

**FROM “GUESS WHAT YOU GET” TO “WHAT YOU SEE IS WHAT YOU GET”**  
OR  
**A NEED FOR OPTICAL IMAGING EDUCATION**  
OR  
**PHOTOGRAPHY IN MYSTERY OF AN UNCERTAINTY**  
**VERSUS VISION COMMUNICATION**

**ABSTRACT**

This paper investigates a need for optical imagery education. It is about exploring hierarchies of meaning concerning optical imagery (especially concerning its various forms of capture and transmission) and its functional importance for the post-modern community life structures.

Optical imagery education is needed to provide grounds for utilising the actual potential of optical pictures in contrast to occupations based on misconceptions. Optical imagery eludes positive definition and negatively defined phenomena are very difficult to investigate. A camera fixed image, a camera image record (a photograph or digital imaging) represents a comprehensive picture in urgent need of interpretation as it looks to casual viewer to be of zero image (imaginative) quality, playing the role of facts beyond reflection.

The seeming triviality of perceptual aspects of an optical image obviates its reflection and investigation. Problems of the optical image and its capture are primarily considered in terms of technique and technology and from this point of view they have been closely investigated. Nevertheless substantial scrutiny of this image as such has been falling behind.

The range and scale of emotional and intellectual response to captured optical images extend across the totality of human experience referring to a large set of human thoughts and feelings. In general these images take account of the knowledge, beliefs, and meaning associated with physical and psychical existence of humans and their environment. Relating to more than one branch of knowledge is essential for traditional universities as well as technical universities and their engineering education if they want to stay relevant in the world made of knowledge and not to lose their status of a link to future. Taking views outside strict limits of machinery, equipment, and narrow practicality is essential for technical universities as a future oriented institutions training engineers as future “managers of future”.

Optical imagery education is among exigencies of global exchange of digitally captured and transmitted optical pictures. Optical images, nowadays especially those in digital form, are omnipresent but they operate beyond their actual efficiency or their potential employment. Primarily it is about the problem of acknowledging optical imagery to be, contrary to common view, a very complex phenomenon beyond the limits of purely technological investigation and development.

### **OPTICAL IMAGERY CHARACTERISTICS**

Optical pictures look so much like real things or living beings that an obvious representation is confused with spontaneity. Optical image is a kind of simulacrum (spectre). It is *prima facie* invisible (transparent) for us and we look through this image into reality (*sic*). In essence this 'reality' is usually nothing else but a projection of the viewer's ready concept of his or her mind that was aroused by a particular image. But the real (actual) communication (message) of the picture emerges only after denoting image maker's attitudes to the seeming reality of the picture (picture's subject), which is essentially nothing else but the meanings that had been projected upon the visualised subject, i.e. what the image capturer had seen through the camera viewfinder or the camera's monitor. Nonetheless, optical images, especially those fixed and usually called photographs, only look transparent, but in fact are opaque, that makes structural examination (syntactic analysis) of optical images crucial. Transparency is the paradigm of any optical image.

Normally we are not aware of the fact that involvement of interpretative processes (often subconscious ones) is indispensable to perceive images as reality, and even more it is so if this reality makes or should make sense. These processes reflect attitudes and orientation of a particular culture – the image is seen (interpreted) from a definite cultural and social perspective. Let's snub this and we end with camera pictures that rather obscure than reveal.

What one sees is subject to one's own scrutiny or it is at least what one wants to believe. If one looks through the imaging machine (camera), the same scrutiny seems to be non-existent, and incongruous. That what has been seen and interpreted, what has been visualised that becomes reality. Subjective becomes objective. Dreams change to science. This is an enlightened, typically modern understanding of the world.

This particular point of view – which perhaps Galileo had first taken looking at the Moon – became a common point of view of the Enlightenment and was essential to modernity as such. Optical investigation dominated the epoch of modernity and still it represents a primary driving force of our post-modern world of science and technology.

## **LOOKING BACK**

Solving the problem of fixing the optical image became a pressing need for the post-Napoleonic Europe. Daguerre solved it imperfectly in 1839, incidentally discovering the phenomenon of the implicit (latent) image and the chemistry for making it explicit. It was a clumsy, rather frantic solution attesting to a desperate urgency of the need for “objective” pictures at that time. Limited, because usually lacking colours, and clumsy fixation of optical images called photography defined optical image communication for almost two hundred years.

