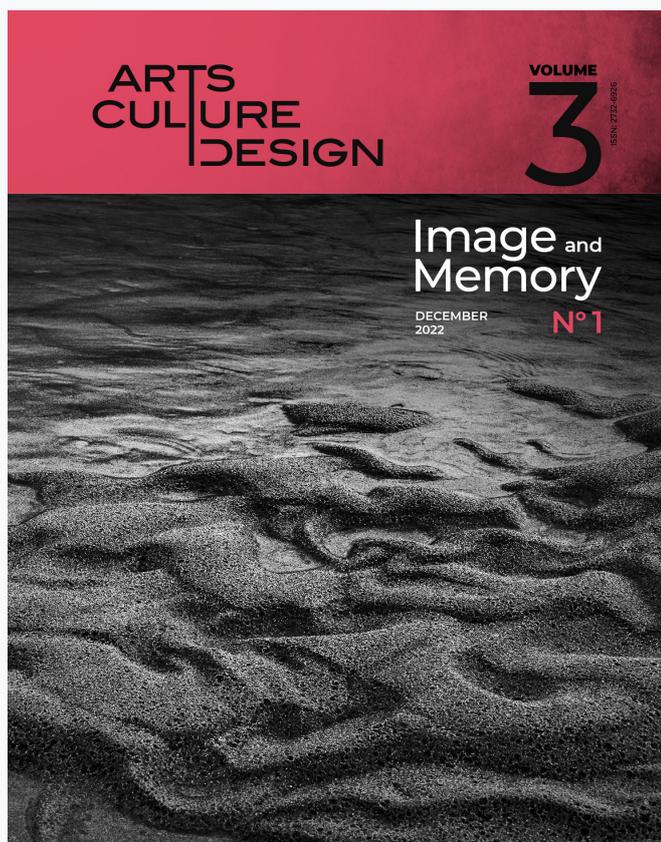


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### FROM CAMERA AS PART OF THE BODY, TO CAMERA – THE BODY PART

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ARTICLE

# FROM CAMERA AS PART OF THE BODY, TO CAMERA – THE BODY PART

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## FROM CAMERA AS PART OF THE BODY, TO CAMERA – THE BODY PART

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### Abstract

The digital world is where 3.4 billion people communicate via digital images through social media. On average, each one of us spends 6 hours each day in front of a screen.

The digital images rapidly appearing and disappearing under our scrolling fingers shape our perception, time and body movements, brain structure, and responses in a complex neurological way. The camera enables the formation of our identity, social development, aesthetic value, and cultural participation. Without this camera image, one is isolated, unable to speak.

Moreover, without storage where we save images, we are exempt from personal history, narratives, and memory.

Once we integrated a camera into the smartphone, we produced an extra organ. With the Orion visual cortical prosthesis medical study that implants a camera into the eyes to restore vision, face emotional surveillance project VibeCheck, and BeAnotherLab software, swooping through virtual reality the bodies, this article follows the socio-philosophical and technological shifts through the history of the camera and photography in object production, body perception, their definition, interaction, and final merge between body and camera object.

Through the reference of the theoretical works of Roland Barthes, Maurice Merleau-Ponty, Karen Barad and Tim Ingold, the article follows how we have produced camera images through time and how camera images have been producing us.

The camera transforms from a separate room or device to a prosthetic/inherent part of the body, without which the body is not fully functional. Today, a person without a phone camera is marginalized and handicapped.

The deficit of not having an image-generating tool turns out to be a sensual deprivation, social limitation and discrepancy in identity.

### Keywords

camera  
Roland Barthes  
phone  
technology  
Maurice Merleau-Ponty  
intra-activity  
Karen Barad  
Tim Ingold  
visual cortical prosthesis (VCP)

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## INTRODUCTION

It is the object perception and approach which leads the human body/mind to produce something for its own use, even in a socio-cultural meaning. The complex development of how certain products are made, improved, used and inhabited in daily life lies in philosophical-theoretical changes on perception of the world over time.

Considering the case of the camera, in this day and age the camera is a globally used term describing a technology of several lenses positioned to produce a picture/image. The name derives from the Latin word for 'chamber', and came to a use in the reference of 'camera lucida' or 'camera obscura', a set of mirrors and lenses that project or produce what we call today the negative of an image. Later, it became a broadly-used device capturing visual images in the medium of photography, movie and digital stream. Today, it is tested as a visual cortical prosthesis that would bring sight to a blind person.

The first of its kind required a whole room and chemical reactions in order to produce images; the latest of its kind reacts at the temperature of our finger. The camera has been transformed from a rarity owned and affordable by few to a tool in one's hand, still needing a dark room, but able to capture family moments. In between, it was not just a tool for capturing the most important memories, eternalizing dead souls, but also to remember children's birthdays, weddings and vacations. The dark room was not needed anymore since we could bring our negatives to specialized shops and come back later to pick up our photos.

