



This is a Leeds Arts University Repository copy of:
**Drawing the Embodied Mind: A Project Report on
Research Into Interoception**

Author: Garry Barker

Output type: Article

License: CC BY

Link to Leeds Arts University Record: <https://lau.repository.guildhe.ac.uk/id/eprint/17771>

Citation: Barker, G. (2021). Drawing the Embodied Mind: A Project Report on Research Into Interoception. PSIAX #5 ESTUDOS E REFLEXÕES SOBRE DESENHO E IMAGEM, 5. pp. 17-24. ISSN 1647-8045.

Abstract

This project report on the methodology used for drawing based perceptual research, explores how drawing can be used to interrogate the concept of the body as being the driving force behind our perceptual experiences. It reflects on drawing as a way to represent a non-linguistic experience of embodied consciousness.

Drawn images are developed by imaginative responses to the body's somatic perceptual input, and are used to communicate the sensory experience of interoception. Images are also constructed in response to a need to develop representations of sensations that emanate both from within and without the body; something that is essential if we are to coordinate a totality of responses to various situations as they arise, situations that it is argued, emerge both internally and externally at the same time. The world we experience, it is argued, is not an internal representation of an out there experience, it is as Merleau-Ponty argues "inseparable from a person perceiving it, and can never be actually in itself because its articulations are those of our very existence." The images that are now beginning to emerge from this drawing led project, it is further proposed, can be regarded as those 'articulations of existence' that are required if we are to begin communicating to each other about how we feel and how we sense our inner body is trying to communicate with what we sometimes think of as our rational conscious selves.

Using his own drawings as well as responses from others, the artist, Garry Barker, explains how he has developed this drawing research out of his previous investigation into the use of votives, which was used to help others overcome fears of illness and as an aid to their recovery.

Reuse

The author of this document has applied a **CC BY** Creative Commons license to the work herein. Further details about this license can be found here: <https://creativecommons.org/licenses/>. Any reuse or citation of this work must comply with the tenants of the author's chosen license.

Takedown

If you are the author or publisher of this output and you wish for it to be taken down from our Institutional Repository, please [contact us](#) and we will investigate any issues on a case-by-case basis.

Drawing the embodied mind: A project report on research into interoception.

GARRY BARKER

#5

This project report on the methodology used for drawing based perceptual research, explores how drawing can be used to interrogate the concept of the body as being the driving force behind our perceptual experiences. It reflects on drawing as a way to represent a non-linguistic experience of embodied consciousness. Drawn images are developed by imaginative responses to the body's somatic perceptual input, and are used to communicate the sensory experience of interoception. Images are also constructed in response to a need to develop representations of sensations that emanate both from within and without the body; something that is essential if we are to coordinate a totality of responses to various situations as they arise, situations that it is argued, emerge both internally and externally at the same time. The world we experience, it is argued, is not an internal representation of an out there experience, it is as Merleau-Ponty argues (2002, p. 373) "inseparable from a person perceiving it, and can never be actually in itself because its articulations are those of our very existence." The images that are now beginning to emerge from this drawing led project, it is further proposed, can be regarded as those 'articulations of existence' that are required if we are to begin communicating to each other about how we feel and how we sense our inner body is trying to communicate with what we sometimes think of as our rational conscious selves.

Using his own drawings as well as responses from others, the artist, Garry Barker, explains how he has developed this drawing research out of his previous investigation into the use of votives, which was used to help others overcome fears of illness and as an aid to their recovery.

Finally questions are asked as to whether or not the drawings produced are purely representational or engaged in what Karen Barad calls a performativity that emerges from a "direct material engagement with the world". (2007, p.49).

Keywords: Interoception, drawing, perception, representation.