Galileo could look into his skies in full beauty of their colours and immediacy. Daguerre and his followers could see nothing at all and were forced to wait until what might eventually come out of their obscure camera laboratory. Their result was black-grey-white, and far beyond expectations of fascinated optical image spectators. Based on the principle of chromogenic development, the latent image process was brought to some perfection one hundred years later by Agfa’s and Kodak’s direct colour diapositive and Agfa’s negative-positive processes, of which the latter in its specific boundaries matured only in the eighties of the last century with the dominance of masked colour negative processes.

Unlike darkroom chemistry of B&W photography, which could be relatively easily mastered by individual creative photographer – and there are many examples of success in this respect – colour photography chemistry has remained beyond an unproblematic reach of creative individual.

## **CURRENT BREAKTHROUGH**

The optical image communication based on chemical fixation could somehow coexist with analogous electro-magnetic technologies but became an incongruous sight in the digital world. The past solution of the problem was revised and new possibilities found in digital imaging. Initially rather a bombastic slogan of commercial machinery, completely new possibilities of digital imaging have become reality with the recent advent of the full-frame (23.5x36mm) 11 million-pixel chips (in fact results have surpassed expectations). The whole landscape of picture communication has changed radically. The modern age ideal of optical image fixation has been put into effect: We get what we see. What Niepce, Daguerre, Talbot, and many others wanted and could not have put into effect chemically, that has been accomplished by methods of digital electronics. The only problem is that we are no longer modern. Post-modern, post-industrial here and now (we cannot find independent terms beyond post-... being still mesmerised by modernity) asks for new attitudes to fixed optical pictures.

We do not have to contemplate the image of reality or a real picture; we must think about what we see. New perspectives are being opened, new hierarchies of perception formed, current standards redefined. Also new educational exigencies emerge and old standards are in need of redefinition. Educational institutions cannot go on thinking of digital imaging in the old terms of photography as if there was only the problem of technique and material and no problem of conception, and where education would be effected within the narrow framework of purely vocational or elective terms.

## **SEEMING INTANGIBILITY OF QUANTIFIED IMAGES**

Imperfect and awkward optical imaging of the last two centuries - photography - developed into an elaborate ceremony shrouded in mystery of an uncertainty and the modern age of literary narrative inured to it: *“Guess, what you get”* was the adage of the optical imaging of the era.

In contrast to this, optical image digital recording is fully quantified, strictly structured, and rationally obvious. There is no sense in making distinctions between colour and non-colour image. It is just a straight record of the pre-visualised, visualised or post-

visualised optical image, which would be readily accepted by Galileo or Leonardo. Tonality of fixation poses no problem. It is just what it is. There is no place for mysteries or initiation ceremonies of any kind. A kind of *horror vacui* has taken over the scene. There are many who are seriously concerned in their wistful affection for the past. As if the optical device and its transparently opaque image completely vanished and transfigured into an intangible medium, the optical digital image does not depict but enables us only to see: ***“What you see is what you get”***.

With this motto, there seems to be no place for individual creativity but impartial (blind) technology only. The contrary is the truth. Digital imaging is not about depicting something but it is about an ability to imagine, create pictures of our minds. Contrary to expectations of pessimistic nostalgists, the imaginative creativity is not absorbed but it is beyond bounds.

The sense of the existence of the optical device, *raison d'être* of its captured picture is not in depicting or confirming reality of a subject – a typically modern point of view, it is a post-modern tool for seeing and communication by images. Whether subjects of these pictures have been materially existent or not is of little concern, provided they make sense – communicate meaning. Digital imaging is a ready tool of communication for our post-literate culture. Digital imagery is no pendant of narratives. It does not need any textual elucidation of a caption. It can exist on its own. It is so to speak self-explanatory.

## **OPTICAL IMAGERY SUCCESS**

From Descartes onwards in accordance with the duality of mind and body, perception has been considered as a transitory step on the way to cognition. All seen or heard has been understood to be raw material for rational thinking as a supreme guide and *conditio sine qua non* of our existence. Affects and emotions have been understood as disruptive elements on the way to mind equalled with reason. The fact is that affects and emotions constitute our existence. They are not icing on the cake of entertainment after hard work but on the contrary emotions are substance of life with only a thin icing of reason on the top. It is the matter of different hierarchy. This hierarchical difference enables taking different perspectives in the perception of images. The pictorial analysis should concentrate on aspects that make images

emotional or dull, emotionality being the goal; not the dullness of recognising things beyond individual existence.