Only at that moment would we know whether the negatives were good, if all the pictures had good lighting and were sharp. The memories that were not captured well would be gone. The photo image became part of albums, materialized memories that we could share with close ones; it was an act of intimacy to show them to visitors in our homes.

Currently the camera is becoming part of our daily life, part of the handheld tool that serves for communication. The relationship between our body and camera is becoming an intra-active process in the way we produce images and share them.

This age of communication through images disables the division of private & public, mine & yours, outside & inside, mind & body. The mobile phone becomes the key to image production and camera in hand, always capturing, instantly sharing, storing, or deleting data when needed. It digitally adapts our bodily movements, mapping the geo-political space, dissolving in the hand while becoming an inherent part of bodily reactions, produced as an essential part of the sensual and visual experience. The concert, gallery, visit to another city or even morning coffee is often experienced primarily or parallelly via the screen of a camera-phone.

Although we are aware of the difference, our brain is constantly merging virtual and mental images into realities. These are becoming a single visuo-sensual bodily capturing and screening form of images<sup>1</sup>. In this paper, I follow the socio-psychological steps that led production of images and perceptions from the camera as a room to the camera as a visual cortical prosthetic. I introduce the Orion visual cortical prosthesis medical study (VCP)<sup>2</sup>, BeAnotherLab<sup>3</sup>, project VibeCheck<sup>4</sup> to analyse the theoretical, social and technological changes in understanding of image production that led to the camera's full integration into the body.

I use crucial points in theory that follow the development of the camera as a room, as a personal handheld tool for capturing important moments, as part of the phone, and finally (the camera) as part of the body. I use paper maps the way we produce images and evaluate what the theoretical processes are.

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1. The phenomenological reduction describes the two processes, from appearances to the photographic image, and from the phenomena to the mental image. The resemblance of those two in creating, forming, and embodying the images generate their mental merge. In the space of memory, fantasy and imagination of the similarity of those processes, causes adaptation of other's 'strange' their photographic images into someone's 'own' embodied experiences and mental images. Those adapted images are then evaluated and compared in the modes of memory and fantasy. The adapted images are a part of the experience influencing every subsequent subject's experience, participation in collective memory, and deterritorialization (Dimitrijevic, unpublished).

2. Visual Cortical Prosthesis System Study. Available at: <https://clinicaltrials.gov/ct2/show/NCT03344848> (Accessed: 20 January 2023)

3. Project BeAnotherLab. Available at: <http://beanotherlab.org> (Accessed: 20 January 2023)

4. VibeCheck art project of Laruen, McCarthy. Available at: <https://lauren-mccarthy.com/Vibe-Check> (Accessed: 20 January 2023)

Do we produce the tools as we perceive them and then mirror them in our neuro-biological structure, or do we produce them as we understand the world and phenomenal presentations of what we see?

### **CAMERA IMAGE – THE BODY PART – VCP**

On 20th November 2017, the National Institute of Neurological Disorders and Stroke (NINDS) at the University of California started with an Early Feasibility Study of the Orion Visual Cortical Prosthesis System. In this study, the selected subjects with no light perception or bare light perception will be implemented with a prosthetic system based on a camera system that collects pixels like a screen. This system is planned to restore these subjects' vision under the assumption that visual precepts work as a small spot that produces light with electrical stimulation of the visual cortex. The previous finding that worked with a visual map of shapes demonstrated that the brain can produce coherent precepts of visual form this way. The similarity in brain image production and camera image production overlaps to such an extent that it can be used in the development of a prosthetic tool that restores vision. This merging of images due to the resemblance between mental images with a photographic image is presented in the reflective analyses of Roland Barthes in his book, *Lucida Camera* (1981). Through reflection of a picture of his dead mother, he is able to rebuild a memory that has never been his, through putting himself inside the picture. The camera 'teleports' via the visual experience and suggests the embodied memory of certain situations that occurred there-then in the past and its perception here-now in the present (Barthes, 1981). Furthermore, a photographic image is presented as a trigger of memory storage that we connect to this particular scene. We suddenly construct the world outside the frame, the world that is not depicted there, that is invisible. Thus, it is no longer just a copy of an event (a frozen moment in the past, a reminder of our death), but a constellation of feelings, thoughts, attitudes, and beliefs that change the image into another kind, one that exists in the space of imagination.