Este relatório sobre a metodologia utilizada para a pesquisa perceptiva baseada no desenho, explora como o desenho pode ser usado para questionar o conceito de corpo como sendo a força motriz por trás de todas as nossas experiências perceptivas. Reflete sobre o desenho como forma de representar uma experiência não linguística da consciência corporificada. Imagens desenhadas são desenvolvidas por respostas imaginativas à entrada perceptual somática do corpo e são usadas para comunicar a experiência sensorial de interocepção. As imagens também são construídas em resposta a uma necessidade de desenvolver representações de sensações que emanam tanto de dentro quanto de fora do corpo; algo que é essencial se quisermos coordenar uma totalidade de respostas às várias situações à medida que vão surgindo, situações que é argumentado, emergem tanto interna quanto externamente ao mesmo tempo. O mundo que experienciamos, argumenta-se, não é uma representação interna de uma experiência lá fora, é como Merleau-Ponty argumenta (2002, p. 373) "inseparável de uma pessoa que o percebe, e nunca pode ser realmente em si mesmo porque suas articulações são as de nossa própria existência". As imagens que agora começam a emergir deste projeto conduzido pelo desenho, propõe-se ainda, podem ser consideradas como aquelas 'articulações da existência' que são necessárias se quisermos começar a nos comunicar uns com os outros sobre como nos sentimos e como sentimos nosso corpo interno tentando se comunicar com o que às vezes pensamos como nosso eu externo racional. Usando seus próprios desenhos, bem como respostas de outras pessoas, o artista, Garry Barker, explica como ele desenvolveu esta pesquisa de desenhos de sua investigação anterior sobre o uso de votivas para ajudar outras pessoas a superar o medo da doença e como um auxílio para sua recuperação. Finalmente, questiona-se se os desenhos produzidos são ou não puramente representacionais ou engajados no que Karen Barad chama de performatividade que emerge de um "engajamento material direto com o mundo". (2007, p.49).

Palavras-Chave: interocepção, desenho, percepção, representação

**DRAWING THE BODY IN THE MIND:
A PROJECT REPORT**

Several writers have pointed out that the mind, the body and the world are inseparable; including Varela, Thompson and Rosch, (2016), Shusterman, (2012) Abram (2017) and Merleau-Ponty (2005) and a previous body of research conducted in relation to drawing the responses of older people to the use of votives and their effect on inner body awareness and wellbeing, has supported these observations. (Barker, 2020) This project report describes how drawing research into inner body perception, has shaped a particular approach to image making. In visualising the inseparability of mind, body and world, the inner body and the perceived somatic elements of experience, are imagined as if they sit within a topological body space as intimated by Simondon who stated that,

The body is a continuous surface folded many times that interacts with an exterior milieu whose limits cannot be established because of the impossibility of establishing a bodily interiority. (1964, p. 223 in Lambert, 2014)

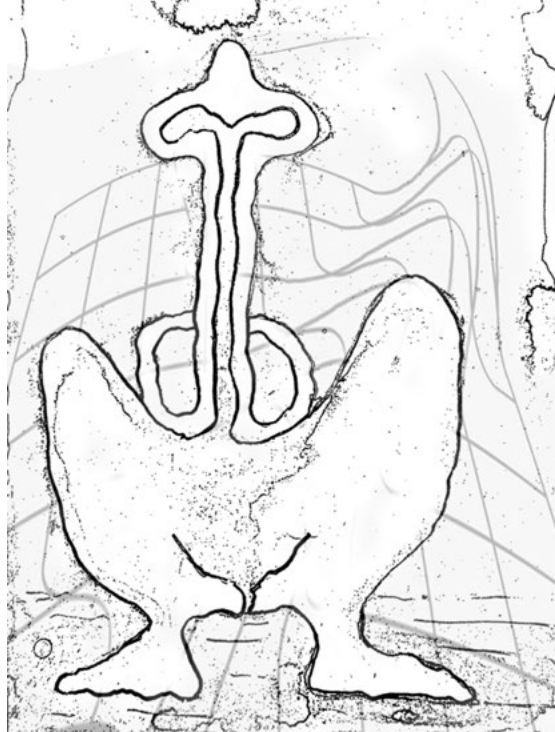
The idea of ‘membranes’, folded surfaces that separate events one from another, is used to help visualise exchange interfaces between internal and external spaces, when trying to visualise a body.