Success of optical imagery is in its ability to arouse emotions. An optical image is informative if it makes room for spectators' emotional responses. Emotionality is the optically transmitted useful information provided by a successful optical image. This success is about energy efficiency. Emotional accomplishment related towards a particular image is an enriching "recharging" experience for the perceiving individual – spectator. The liked or disliked images charge us with positive or negative energy and it is just this capacity, which makes sense of optical imagery. The sense of optical imagery is not to see objectively but to be able to feel. Unfelt pictures are dead pictures. Successful imagery obviates literary explication and vice versa. Images subsume knowledge, beliefs, and meanings associated with our physical and mythological worlds. Pictures affect us directly and spontaneously and as such are of easy access. It is only the exigency of understanding them rationally that asks for concentrated effort and painful exertion. To summarise the point:

Pictures communicate attitudes, perspectives, and sentiments. They can do this because they are charged with expressive energy. We are informed by an image if we are recharged - charged with new energy: determination and enthusiasm about doing things. Pictures of successful communication imbue us with drive and energy to be interested in life and living. It is pictures that can imbue seeing individuals with a sense of wonder.

## **DIGITAL TRANSLUCENCY**

As society relations become currently more and more intertwined, we find ourselves in a convulsion of information that depends heavily on technology for its transmission. Much of what we believe and know comes about through optical images. In fact we are obsessed with optics. Analogical transmissions are intrinsically limited as their signal (message) dumping is inherent to the process. Also communication based on such transmissions has its specific limits. Digital communicative transmissions set new standards, as they are able to arouse timeless perceptions per se: we are not able to distinguish between an original and a reproduction, cause and effect. Digitally fixed and communicated optical image is not only photographically transparent, it is translucent absolutely. Digital image does not communicate

world outside. It does not reproduce it. Digital imagery is the world itself. Within digital optical communication, the difference between a scientist and an artist, technician and designer, savant and idiot is of minor relevance if not irrelevant altogether. But wait a minute! This is absurd. There is obviously something wrong with this concept of reality.

## **OPTICAL IMAGERY EDUCATION**

If we cannot look through the image into reality, this reality does not exist because the image is real (sic). Real images install reality in the viewer's mind. Realities in the optical sense of the word are in fact projections of our minds, of our knowledge, and of our beliefs. From the optical point of view, it is not the question of what constitutes reality but what constitutes us. A success of an image is not in acknowledging existence outside the seeing individual, its success is in the ability of the image to arouse individual's intellectual and emotional response. Its achievement is in his capacity to form human attitudes and determine behaviour of humans. A depicted thing is relevant if it makes sense. It is the value of the depiction, what matters. Not that which seems to be seen through the picture but that what the picture makes us see is relevant. An analysis of imaginary non-existent worlds is of little consequence for any statement about an image's actual communicative power, or endeavour to create it. Syntactic analysis of the image's individual optical element structure is critical. Imaginative abilities and abilities of critical judgement concerning make-up (composition) of a concrete image represent the only appropriate subject for education of digital imagery communication or any form of communication based on reality of optical pictures.

Francisco J. Varela (1946-2001) noticed that space arises out of movement. "It is an absolutely dramatic statement that space, this thing in front that seems the most objective, the pillar of objectivity in physics, is totally inseparable from the fact that we have to sensory-motor handle it. ...This can be applied to the perception and quality of colour, again an entirely co-emergent property." We could perhaps paraphrase what Israel Rosenfield (\*1939)<sup>1</sup> says and argue that digitally communicated optical imagery does not 'represent' an objective view of the world (as would have been necessary in classical photography) but rather a relation between the image maker/viewer and their surroundings as a part of a continuing,

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<sup>1</sup> Israel Rosenfield. *The Strange, Familiar, and Forgotten - An Anatomy of Consciousness*. New York: Alfred A. Knopf, 1992.

ongoing activity. Solving problems of optical imagery is solving problems of perception. Staying in the realm of the imagery per se and not turning entirely to psychology, this means that the study and analysis of the opuses left by distinguished optical image capturers (classical photographers) is essential for the effort to understand how the phenomenon of optical imagery forms human attitudes and determines behaviour of people. After all, it is just this, which represents the actual goal of teaching the subject of optical imagery communication.

