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Abstract

Starting from a definition of the word 'picture' as a real-world object that shows other objects on its surface as a representation of its image, I propose that the intermediality of pictures of all kinds is only possible through their images, after they have been separated from their material basis or foundation (for example, a painting in its physical reality can never be directly connected with a movie). In all technical reproductions of images, such as printing processes, an image is taken from a negative matrix in order to realize multiple prints of the same representation. The most effective model of this procedure is photography: Photographic images can easily be connected with their media forms to produce other, more complex forms, such as magazines, printed books, or films. Intermediate images in the form of matrices – sometimes transparent (e.g., in the light beam of a film projection), sometimes opaque – are required to transform one pictorial 'media form' into another. Finally, for the digital 'matrix-image', there is no longer any difference between the matrix and the image: The matrix has become its own image, which can be linked to all other media forms.

At the beginning of my talk, which will deal with various aspects of 'pictures', I would have preferred introducing a picture that I personally like very much. Its title is *Scanty Words of the Thrifty Man (Karge Worte des Sparsamen)*, painted by Paul Klee in 1924, oil and watercolour on paper, 45 cm by 29.5 cm. Unfortunately, the Berggruen Collection at the Staatlichen Museen zu Berlin, where the picture currently resides, refused to make the painting available for our colloquium, and

therefore it must remain in its place on the museum wall. Nevertheless, although it is not the original, I can show you photographic reproductions that depict this painting by Paul Klee, but which of course cannot be the picture itself. In the following, I will refer to such reproductions as ‘images’ (that is, images of the original picture). Printed on paper, the poster and the postcard offered at the museum shop are colour prints featuring rather different colour tones and formats. The great number of copies of these prints is significant; in contrast, the original picture hanging in its place on the museum wall in Berlin is the only irreproducible specimen. What recurs in the prints is not the picture, but rather the image, the representative surface that obviously can be detached from the picture and reproduced in many ways with different media properties. The images on the posters and postcards, as I’ve already noted, are not the picture that they depict (even though we frequently make this substitution for the sake of convenience), but they signify it, in that their images refer back to the picture. They have the shape and the figure of the picture, such that they formulate the picture that they signify or represent. These images are apparently capable of multiplying themselves with different media properties. In this sense, the extreme case is the digital form of an image, which can employ any format, colour nuance and media connection in processes of intermediality as on this page in its digitally represented combination of an image and a text.



Fig. 1.



Fig. 2

Paul Klee: *Scanty Words of the Thrifty Man*

The following considerations will address the 'intermediality of images'. My thesis is that there cannot be an 'intermediality of pictures' (because of their singularity and their particular media properties); however, an 'intermediality of images' is possible. For the 'intermediality of images', certain requirements of the technique play a significant role; this refers to the creation of inauthenticities (*uneigentliche*) or 'quasi-pictures', which in the following analysis I will call 'matrices'. These matrices are fundamental elements in the operation of the technical imaging process, functioning as 'intermediate images' (*Zwischen-Bilder*) for both the production of images as well as their integration into other media processes.

1. Pictures

For several reasons, this discussion about images and their intermediality presupposes an answer to the oft-repeated question, 'What is a picture?'¹ For one thing, images are also pictures, even if they are 'other' pictures. Second, the historical appearance (or debut) of images as the result of technical reproductive processes occurred as a specific separation (or differentiation in terms of media) within the history of pictures. And third, in our media-amnesia, we have become accustomed to calling everything that deals with representations of visuality in the broadest sense of the term a 'picture', but which will refer to different regimes of the term. Only against the background of media differentiation does it become clear that paintings and sculptures on the one hand and metaphors, symbols, imagined or remembered pictures, or mental images on the other

¹ Vgl. Gottfried Boehm (Hg.) *Was ist ein Bild?* München (Fink) 1994; W.J.T.Mitchell: *Was ist ein Bild?* In: Volker Nohn (Hg.) *Bildlichkeit*, Frankfurt (es 1475) 1990, S.17-68

cannot be subsumed under the same concept of 'picture'. Especially in their intermedia use, the media properties of pictures play the determining role in their media sphere; for this reason, the metaphoric meaning of the term 'picture' is excluded from this discussion.

I would like to suggest the following basic definition for the word 'picture'. The term refers to a real-world object that represents other real or unreal objects, especially in their absence, without being them (although specific restrictions might apply to abstract paintings²). A picture is always just a picture, no matter what it shows. The uses of pictures beyond this definition (for example, metaphoric, magical or mystical uses) have no relation to their intrinsic properties, being the results of different attributions. Pictures as physical objects and representations are characterized by their two-sided form, whereby one side, the form, is determined by the other, the medium. Each side is echoed on the other: the medium in the figural process of its representation, and the form in the observation of the medium as a 'picture'. The media (material) properties of the canvas and paints used in a painting or the marble of a sculpture determine the respectively represented forms; the canvas and marble are observable as forms of their materiality and become media of (aesthetic) representation only in their use as 'picture' or 'sculpture'. This observation of a picture as a 'two-sided form' is the prerequisite for the idea that the inseparable unity that is this 'picture' can under certain circumstances divide into two forms, one of which (the figurative representation) can be formulated anew under other media conditions. The

² If, as Clement Greenberg asserts, the "proper subject matter of each individual art form is precisely that which is based solely on the nature of its particular medium", then for art that is its own subject, any intermedial extension is precluded. Pictures, too, are only that which they represent – namely, pictures. (vgl. Greenberg: „Modernistische Malerei“ and „Intermedia“, in *Die Essenz der Malerei*, 1997).