Abram states that a more useful term for spatial perception when acknowledging the entanglement of the body into the world is depth perception, ‘depth being the dimension of closeness and distance’. (2010, p.84). These approaches as to how to conceptualise perception, have caused a re-thinking of the idea of space itself as being for an experiencing body more to do with active surfaces. Deleuze’s concept of ‘folding’ (1993, p. 19) has also been of great use in helping to conceive of a space with no distance between things, that can hold within it objects as events. The imagined situation for the visualiser being of contiguous topological surfaces, that can be folded in such a way that concepts of inner and outer become re-

dundant. Distance is eliminated when perception is understood as an entwined mediation between experience, the body and its responses, as opposed to a mind contemplating reality from a point outside of it, which for a drawer would normally be a perspective viewpoint. However the model of perception being used is that of a body and its sensors engaged in a topographical relationship with the world, so that the world we are in, is also in us. The contiguous nature of the body’s topology being conceived as a sliding into and out of darkness, such as that experienced as you make a descent into a cave during the full light of day. Because no light penetrates into our interior we tend to think of the inside of our body as a separate space, but it is not, it is though viscous, wet and sticky, in the same way that a swamp has no hard boundary with a dry flood plain. However, a swamp and a dry valley can both be encountered on the same journey, but not at the same time and it is time that is needed to allow different perceptual relationships to exist alongside each other. What is being drawn is a visualisation of perception as a constructional force that shapes a consciousness that is immersed into the world, rather than one that objectively stands aside from the world.

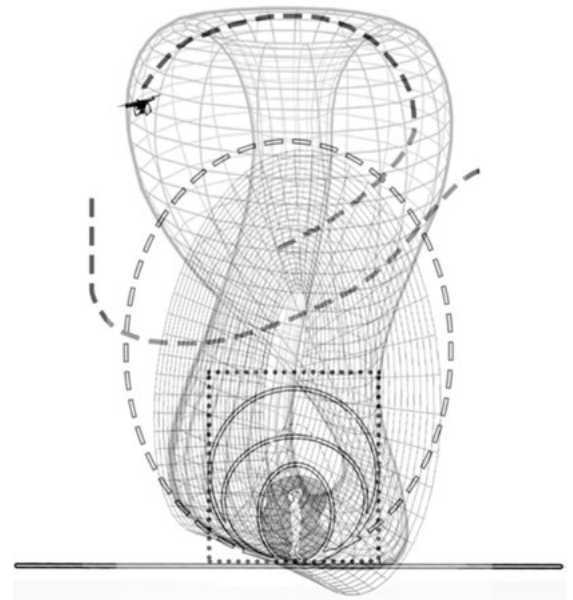
In order to make a transition from thinking of the body and the perception of its environment as two separate things, it has also become important to consider the body as a performative entity, envisaged as a series of events entangled or folded into the world, rather than as a separate thing. For instance the air that touches the skin on a cold day is inseparable from the air breathed in and out by the lungs as part of the body’s respiratory needs. We are touched inside and outside by air and its passage into and out of the chest; caressed by a breeze moving over our skin as we run down a hill. Air is a material substance very like water, it weighs millions of tons and we see and feel its presence as the wind shakes a tree or passes over our face, but we sometimes forget it is there because we can see through it. Our bodies are folded into the thickness of the world. Our feet are planted on the ground, a ground that nurtures

Fig.1 The smell of excretion: An early attempt to depict an idea of the abject as a visual 'exchange' where inner and outer body surfaces are contiguous. Digital image 30 x 22 cm.



#5

Fig.2 Perception visualised as a series of onion layers existing within a Mobius surface, that is itself folded into a Klein Bottle form extending from within a human body out into the world.



the plants that feed us. The earth connecting both ourselves and vegetation via a contiguous surface that we are both enmeshed into. The plants we eat are transformed into liquids and gases as they pass through our body, giving us indigestion, an awareness that we need to defecate or urinate, (interoception) as well as sensory experiences before and after entry and exiting the body, events that we experience as sight, smell, touch and taste (exteroception). This immersion of the body into an experiential world is total and inseparable and its visualisation must reflect this. The drawing of this situation is important because verbal languages tend to separate out things from their entanglement with events. The noun 'apple' is a moment in the becoming of a tree, and would therefore be more appropriate as a verb. For a while apple seeds are protected in a fleshy covering that on being eaten can be carried far away from the parent tree and then when excreted emerge into soil now fertilised and supportive of growth. The flesh that surrounded the seeds becoming carbohydrates for the animal that has eaten it, a continuous process of transformation occurring that has no beginning and no end, and which is entangled into other transformations all going on at the same time.