Studying these opuses, we realise that “perception is as imaginary, as imagination is perception-based”<sup>2</sup> (Varela), and, paraphrasing the same psychologist, that there are no properties of the world you need to apprehend in order to make a coherent picture of reality, that almost anything can supply an excuse to invent a reality, while our world is imagination and fantasy. These opuses prove that visual knowledge is not a copy of reality outside of any individuality, but that it represents ongoing relations between the individual and his environment.

## **PROBLEM OF DEFINITION**

The optical image is widely and constantly encountered, and transmitted on the global scale. Maybe it is its ubiquity, which makes him unknown. Most probably it is caused by a peculiar illusoriness of the optical image, the peculiarity being in that it does not seem to be illusive and transcendent but on the contrary persuasively factual and immanent.

As a matter of fact, it is about a problem of definition. Only what is defined can be looked into. But the optical imagery eludes positive definition. Pictorial, excessively literate studies based on the assumption of post-modern illiteracy trends miss the point, as they are unable to grasp the subject of their scrutiny positively. They take it as a negative form of the written language. They are mesmerised by writing and printing to the point of forgetting about the language as such. Fascinated by literacy, they are ready to dismiss the language altogether, forgetting that language is about hearing and not seeing. They are completely disoriented and get lost in “metaculture” babble and absurd metaphor. New media gurus understand optical

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<sup>2</sup> Francisco J. Varela. *Ethical Know-How: Action, Wisdom, and Cognition*. Writing Science, 1999.

pictures to be letters of an illiterate, inaudible language and take every effort to tailor image communication to this parochial scheme. For them the images have begun to replace language and verbal communication. They say images will be a medium of choice for telling stories, making arguments, and conveying information. A great new era of silent movies is looming ahead of them. The idea that the image has supplanted the word in the modern world (Mitchell Stephens, \*1949)<sup>3</sup> is one of the most beguiling and misleading clichés of our time.

What we primarily need is to acknowledge that it is usually optical or camera pictures, which we take as problematic, and then admit that optical imagery is a very complex problem beyond limits of technology.

### **POSITIVE DEFINITION OF IMAGES**

Images are visual reflections. Optical pictures, results of optical imagery are by their very nature visual reflections *ex post*. A substantial fact of such “non-reflected” images is that they arise at a time *en bloc* by completing programmes based on concepts of objectivity and pre-visualisation. As such, more than any other images, captured optical pictures have a peculiar life of their own that exceeds intentions of their capturers. Any optical imagery is in need of interpretation. It does not necessarily mean that it is a rational interpretation, what is needed.

Teaching and learning about optical imagery is dealing with interpretations of what we see or what has been seen. What we feel or what has been felt. What is seen prior to image capture? What can be seen in the captured image? These are two principal questions, the former for the image-maker, the latter for the image viewer. Nevertheless it is not the matter of simple causality. Who is the actual capturer? Who is the “reflector”? The image-maker is rather a metaphor: he or she only decides about the place and moment of employing an imaging tool. They do not create picture in its material and complexity, they just decide about using the programme. Very often it is difficult to distinguish between the viewer and the image-maker, the best example being an optical self-portrait (a selfie). Captured optical images are visions to be transmitted, seen, felt, and understood. They are communicative visions. Optical imagery enables perceiving and cognition of visions. Optical imagery is commonplace but it is not (surprisingly?) a commonplace. Optical imagery is in need of

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<sup>3</sup> Mitchell Stephens. *The Rise of the Image, the Fall of the Word*. USA: Oxford University Press, 1998.

scrutiny and education. Optical imagery skills are inherent part of personal culture, and enable successful participation of individuals in society. We need to work for interdisciplinary attitudes among public in general and academics in particular. Conflation of art and sciences, humanities and technical subjects represents a prerequisite for an efficient current restructuring and future development of post-industrial social structures and their institutions inclusive education. Interdisciplinary approaches are a must for a world made of knowledge of which universities constitute an integral part.

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