'picture' stays behind (e.g., on the wall in the museum), while its image, with other media properties, can be (nearly) endlessly multiplied and connected to other media forms.

Every picture as an object of reality and – as a rule – a product of craftsmanship and artistic production is unique. Pictures are unique occurrences or occurrences of their uniqueness. The artist's signature marks the uniqueness of a visual work of art by reference to its author. A specific picture has a specific place, even though it can be moved (or transported) between sites. Catalogues classify pictures according to their locations in galleries or museums. Pictures themselves are not reproducible. The copies of a picture are new pictures, whose reference is their model; they are forgeries if they seek to take the place of their model. Copying and forgery do not nullify the uniqueness of the models, as long as the new works are recognizable as copies; otherwise, they become another original picture.

Pictures as unique objects in our physical reality that exhibit specific media (material) properties cannot be connected in processes of intermediality with other media forms. In other words, the representation of a painting (e.g., in a book or a film) by the 'painting itself' is not possible.

2. Images

The intermedia reproduction of a picture in another media connection presupposes the fact that the picture is generally reproducible and exhibits media properties that allow it to connect with other media surroundings. Images are media forms generated by pictures that can be removed from their source

medium and connected to other media in which they are limitlessly reproducible. An image refers to its media origin (i.e., the original medium) as a picture by repeating its image and conveying traces of its media properties in its form. Images thus 'formulate' the picture by using its image in other media contexts.

Along with their ability to be endlessly duplicated, the process by which images are separated from their pictorial origins or models and become independent artistic entities is at the core of the history of the technical production of pictures (actually the production of images, to use this discussion's definitions). Initially, this production was not focused on the repetition of (artisanal or artistic) pictures by means of their reproduction. Early technical representations are basically prints from matrices with various media properties, such as stone, metal, wood or (for photographs) glass and celluloid. Often, the plate of the matrix was produced as a work of art by a master craftsman; however, the matrix was not the intended final picture, but rather the images or prints that were produced using a simple technical or mechanical process. When the printing process was finished and the desired or technically possible quantity of prints had been produced, the matrix could be destroyed (for example, if the edition of the prints was intended to be limited). In some cases, the limitation of this duplication has given the prints some properties of the original, but one never obtains original pictures from an image. Even valuable wood or copperplate engravings (e.g., from Dürer's time) are multiple images of their matrix in the printing process. A similar situation applies to photographs; even in the case of a restricted edition of prints by the artist, these prints have their origin in a matrix and in its ability to endlessly reproduce the same image.

The technical printing method shows how the image frees itself from its matrix, which as a negative form can transfer its media properties through printing onto another medium (paper) that reproduces the media form of the matrix (but not its medium). The medium can be destroyed, but its form has been transferred by means of the printing process and thus it continues as a form in another medium (paper).



Example of the three phases of the zinc plate print

The intermediality of images is made possible by the process of transformation that occurs between the matrix and the image, whereby the represented form is transferred between a negative source (the matrix) and a (reproducible) positive image. This new ‘trans-form’ is capable of connection to various other media forms.³ The technical reproduction of original paintings (or sculptures) assumes that first a matrix can be produced; then, using this matrix, the ‘picture’ can be reproduced in the new media form of its image. This is the historical achievement of the photograph, which has utilized its matrix to transform the world’s objects (including physical ‘pictures’) into a world of image streams.

Walter Benjamin has described this process of transformation with two concepts that can clarify the process from different sides. First, in our cultural history,

³ According to Luhmann (“Soziale Systeme”), connectivity refers to the “feasibility of other possibilities”. Symbolic characters (e.g., letters) feature high connectivity; iconic characters (e.g., pictures) have lower connectivity.

‘technical reproduction’ and duplication has always been connected with the production of a work of art with the help of a matrix – with casting moulds, punches or blocks – while unique works of art have generally been irreproducible. In Benjamin’s ontological understanding of photography, the photograph, the output of the most advanced reproductive technology, directly repeats the object of reference in its image; it thus corresponds to the “the urge [...] to get hold of an object in very close proximity by way of its picture, or better its image, its reproduction [Benjamin’s distinction]. Unmistakably, reproductions such as those offered by picture magazines and newsreels differ from pictures.”⁴ Common to all reproductive technologies is the fact that they allow multiple images of their models, as alike as ‘fingerprints’; however, these images lack the authenticity of the unique picture, which is why Benjamin insists that they are merely ‘images’.

