

difference between human beings and the rest of the living world is less significant than we thought even a few decades ago. One of the chief aspects of the commonality of all living things is the common experience of all corporeal beings of 'being in the world'. 'All life is incorporated,' remarks Bakke. All life derives pleasure and suffers from its corporeality. This experience has allowed us to set about expanding ethics to include other living (i.e. corporeal) beings. If we achieve the revolution to which the transhumanists aspire and become virtual beings, if we discard our corporeality, then in all probability we shall fall back into anthropocentrism, or more likely into a new form of it, since the new bodiless human will not be the same sort of human being. I dare say that a better understanding of our biological bodies would allow us to expand our ethics in a more logical and coherent manner, while the lack of a biological body would result in ethical regression.

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Human Corporeality and the Technologies of 'Light Writing'

1. *The body in the world of artefacts*

A human being experiences the effects not only of the forces of nature, but also of factors that (s)he himself / herself has produced. More than a century and a half has passed since artificial images of the photographic type were invented, and people have been surrounded by them ever since. Sometimes they surround people like fog or rain, sometimes like a clinging spider's web, and frequently they inspire images of happiness and clarity. The time is past when this medium was associated with a window into the world of 'historic truth', but this does not diminish our interest in 'light writing', as is proved by the multitude of scholarly conferences on the subject. In 2014 a new periodical, *Anthropology and Photography*, began to come out in London.

Questions of the connection between technology and human beings are often discussed in the context of the social sciences' turn towards materiality and corporeality. Daniel Miller provides a new meaning for Hegel's concept of 'objectification' [Miller 1987: 19–82]. In order to realise and understand itself, the subject creates (alienates or objectifies) an object and externalises it in material or ideal form. Representations of this kind may use various vectors — visible figurative forms, audible sonic rhythms, kinaesthetically palpable bodily motions, impressions of taste or smell. Such an object is apprehended or acquired by the subject, and both parties are changed in this process of production and consumption. The dialectic of subject and object consists in the subject's becoming its own object and returning to itself at another level, and this continues cyclically, as each objectification brings about a new modification of the subject. An important aspect of this is the particular connection of the parties: the subject is never the subject per se, but is always defined by its relationship to the object. a culture has no subject, neither in the image of a particular person nor in society as a whole, because the subject should be considered as both the creator and the creation of the culture.

The materiality of artefacts is a characteristic of objects in their effect on each other and on human beings. People organise the world through their artefacts, and by this very process human beings are organised. Does society consist of people (together with their activities, institutions and ideas) or should the objects arising in the course of their activities also be included in the social world? And if objects are to be allowed into the social reality, how are they to be interpreted — as symbols of social relations (signs) or as things endowed with independent activity? The material turn is connected with the recognition that objects are not just signs and that not only people are active. People organise objects, and find themselves organised by them, and there emerges in people's behaviour what Miller calls 'the humility of things'. 'In a sense artefacts have a certain "humility" in that they are reticent about revealing their power to determine what is socially conceivable' [Miller 1994: 409]. Artefacts form a wider field than the signs of language.

Materiality is not an original characteristic of objects, historically it is formed in objectifications. Materiality and substantiality are identified in popular discourse, but they are not the same thing. 'Substantiality' is a question of the thresholds of our perceptions. Objectification is a movement to mediate the unmediated. But in reality people encounter not only that which bears the imprint of media, but also that which is unmediated, that which continues to live its own life in objects.

Materiality is a product of becoming, it is a product of the materialisation of the immaterial. As a term, 'immaterial' is preferable

to the negative 'non-material'. 'The immaterial' is not anti-materiality, it is an expression of the presence of 'another materiality', whereas the 'non-material' only embodies the idea of an absence of qualities. For example, people might use the expression 'a non-alcoholic drink', but in this case they are, precisely, saying what there is not in the drink, and not saying what there is — water, sugar, vitamins, salts, etc.