In response to this perceptual complexity a body of drawings has been developed that uses diagrammatic, expressive, metaphoric and representational possibilities to explore the visualisation of interoception and its symbiotic relationship with exteroception; a series of 'events' or 'encounters' being developed as a visual understanding of somatic perceptual processes.

In order to begin representing the feelings that emanate from our bodies, the work of Johnson on body schemas was useful. He argued (Johnson, 1987, p. 18) that the body has its own representational system of corporeal awareness and this drawing research investigates how to visualise this using an intuitive approach to making visual representations of inner body sensations.

Some of the surface qualities that were explored were linked to notions of the stain and the leaky membrane sitting between the body and the line of its edge/skin.

As well as drawings made to represent the qualities of inner body feelings, diagrammatic representation is used as a way to illustrate the original conceptual underpinning of the project. This diagrammatic form also allows for the visualisation of the wider perimeters of the research project, and provides a framework around which other drawing led researchers can envisage where their own contributions to perceptual understanding fit into the overall project.

The first diagrammatic image found to be meaningful was of a series of imagined 'nested' perceptual experiences. At the centre of the diagram was the empty image of a human body, a body that was yet to find its place within a somatic or interoceptive perceptual framework.

This diagram also pointed the way towards how interoception could be visualised; a body with a contiguous inner and outer surface also being conceived as a form of Klein bottle, a form that when extended outwards becomes a container for the shape of a wider perceptual experience. The Klein Bottle

Fig.3 The body as an imagined construct, interconnected and entangled with an interpenetrating environment. The 'ghost lines' in the image representing the many folded membranes constituted of imaginary Klein Bottle and Mobius forms.

02

form being in effect 'folded' throughout the space that is to be the subject of perceptual investigation.

The next visualisation stage was to focus in on the relationship between the body and its immediate environment. The figure at the centre of the diagram was enlarged and imaginatively developed as a representation of a deeply interconnected and entangled event/form that could be thought of as a skin/surface having an inside that was part of a continuous membrane that was also an outside.

These drawings rely on intuitive responses to imaginative materials play. David Abram states that the imagination is itself an attribute of our senses and not a separate mental faculty, explaining that what we call the imagination is,

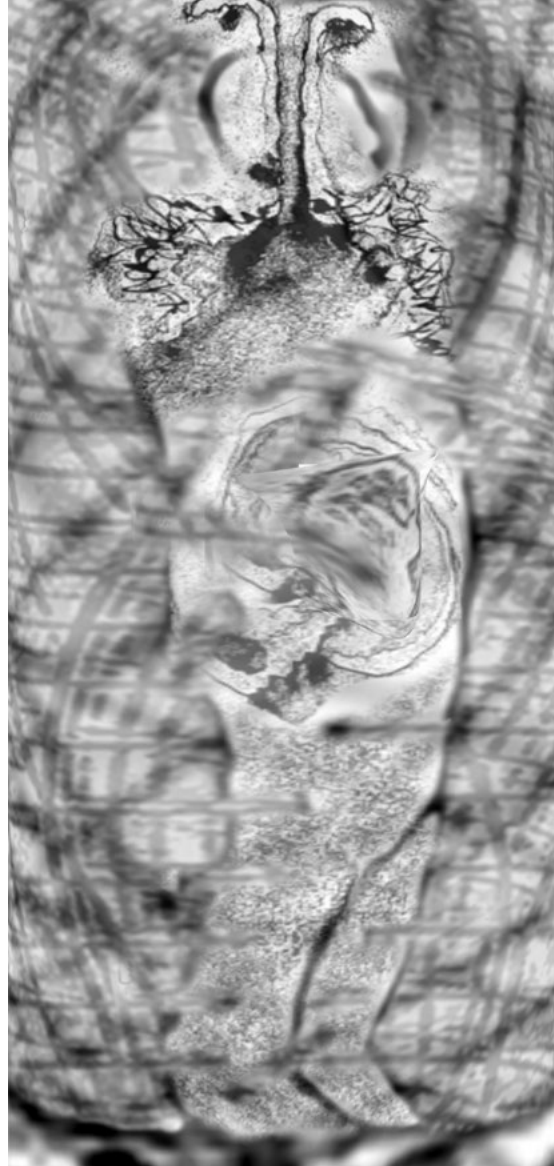
'the way the senses themselves have of throwing themselves beyond what is immediately given, in order to make tentative contact with the other sides of things that we do not sense directly, with the hidden or invisible aspects of the sensible'. (Abram, 2017, p.58)