The perception brain process overlaps with the camera production of an image to the extent that cognition processes are able to classify them as the same. The camera as a tool is the product that copied the visual apprehension process. The tools are created by a human who defines them by creating them, determining their shape and their use. The tools are formed and constructed in the image of human perception, we could say "to fit our hand", or to "fit our life", or even to "to fit our body". Consequently, it is those tools that exist even on a larger scale as objects surrounding us, forming our space. We are then interacting with them, and then they define our actions and our imagination. In addition to Barthes, Maurice Merleau-Ponty argues that bodily involvement is a crucial part in defining the object (or phenomena) (Merleau-Ponty, 1968).

### **CAMERA IMAGE – THE PART OF THE BODY – VIBE CHECK**

The artist Lauren Lee McCarthy in her project VibeCheck presents a surveillance system that records the gallery visitors' emotional reactions and classifies them. The tools of VibeCheck are facial recognition and expression analyses that go through the catalogue of emotions and classify them as happiness, disgust, sadness, surprise, or boredom. Those emotional expressions are then a screen for other visitors or for themselves. The visitors are nicely alerted who the people on the screen are and, at the end, they may better understand themselves and the subconscious processes triggering reactions to art.

Maurice Merleau-Ponty (Merleau-Ponty, 2002), in comprehending this process of acknowledging the world, brings a whole new importance to the sensual experience, since it is the body that experiences, not just the mind (Toadvine, 2019).

The body contains kinesthetic awareness, which is a pure-consciousness scheme of movements and spatial information similarly to facial expressions of the emotions. The body is in the space intentionally, it lives in the space and inhabits it.

In the same manner, it is a living object in space and, by embodying surroundings, creates objects adapted to be parts of the body scheme (Toadvine, 2019).

Our body, according to these collected experiences, adapts its motricity. If the space contains a camera in an emotion surveillance way, our body will form accordingly.

“The properties of things that we take to be ‘real’ and ‘objective’ also tacitly assume a reference to the body’s norms and its adoption of levels. An object’s ‘true’ qualities depend on the body’s privilege of orientations that yield maximum clarity and richness. This is possible because the body serves as a template for the style or logic of the world, the concordant system of relations that links the qualities of an object, the configuration of the perceptual field, and background levels such as lighting or movement” (Toadvine, 2019, chap. 3, para. 9).

The production of any object is in direct response to the body and, vice versa, the body responds to the object. The first camera is the room, something that a person inhabits but, very soon, when technology allows the camera-room to mimic a mechanic of an eye, we produce an ‘artificial eye’. The development of material and technology allowed us to integrate even more the camera shape according to our body and ‘true’ image perception, and we formed the camera as a handheld tool. In the project VibeCheck, we can see how the room and camera work together through the body kinesthetic awareness and adaptation of the camera.

### **CAMERA IMAGE – BE THE PART OF ANOTHER BODY – BEANOTHERLAB**

Since 2012, BeAnotherLab has presented a project that merges the images and bodies of others via the visual image overlap. The project enables experiencing someone else’s body through virtual reality that swaps perception in real time. The primer experiment was based on a gender body swap; today the different swaps occur worldwide using this tool to support a deeper understanding of someone else’s perception.

The project promotes understanding through embodying the movement and vision of another person in real time. The whole swap takes 10-15 minutes and has a series of interactive protocols that support the mirror effect. “We are, firstly, ‘lived’ bodies (Leib), but we also experience ourselves as material bodies existing in objective space-time (Körper)” (Boyd, 2019).

This is presented in the work of Karen Barad where she argues that space-time is materialized via our intra-activity with ourselves and with our surroundings (Barad, 2007). Our bodies are the same as all bodies formed in this interactive process.

Karen Barad brings us a shift from interactions to the intra-active world that leaves marks on bodies in each interactive matter that is constantly ongoing. In other words, there is no being in the world without these interactive marks on bodies. It is not just our body that is in multiple awareness of sensualities, but it is also the constant new reflections of other bodies and apparatuses that are inside the body. The project BeAnotherLab materializes Karen Barad’s theory that follows the automatic intra-activity of bodies and spaces.

“...Matter is substance in its intra-active becoming – not a thing but a doing, a congealing of agency. Matter is a stabilizing and destabilizing process of iterative intra-activity... We don’t obtain knowledge by standing outside the world; we know because we are of the world. We are part of the world in its differential becoming” (Barad, 2017).

Barad defines phenomena as constitutive of reality; however, it is not a things-in-themselves or things-behind-phenomena, but it is a things-in-phenomena.

The bodies, all of them, not just human, come to matter through the intra-activity which she describes as performativity. Apparatus, in this sense, is a material reconfiguration going on in dynamic space-time-mattering. Apparatus is in the process of becoming and does not serve just for satisfying human knowledge or any kind of other project.