Materiality itself is many-layered, and research into the technologies of sociocultural objectification shows that the division of culture into material and non-material (substantial and palpable, on the one hand, and insubstantial and impalpable on the other) leads us up the blind alley of dualistic oppositions. This can be avoided if we learn to speak of the materiality of 'non-material' culture, discover its origin as that of artefacts on the whole. As Marshall McLuhan remarked, there are palpable things, 'hardware', such as bats and balls, knives and forks, railways, space ships, radios and computers. There are impalpable things, 'software', such as theories and scientific laws, philosophical systems, forms and styles of painting, poetry, music, etc. 'All are equally artefacts, all equally human, all equally susceptible to analysis,' and we must be prepared for all our accustomed distinctions between sciences and arts, things and ideas, physics and metaphysics to lose their former rigour [McLuhan, McLuhan 1988].

An art lover might be alarmed at the proposition of regarding a work of art as an artefact, but this is not an attempt to deprecate art. On the contrary, art wins from this approach: we can understand its effect better.

Artefacts form the environment in which human corporeality is shaped. The idea of 'the body' may take part in various discourses. It may, for example, be a metaphor for 'human incompleteness', when we are told that 'this is only the body, there are the soul and the spirit besides.' It may be a metaphor for 'human ontological integrity', when we are told that the multifaceted nature of corporeality leads people to speak of 'the body of the spirit, the body of the soul, and, finally, the body of the body.' But in any case it will be right to regard the body as the means by which nature becomes a human being.

What role did technology play in the coming into existence of the human being and of culture?

Researchers consider that at the root of the turn towards materiality we find the works of the anthropologist André Leroi-Gourhan [Ingold 1999: 411–53; Krutkin 2015: 187–99]. As a palaeontologist, Leroi-Gourhan relied on the results of the most diverse disciplines, from archaeology and biology to sociology and art history [Leroi-

Gourhan 1993]. His palaeontological perspective led him to imagine technology as the collective name for everything that works by mediation, when the principle of circular motion is used. He believed that the underlying principles of technology were present at the beginning of life and evolved gradually over time; technology is a factor in the biological dimension of humanity. Technology is older not only than labour, but even older than humanity. The exciting picture of the evolution of life drawn by the scholar — from fish to computers — cannot fail to impress the reader by its scale.

The ancestors of man evolved in parallel with other mammals until they began to walk upright, at which point there was a sudden change. It was not cranial capacity but the vertical position and the evolution of movement that played the decisive part in anthropogenesis. It would be a mistake to think that the specifics of humanity are that humans use tools and animals do not. In Leroi-Gourhan's opinion, the specifics of the human relation to the world are that people can separate tools from their bodies, whereas animals' tools (and they are perfect in their way) are merged with their bodies [Leroi-Gourhan 1993: 237].

The liberation of the hands from their locomotive function caused the emergence of two important connections. The first is the pair 'hand and tool'. The liberation of the mouth from the function of seizing and holding prey caused the realisation of another pair, 'face and language'. The motor functions of the hands and face are decisive factors in the emergence of gesture, which is on the one hand connected with material action, and on the other with language and the aural symbol [Leroi-Gourhan 1993: 187]. The hand is not a hand per se, it is what it does when using tools, and the capacity for language too only exists in the process of speech.

The making of stone tools, he considers, is a bridge between the animal world and the human world, in which tools may be separated from the body. Gesture begins as a chain of operations with tools, and this chain is at the same time an expression of knowledge and ability, and here the human being's movements and perceptions are linked.

Gestures of this sort go beyond the task of adapting to a situation, they are capable of creating their own situation. a tool which is 'liberated' from the body does not by any means become an external prosthesis, it is connected with the body as before, but it is an 'outpouring' or 'secretion' of the anthropoid body and brain [Leroi-Gourhan 1993: 91]. Using the idea of gesture, Leroi-Gourhan demonstrates that tools and bodies are deeply interpenetrative. Tools and bodies invent each other, and this is what lies at the root of the triumph over the dualism of the substantial and the insubstantial, the material and the immaterial.

Gesture is not a kind of language, but a part of every language. Our speech relies on articulatory gestures. We have no grounds for opposing the 'language of words' to the 'language of gestures'. Gestures are accompanied by a one-sided semiotic conceptualisation; a gesture is not a sign, it is '*le travail qui précède la constitution du signe (du sens) dans la communication*' [italics in the original. — V.K.] [Kristeva 1968: 50].