The perceptual senses have evolved in order to 'predict' the future; but nothing is ever perceived in its entirety. For example, if I see something from the front, the back is hidden. I respond to or am triggered to do something by incomplete information and it is imagination that constructs the probability events that I react to. Imagination is therefore integral to action in perception.

Mark Johnson has produced a detailed historical history of the imagination and points to its importance in the development of body schemas as 'structures of imaginative activities that can be shared by a community'. (1987, p. 168) He goes on to state that imagination is 'a pervasive structuring activity by means of which we achieve coherent, patterned, unified representations'. (Ibid)

Both Johnson and Abram support the use of imagination not simply as a way of having ideas, but as a way of structuring those ideas in such a way that they reflect the structure of the mind/body/world entanglement itself.

Drawing as a material response to this way of thinking about imagination, was chosen because



the human body is itself a composite of materials. Its form is a reflection of the material possibilities that carbon and its many composite molecules have arrived at; therefore it seemed appropriate to work with materials that could be seen to form metaphorical connections.

The use of metaphor has been vital to the early stages of this research, many of the conversations held with others about visualising inner body feelings needing to focus on sentences such as, "it's more like this than that", and out of these intense conversations, images are beginning to evolve and a range of metaphoric associations developed. Metaphors have a deep embedded place in this investigation, as they involve 'co-operative acts of comprehension', (Geary, 2012, p.140); in fact their often initially hidden body schema links were envisioned as binding ligaments by the orator Vico, (Schaeffer, 1990, p. 66) who recognised the embodied nature of metaphoric thinking over 2,000 years ago.

Fig.5 Image developed for screen communication: Cramp in calf muscles Digital image 30 x 22 cm.



#5

Drawing materials that included solids in suspension in water were chosen as an appropriate metaphor for the idea of a body that over millions of years evolved from a mineral rich sea. By using fluid drawing materials and responding to the emerging possibilities of iterative investigation, the research then entered a phase where it was focused on the representational possibilities of invented body schemas. These schemas initially set out in diagrammatic form, were then redrawn with more textural and visceral responses to feeling tone and emotional awareness, alongside an idea of stains and other visualisations of metaphoric relationships to inner body sensations.

Fig.4 A hand drawn body image using water based pigments. 30 x 24cm Representation of human lungs and their damage by smoking.



Because of the changing situation surrounding a post-covid world, communication now had to be done digitally. The screen format was initially a difficult problem because hand drawn textural information was lost, the screen images' pixelated forms reducing all the drawings to a similar surface grain. Therefore it was decided to re-draw the images in Photoshop and test them for screen communication,

so that images shown in post covid 'Zoom' meetings could operate using digital screen aesthetics.

