmodern Procreation: Representing Reproductive Practice." *Science as Culture* 3, Part 4, No.17: 522-561.

Franklin, S., Lury, C. and Stacey, J. 2000. "Spheres of Life". In *Global Nature, Global Culture*. Ed. Sarah Franklin, Celia Lury and Jackie Stacey, 19-43. London: SAGE Publications.

Ginsburg, Faye D. 1989. *Contested Lives: The Abortion Debate in an American Community* London: University of California Press.

Heidegger, Martin. 1993a. "The Question Concerning Technology." In *Basic Writings: Martin Heidegger,* edited by David Farrell Krell, 307-342. London: Routledge.

_____. 1993b. "Building Dwelling Thinking." In *Basic Writings: Martin Heidegger*, edited by David Farrell Krell. London: Routledge: 343-364.

Kim, S. R. *et al*. 2005. "Four-dimensional ultrasound guidance of prenatal invasive procedures." *Ultrasound in Obstetrics and Gynecology* 26 (6): 663-665.

Martínez-Moratalla, Josémanuel et al. 2012. "Prenatal ultrasound screening for congenital heart defects: current and future strategies." *Expert Review of Obstetrics & Gynecology* 7 (6): 535-544.

Mondzain Marie-Jose. 2000. "Iconic Space and the Rule of Lands." Translated by Rico Franses. *Hypatia* 15 (4): 58-76.

Newman, Karen. 1996. *Fetal Positions*. Stanford: Stanford University Press.

Plato. 1993. *The Republic*. Translated by Robin Waterfield. Oxford: Oxford University Press.

Petchesky, Rosalind Pollack. 1987. "Foetal Images: the Power of Visual Culture in the Politics of Reproduction." *Reproductive Technologies: Gender, Motherhood and Medicine*, edited by Michelle Stanworth, 57-80. Oxford: Polity Press.

Rothman, Barbara Katz. 1986. *The Tentative Pregnancy: pre-natal diagnosis and the future of motherhood*. New York: Viking.

Sofia, Zoe. 2000. "Container Technologies." *Hypatia* 15 (2): 181-201.

Stormer, Nathan. 2000. "Prenatal Space." *Signs* 26 (1): 109-144.

Walker, Michelle Boulous. 1998. *Philosophy and the Maternal Body*. London: Routledge.

**Tom Grimwood** is Senior Lecturer and Academic Lead, Health and Social Care Evaluations University of Cumbria, United Kingdom. His research has two interlinking strands: the first explores the intersection between professional practice and philosophy, particularly within the "continental" tradition; this builds on his current position as the Academic Lead for the Health and Social Care Evaluation unit at the University of Cumbria. The second focuses on what Groys describes as "anti-philosophy": that is, specific sites where intellectual pursuit and its material conditions are placed in tension with one another, and articulate specific concepts from out of such tensions – in particular, irony, silence and cliché.

**Address:**
Tom Grimwood
University of Cumbria
College North N16B
Bowerham Road
Lancaster LA1 3JD
United Kingdom
E-mail: tom.grimwood@cumbria.ac.uk