According to Leroi-Gourhan, the meaning of a gesture consists in the work that it does, without reference to the meanings that the parties to the communication have available to them, with no need for a symbolic code or of a recipient to 'read' the gesture as a sign. What is important from the palaeontological point of view is not the opposition between gesture and speech, but the discovery of their origin from a common root.

His thoughts on technology depended on a huge archive of descriptions of technical processes — forging, trimming, casting, shaping — which at first were achieved by manpower, then by the power of animals, air, wind, water and fire.

The invention of the wheeled cart, the plough, the windmill and the sailing ship should be seen not only as the impulse of the human spirit, but also as a biological evolutionary phenomenon [Leroi-Gourhan 1993: 246], as mutations of the external sociocultural material organism, which is a continuation of the physiological human body.

Technical contrivances, in Leroi-Gourhan's opinion, are at the same time tools and gestures, organised in a particular order, and this syntax provides series of actions with both stability and flexibility [Leroi-Gourhan 1993: 231–3].

The forces of nature and the artefacts of culture that act on humanity — where will they lead? Leroi-Gurhan's answer — to placing humanity on an evolutionary scale between its wild ancestor and a spiritualised angel — is a romantic dream. Humanity's double may be not an angel, but a perfect machine, an automatised robot. He wrote that '[t]he nightmare picture of robots pursuing human beings in a forest of mechanical tubes will come true only to the extent that other human beings will have regulated the robots' automatic system' [Leroi-Gourhan 1993: 249].

Production and language, i.e. tools and signals, albeit in an embryonic form, are nevertheless present among our elder brethren. But what is not present in the world of animals? They have no writing or reading of symbols [Leroi-Gourhan 1993: 188]. He has in mind that writing that left traces 30,000 years ago on the walls of caves; he has many works devoted to them.

Is it true that these cave-paintings were a hunting manual, an encyclopaedia of the animal world, exercises of ancient artists? Leroi-

Gourhan is inclined to think that these paintings were the graphic representations of myths. They do not in the least resemble artistic copies of reality. They were the work of people who used these images to study the art of sight and the art of speech, and learnt to connect the image and the word.

Marie-José Mondzain, a key author in contemporary visual research, thinks that it is wrong to consider images as derived from vision. ‘We do not see the world because we have eyes’ [Mondzain 2010: 308]. Leroi-Gourhan writes about this too: ‘Two languages, both springing from the same source, came into existence at the two poles of the operating field — the language of hearing, which is linked with the development of the sound-coordinating areas, and the language of sight, which in turn is connected with the development of the gesture-coordinating areas, the gestures being translated into graphic symbols’ [Leroi-Gourhan 1993: 195]. Mondzain also makes an important methodological observation for our question: ‘Leroi-Gourhan (1964–5) is no doubt the one who has come closest to what philosophy might be able to gain from this testimony when the expert renounces analogical fictions’ [Mondzain 2010: 312].

2. Image as artefact. From mythography to digital representation

In Lev Manovich’s words, we need to learn to read the word ‘photography’ anew. “‘Photographic’ today is really photo-GRAPHIC, the photo providing only an initial layer for the overall graphical mix’ [Manovich 2006].

A photographic image is an artefact, although it may seem that figures appear by themselves on the sensitive emulsion. But the image does not appear because we have forgotten to cover the lens. And to set about ‘light writing’ it is not enough just to give the camera to the cameraman, we need him / her to have a particular vision. This is the idea of the psychologist James Gibson: besides direct perception, people have ‘visual perception’, when people cross from the visible world to the perceptual field [Gibson 1979].

The philosopher Ortega y Gasset also has a picturesque description of this transition. Let us imagine that we are looking at a garden through a window-pane. Our eyes have to get used to it. What we want to see is the garden, that is what we focus our attention on, and our gaze passes through the glass without stopping. Seeing the garden and seeing the glass in the window are two incompatible processes: the one excludes the other, and each requires a different adjustment of our gaze. In everyday life priority and importance will be accorded to reality, such as it is outside the window. To cross over to visual perception (to the photographic representation, but

not only that) we have to bear in mind the glass through which we are looking [Ortega y Gasset 1928: 17].