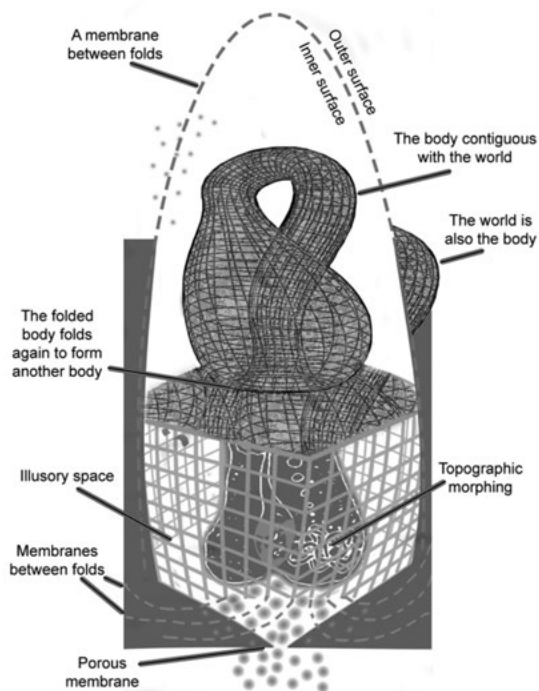
In these drawings, such as Fig. 5, (the central form is an intense red) colour became much more important in relation to the emotional aspects of interoception, interoceptual experience also being communicated by shape, metaphor and surface 'grain'.

Diagrams were then returned to communicate the idea of a body folded into a space, a space rather like the thick soil that a worm exists in, rather than a clear 'empty' visual space. These images were set into an 'illusory space', a space in drawing that is usually depicted using perspective.

As each surface is folded, it can be 'nested' inside another surface, so that it operates as a permeable membrane. In this way surfaces can be envisioned as stacked, layered or bent over onto each other, thus giving an appearance of space without there actually being any space other than the two dimensional plane of the diagram's existence.

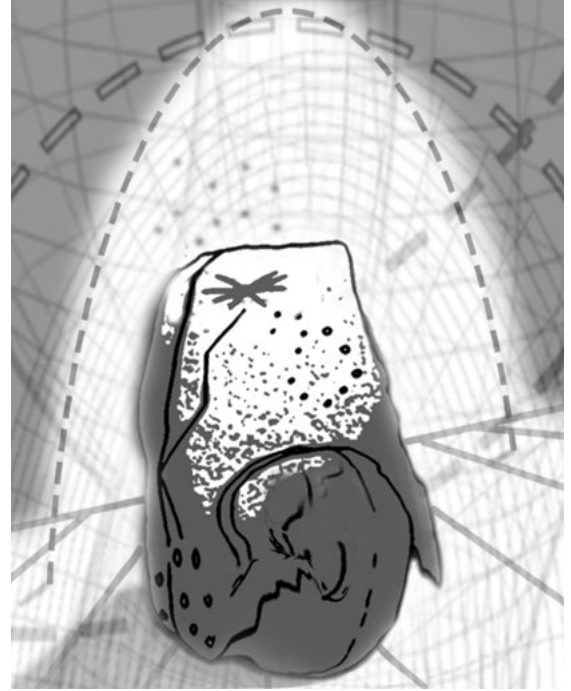
A series of drawings have now been made, using iterative means to develop a range of images suggestive of particular sensations that the artist was aware of in relation to his own body. This body is now over the age of 70 and therefore prone to aches and pains. The drawings are now being assessed as to their potential for further development as graphic images, part of this process being to have them scanned into a computer and redrawn as clear graphic images. This removes the traces of individual hand marks and allows for much clearer on screen communication.

Fig.6 A diagrammatic representation of how the body both constructs space and inhabits it at the same time. Surfaces are regarded as permeable membranes that allow for stimuli to receive responses because information can flow between each layer.



02

Fig.7 A graphic image developed from a drawing of stomach pain.



Several people in the artist's family have suffered from irritable bowel syndrome (IBS) and the artist's mother thinking she had IBS, never realised that she had stomach cancer until it was too late. As the cancer advanced she would refer to it as her little friend, a fallacy but an understandable one, one that revealed how quickly we can turn to animism when all other forms of understanding begin to fail us. This particular issue being one that is to be looked at as another possible avenue of drawing research, but which needs a detailed investigation far too detailed to be included in this report. The transition from thinking of something as IBS to cancer is texturally extremely loaded. The concept of the abject is drawn into the situation and there is a much higher level of expressive requirement when a representation is made, which is why a second group of drawings were then produced and edited on computer, so that they could both be used online and as imaginative vehicles used to carry news of mortality.