Apparatuses “[...] are the conditions of possibility for determining boundaries and properties of objects and meanings of embodied concepts within the phenomena” (Barad, 2007). What is an essential ‘shift’ in Karen Barad’s theory of interactivity that is the mark that is left on the body. Each specific reconfiguration of mattering leaves certain marks on the body. Those intra-actions are causal characteristics, and we could not easily be objective when measuring them.

## FROM CAMERA AS PART OF THE BODY TO CAMERA THE BODY PART

The camera is a tool that captures surroundings, records sudden events and reports them for later evaluation and scientific research (criminology, photo reports, visual anthropology, documentation). It is a tool capable of capturing sharp and objective memories, without any misinterpretations that can be open for later discussions upon further reviews of the images. There is a button to be pressed, the camera apparatus has lenses that are precisely shaped to be held in one's hand, positioned instead of the eye's vision and on command of the human body to imprint the situation. It is what we dreamed of and a reliable source of memory that we can hold in the hand as an eye in the head.

This analysis shows that we have given it an important asset as an additional eye and part of the brain to generate the images. At that moment, when our neurological maps imprint the daily use of holding the tool in the hand, the sensual experience adapts the body shape. In this sense, the hand is extended by the tool and the tool is part of the hand. When part of the hand becomes absent, we experience a phantom limb. The phantom limb is formed and occurs through intra-active relations with the phenomena.

The camera, conditioned by mechanical parts and developed with technological progress, interacts with socio-cultural beliefs about phenomena and bodily processes. Currently, the camera has become an artefact that is produced as a part of the body, a prosthetic extension, or even a new organ. The camera-phone-organ reaches the highest point of the organ that we can technologically emerge with. The shape that fits hand in hand between the fingers is adapted to a swift touch, sensually reacting to the direct neurological impulses of the fingers. The touch responds instantly, as the camera as part of the VCP restores a percept in the human eye.

Both cases integrate the camera in a biological way and determine the future development of image production. Space and objects are conceived, perceived, but mainly lived and, therefore, formulated in continuity.

In this sense it is important to define how we produce the object/tool or how the tool is formed in its present form. "Making is not filling the hyle with morphe – it is not filling an idea with material. Making is a process of growth. It is an engagement with material – morphogenetic" (Barad, 2007). For Ingold, the phenomena is not based on form or matter, however, we are actually talking about forces and materials. "Ingold (2010), is not about understanding what is done with or to objects as static forms; as 'things' they are alive and intermeshed with the forces that bring them to life and transform them..." (Ingold, 2013).

It is clear from this standpoint that the perception of the object forming has changed in the last two decades, hand in hand with an understanding of what the object is, and what the emotional sensory resources engaged in using it are.

"Artefacts are produced out of this stimulating process of encounter, exploration and interpretation between eye, hand, mind, materials and method as by-products of these investigations that, in themselves, continue to suggest new discoveries, arrangements and conversations with the world in an 'excess of ongoing process' (Gregg & Seigworth, 2010, p. 5)" (Boyd, 2019, p. 71).

The camera inside the phone presents the memory collection, subjective intra-active picture-images of mapped surroundings. In our daily life, everything that our eyes perceive as memorable is elected to be instantly transformed into digital form and loaded into storage.

The memories are not just a representation of the past, they are who the person is, and without them we are empty. The camera-phone-organ brings the images forth, the stories are juxtaposed and shared as family intimacy memories. The picture in the phone goes beyond a single hand, it is instantly shared with others, becoming the essential means of communication.

The digital anthropology of an image becomes one with collective memory building as an immune system that never forgets. In the end, those not having a camera-phone are those with a disability, lacking presence in digital images of visual language, blind.

## CONCLUSION

The camera is the transport of energy from one body to another, the touch of the screen as an interface that teleports the particles of movement. This confirms the finding that the production of the camera, either as social skin, a third eye, a limb, a part of another body, or a prosthetic part of the brain, contains organic tendencies in the interaction and use of the camera.

The second result shows a correlation between the production of cameras and its theoretical understanding. Clearly, it is not possible to separate bodily adaptation from the production of a camera as an object.

This theoretical research shows that the understanding of what a body is changes across thinkers and philosophical-theoretical approaches, and it influences the use and shape of the camera. Without the camera, our body is functional merely to a limited extent; without the phone-camera-organ, the person experiences a phantom limb and is in the position of disability.

The deficit of not having an image generating tool turns out to be a sensual deprivation.

The camera-phone-organ becomes the social skin of current times, forming the identity via transnational communication in trajectories of digitalized bodies (Shiple, 2013; Petterson, 2011).

The research findings show that the current embodiment of the camera-phone-organ is, through the new 'realities', the port for sensational experience without regard to whether the implementation is a mental body process, full body implant (VCP), or the projection of someone else's body (AR).

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