Onto this screen (which may be imaginary) is projected the representation of what we see. There is an easy way of crossing over to visual perception, and that is the simple gesture of making a square with the fingers on the plane of the imagined frame. This is every camera operator's gesture.

The image is an artefact like other artefacts, it is an objectification, the product of the mediation of the non-mediated, a materialisation of the immaterial. These characteristics are applicable to any image.

Like other artefacts, images are a means of organising the world. It is also true that they organise humanity from the direction of perception. This is done by the artefacts themselves, they enter experience as endowed with a particular *affordance* (Gibson's neologism). Artefacts (things, images, symbols) in connection one with another form the cultural landscape. The materiality of the landscape lies in its action, its capacity for participating in the formation of people's identity.

The materiality of the image is connected with substantial parameters: thick cardboard, and the frame in which the photograph is mounted. However, the materiality of the photograph is not just a matter of the substance of the cardboard, but in the work of the medium. Photography works, because the materialisation of the immaterial is realised in it when it allows something to be seen through itself. In Elizabeth Edwards's words, 'photography as an artefact is not only the scene for human action and interpretation, it is an inalienable environment for the interpretation itself [Edwards 2002: 67]. Without this sort of transparency it does not cross the horizon of the material, and remains immanent. Sometimes this transparency is characterised as 'virtuality'. The concepts of the real and the virtual have their own history, but is it right completely to deprive the virtual of the status of the real? The opinion of W. J. Mitchell, an author who stands at the beginning of the visual turn, is typical. He remarks that "The metaphor of "virtuality" seemed a powerful one as we first struggled to understand the implications of digital information, but it has long outlived its usefulness. <...> It makes more sense to recognize that invisible, intangible, electromagnetically encoded information establishes new types of relationships among *physical* events occurring in *physical* places' [italics in the original. — V.K.] [Mitchell 2004: 4].

The first images, in the opinion of Vilém Flusser, functioned as signposts in the world of myth. The mythographic system of signposts was the platform for palaeolithic art. It served as a map for a very long time, but with time the images lose the power to give directions, and conceal the world to such an extent that man begins to live as a function of the images that (s)he has created. Flusser noted that

then a crisis would supervene: graphic images had ceased to fulfil the function of the signposts that they were at the time of the first myths. However, the ancient images contained within themselves the way out of the *impasse*. Alphabets were composed from their graphic components, as if from pixel elements. The invention of written language was a means of breaking through the barrier and discovering a new way of orientation. Phonemic speech was recorded in suitable linear graphemes, and alphabetic writing came into being. Five thousand years ago, in conditions of settled habitation and the development of metalworking, the tasks of writing down the sacrifices made to the gods, peoples' debts and military victories acquired relevance. Texts were invented in order to demystify images and purge them of magic. But is not history going round in circles? Flusser thinks that when there is an excessive number of texts, they stop providing directions. The function of the technogenic image is to free humanity from the necessity of linear thought, replacing historical consciousness with a second-degree magical consciousness and conceptual capacity with second-degree imagination. The invention of photography, from Flusser's point of view, is as historically significant event as the invention of writing [Flusser 1983].

The representation of the world appears within the bounds of the photographic frame. Framing declares the world to be visible, where the limits of the visible direct the beholder also to the invisible. This is what Hubert Damisch notes: 'One forgets, in the process, that the image the first photographers were hoping to seize, and the very *latent image* which they were able to reveal and develop, were in no sense naturally given' [italics in the original. — V.K.] [Damisch 1978: 71]. Approaching photography as an artefact allows us to bring together the graphic and the photographic, and removes the brusque opposition between analogue and digital representation. The transition from the visible to the invisible is not the capacity of all photography, but that of 'good' photography. From this point of view a good photograph is one which is imbued with a particular *transparency*, which shows the invisible, which allows something to be seen through itself.

Photography nowadays is ceasing to be regarded as an historical document illustrating an existing historical event. In Favero's words, instead of being looked at as an object, a photograph should be used as an object to be looked through. Photography is a type of passage, a channel of connection between objects, history and people. Photography is the inspirer of the history that may come to pass, and not a visual representation of the history that has already been [Favero 2017].