Stephens & Hoffman (2016, p.257) pointed out, that in image making texture is required 'to evoke emotions and set moods'. Texture is not just something that can create illusions of reality, it is essential to the development of forms that can stimulate and simulate emotion, in particular if the abject needs to be signified. The abject has often been associated with qualities conjoining tactile/visual surface textures that are suggestive of the materials we would like to expel from the body or avoid touching. Kristeva (1984) suggesting that the horror we experience in reacting to our own materiality is related to a lack of meaning caused by there being no distinction between self and other, a situation that this body of research suggests is in fact the norm.

The unifying of tactile/visual issues is an aspect of synaesthesia. A concept involving a complex folded series of events, as a way to represent a perceptual phenomenon can also be used to demonstrate how the stimulation of one sensory pathway leads to involuntary experiences in a second sensory pathway. It has been argued, (Cytomic, 2002) that this situation leads to a much more heightened awareness of the perceived experience and relies on an entanglement both with the body as a whole and the world it is immersed in. This reflects the initial decision to develop a body of research that works with the premise that perception and feeling are inextricably linked together. The qualia related to both experiences, it is argued, reinforce each other, because the qualia associated with emotional feeling developed as part of interoception and associated body schema systems, would be generated at virtually the same time as any visual qualia experienced within exteroception. (Either as a result of making drawings about these experiences or when having direct experiences of the world) These raw qualia of sensations, emotions and thoughts, although experienced privately, subjectively, and directly, are also what will eventually make up the building blocks from which all communication, both logical and emotive, will be effected. (Wolfe and Bell, 2007) A movement of chemical and electrical energy, being central to both perception and resultant action, the holistic nature of the process reflecting the situation as set out at the beginning of this research report, the mind, the body and experiential perception being inseparable.

An acceptance of this entanglement is also central to the nature of the drawing processes in-

Fig.8 A visualisation of cancer in the form of a 'little body'.



#5

volved. Barrett (2019) states that, 'there is a piece of your body in every concept that you make, even in states that we think of as cold cognition.'

The direct engagement of the body in the making of these drawings does however now require us to ask a further question. Are these images representational or are we engaged in what Karen Barad calls a 'performativity' emerging from a "direct material engagement with the world"? (2007, p.49).

The issues foregrounded so far question whether our brains construct concepts in order to give instructions to the body. The model of 'instructions' that are in turn constructed by integrating sensory input with memories of similar experiences from the past, is becoming replaced by a model of a body in the world that both has a brain/body inferring causality from sense data, but also has an awareness that the body itself is the world; the mesh of the body interpenetrating the world and itself. The paradox being that as the body can only sense a world that is mediated through itself, what is being perceived is a perpetual interaction with itself; perhaps the only thing that prevents the body from dissolving into its surroundings therefore being life itself. Life being the preservation of energy coalescing matter within that membrane we call a body. The 'life' of a drawing can in a similar way be seen as dependent on a close affinity with the materials of its making, as well as that it being a direct seismic recording of the body's movement in the making of that drawing. As this image is itself experienced, an audience's perceptual awareness of its emergence out of the surface it was drawn on, hopefully reminds the perceivers of the fact that they too are entangled into this situation.

All hand made drawings are seismic recording of body movements and these movements remain embedded within each drawing as an integral part of its meaning. Indeed the very processes of creative image construction rely on a fusion between the material properties of a drawing material and the physical ability of the drawer to sensitively manipulate them. This direct engagement is regarded in this report as a performativity in relation to which there are no 'outside' observers, only performers in an ever more entangled and integrated dance of awareness.

The next stage of the research is to take the images out into workshops to explore how communication with others can be affected and to look to the integration of different approaches to understanding perception, in particular the four theoretical standpoints of psychology, physics, philosophy and aesthetics will be examined as to their ability to help with a growing awareness of an animist world view, one that does not separate the organic from the inorganic world.