We do not find in photography simply the reflection of objects: here a particular version of the world is composed of light and shade

by technological means, and a visual component of the cultural landscape is formed. It is hard to ignore this in research on society today. As the English anthropologist Daniel Miller bears witness, every day there are about 350 million photographs posted on Facebook, about fifty-five million on Instagram, about 400 million on WhatsApp, and about 450 million on Snapchat [Miller 2015].

Photography is fragile and vulnerable in that it cannot do anything about the frivolous haste of those photographers who do not aim for transparency in their photographs and care nothing for the transition from the visible to the invisible. Neither can it do anything about the viewer's choice of the screen of the visible field on which, in one way or another, the viewers project the image.

3. *The photographic camera.* ***The theatre of photographic gestures***

Damisch notes that one must not imagine the black box of the camera to be 'neutrality' or its settings unprejudiced [Damisch 1978: 71]. As a tool, this box is connected with human gestures. Many researchers have written about this.

The camera, as the instrument of photography, contains within itself the means to codify and develop the photographic gesture. The event of the gesture evolves within the camera, and this is facilitated by a complex mechanism of bolted joints, cogs, transmissions, guides for the movement of the lens, shutter mechanisms, mirrors and prisms. This is noted in Parshchikov's observations: 'The modern camera is a smoothly organised miniaturised theatre, democratic in the ancient sense, and relatively accessible;' 'the visual potential of the stage equipment of the theatre almost coincides with the working possibilities of the lens. Brightness and darkness are regulated, mixed and quantified by a turn of the aperture stop.' Regulating the mixture of light and darkness produces the mediation of the unmediated, and framing produces the materialisation of the immaterial. It was noticed long ago that a big enlargement reveals the optical unconscious. Parshchikov writes that 'the camera chooses the living space for its intended hero by means of the magic ring of the depth of field, which links the functional quantity of the necessary light with the occupation of space. This is the collaboration of field and focusing, their existential parameter' [Parshchikov s.d.]. We use light as a dramatic force symbolising the distribution of good and evil in the world.

As (s)he looks through the view-finder, the photographer waits for the moment when the picture will look like what (s)he thinks about it. (S)he is present in the frame, because the camera fixes his / her decision to press the button [Berger 2013]. The photograph and his / her viewer think in images.

Good photography is directing the camera and knowing how to obey its codes, not only acquiring the necessary gestures, but also extending one's bodily experience. People make sense of the world not only with logic and language, but also with body and feelings. As John Berger remarks, 'looking brings closer', and there is a connection between 'displacement and vision'; he states ironically that there is 'a certain parallel between the act of piloting a bike and the act of drawing' [Berger 2011]. The same thing can be heard in Flusser's words: the photo-gesture is an act of pursuit in which the photographer and his / her camera are fused into an indivisible function [Flusser 1983].

Technology and corporeality, in Leroi-Gourhan's opinion, can only be understood as a unity. Technology is both tools and gestures, organised in a particular sequence, and this syntax bestows upon series of actions both stability and flexibility [Leroi-Gourhan 1993: 231–3]. A gesture begins as a realisable intention, as a chain of operations performed on the world with tools, and this chain is at the same time an expression of knowledge and ability, where human movement and perception are linked.

A person is involved in the process of the genesis of photographic materiality in his / her entire corporeality, as François Laruelle writes: 'Before the eye, the hand, the torso are implicated in it, perhaps it is from the most obscure and the most irreflexive depth of the body that the photographic art departs' [Laruelle 2011: 11]. Laruelle's question, 'How exactly does the photographer, through his body, his eye, his camera, relate himself to the World?' [Ibid.: 8] could be extended: how can a person looking at a photograph or screen correlate himself / herself with the world? (S)he does not do so simply through the information received, but through the participation in the image that (s)he experiences — when (s)he is not acting, but acted upon. Laruelle's ideas about non-photography are no more an attempt to do away with what we know about photography than non-Euclidian geometry renders Euclid's figures unnecessary. What is new is neither a new way of producing photographs nor new ways of 'thinking about photography'. It is a question of a new 'thinking with photography'.

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