BIBLIOGRAPHY

- Abram, D. (2010). *The Spell of the Sensuous: Perception and Language in a More-Than-Human World*. Vintage Books.
- Barad, K. (2007) *Meeting the Universe Halfway*. London: Duke University Press.
- Barker, G. (2020) *Drawing age*. Drawing: Research, Theory and Practice, 5 (2). pp. 351-361.
- Cytowic, R.E. (2002) *Synesthesia: A union of the senses*. MIT press.
- Deleuze, G. (1993) *The Fold: Leibniz and the Baroque*: University Of Minnesota Press.
- Geary, J (2012) *I is another: The secret life of metaphor and how it shapes the way we see the world* New York: Harper Collins.
- Iosifyan, M. and Korolkova, O. (2019) *Emotions associated with different textures during touch* Journal of Consciousness and Cognition, Volume 71, Pages 79-85.
- Johnson, M. (1987). *The body in the mind: The bodily basis of meaning, imagination, and reason*. University of Chicago Press.

- Kristeva, J. (1984) *Powers of Horror*. Columbia University Press.
- Merleau-Ponty, M. (2002) *The Phenomenology of Perception*. London: Routledge.
- Morton A. Heller, M. A. (1982) *Visual and tactual texture perception: Intersensory cooperation*. Journal of Perception & Psychophysics 31 (4), 339-344. Accessed from: <https://link.springer.com/content/pdf/10.3758/BF03202657.pdf> 12. 4. 21
- Schaeffer, J. D. (1990) *Sensus Communis: Vico, Rhetoric and the limits of relativism*. London: Duke University Press
- Shusterman, R (2012) *Thinking Through the Body: Essays in Somaesthetics*. New York: Cambridge
- Simondon, G. (1964) *L'individu et sa genèse physico-biologique*, Paris: Presses Universitaires de France P. 223
- Stephens, K.D. and Hoffman, D.D. (2016) *On Visual Texture Preference: Can an Ecological Model Explain Why People Like Some Textures More Than Others?*. Perception, 45(5), pp.527-551.
- Varela, F. J., Thompson, E. and Rosch, E. (2016) *The Embodied Mind: Cognitive Science and Human Experience*, London: MIT Press
- Wilson, M (2006) *Covert Imitation: How body schema acts as a prediction device* In Knoblich, Thornton, Grosjean and Shiffrar (2006) *Human Body Perception from the Inside out* Oxford: Oxford University press
- Wolfe, C.D. and Bell, M.A. (2007) *The integration of cognition and emotion during infancy and early childhood: Regulatory processes associated with the development of working memory*. Brain and Cognition, 65(1), pp.3-13.

All images © Garry Barker 2021

GARRY BARKER

Garry Barker is an artist and lecturer based at Leeds Arts University. He has delivered several conference papers on various aspects of drawing and has published and exhibited widely, winning the 2017 Rabley Drawing Centre 'SKETCH' first prize, has been selected for the Trinity Buoy Wharf drawing prize, and was selected for the Pinault Foundation's 2020 exhibition exploring narrative influences on contemporary sculpture. Recently commissioned for the Leeds Arts Wellbeing and Health network, to design storytelling cards, he uses a variety of drawing led methodologies to respond to individual and community concerns, using drawing as a visualisation tool to communicate ideas, drive narratives and create visual allegories.

Garry Barker é artista e professor na Universidade de Artes de Leeds. Publicou vários artigos sobre desenho e assim como expõe regularmente, tendo ganho o primeiro prémio 2017 do Rabley Drawing Centre 'SKETCH'. Foi seleccionado para o prémio de desenho Trinity Buoy Wharf e para a exposição 2020 da Fundação Pinault, explorando as influências narrativas na escultura contemporânea. Recentemente foi convidado pela rede Leeds Arts Bem-estar e Saúde, para desenhar cartões de contos. Utiliza uma variedade de metodologias de desenho para responder a preocupações individuais e comunitárias, utilizando o desenho como ferramenta de visualização para comunicar ideias, conduzir narrativas e criar alegorias visuais.