The second concept that Benjamin proposes to clarify the process behind the history of reproductions is ‘translation’. Benjamin describes translation as a form⁵ that is already contained within the original and that serves its survival, in that it refers back to the original, over and over again. This idea of translation can be applied to literary works, which have been basically reproducible since Gutenberg, but it can also be related to other media forms – especially nowadays, when literary translations increasingly include transformations into other media forms, such as films, television series, etc. The translation as a form,⁶ i.e., the general ‘translatability’, is what controls or formulates the media transformation

⁴ Walter Benjamin: *Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit*, Frankfurt/M. 1963, pp. 18-19.

⁵ “Translation is a form. In order to grasp it as such, we have to go back to the original. For in it lies translation’s law, decreed as the original’s translatability” (Walter Benjamin: *Die Aufgabe des Übersetzers*, in *Illuminationen. Ausgewählte Schriften*, Frankfurt/M. 1980, pp. 50-62).

in the reproductive process. The photographic reproduction is also a translation, not of any presumed reality, but rather of the media form of the matrix, a negative form, which produces by means of light prints (positive) images of the matrix and the form of its translation.

Forms of a translation⁷ are elements of all technical reproductive processes that operate in the transformation between the matrix and the images that it 'formulates'. They are intermediate images or quasi- images that transport the forms of media properties as well as elements of their figuration, which they realize intermedially.

How are these intermediate or quasi-images that are defined by their function in intermedia processes observable? The matrices themselves disappear, or else these intermediate forms are media forms that are completely absorbed by their function in intermedia processes. Basically, these media are exclusively observable in the forms that they generate:⁸ They themselves as 'media' can be

⁶ Vgl. Joachim Paech: „Übersetzung als intermediale Form“, in: Alexandra Kleihues, Barbara Naumann, Edgar Pankow (eds.): *Intermedien. Zur kulturellen und artistischen Übertragung*, Zürich (Chronos) 2010, pp. 489-504.

⁷ McLuhan spricht von ‚Medien als Übersetzer‘, und es sind (mediale) Formen, die jeweils „in eine andere übertragen oder überführt werden“ (Marshall McLuhan: *Die magischen Kanäle (Understanding Media)*, Düsseldorf, Wien 1968, S. 69).

⁸ Media generate forms, which in turn as media generate themselves as new forms, etc.; this means that media appear in the guise of forms, and that they can only be observed in the forms that they generate: As a mediated form and as the form of their medium, a consequence of their basic reflexivity. Media are not objects, but rather conditions or possibilities of their formative processes and their observation. The enables the “realization that the distinction between medium and form is itself a form - a form with two sides, one side of which (the form) contains itself”. This signifies “that the distinction circles back to itself; it recurs in itself on one of its sides” (Niklas Luhmann, *Die Kunst der Gesellschaft*, Frankfurt (Suhrkamp), 1995, p. 169). The difficulties of this paradoxical construction of the relationship between medium and form can be mitigated by referring to the side in which the form is repeated as the 'figure' and the process of its formulation as 'figuration'. Media formative processes can thus become (aesthetically) concrete by the very figuration of their technique. 'Intermediality as a technique' can therefore be described as a certain figure (figuration) of a media formative process, namely as the repetition or rewriting of a medium as a form in the form of (another) media, in which the process of intermediality 'figures', thus becoming concrete and 'reflexive' with respect to itself, as the technique indicates. Media are not observable as *objects*, and intermediality cannot be described as an *objectifiable fact*; rather, they are *processes* that leave observable traces.

observed only in forms that become transparent through their function – that is, they are observable through their effects, while remaining invisible as media in the blind spot of their perception – or in opaque forms that obstruct and possibly nullify their media function. In this way, the medium of the images becomes an image of its medium.

3. Intermediate Images

In his 'media phenomenology', Emmanuel Alloa takes as a starting point Aristotle's question of how the object of perception becomes the perceived object in the act of seeing. It is impossible for the object in its physical concreteness to penetrate the eye and the perceiving consciousness; thus, in order for an object to be seen, there must be a mediation by something between object and eye that neither shares the material properties of the object nor belongs to the eye – nor is it, generally speaking, a 'thing'. This 'between', which Aristotle calls 'metaxy'⁹, is purely a medium of appearance, in that it enables the object in the act of perception to appear. It transfers the object as a form and in this manner 'informs' the viewer's perception. "The metaxy must let the form pass; however, conversely, the form passes only by means of the metaxy. [...] As a medium of appearance, this metaxy or hymen (after Thomas Aquinas) allows its own appearance to be eclipsed, as it were, becoming translucent."¹⁰ The medium of perception disappears with that which it brings to light as the perceived form. Its transparency (*Diaphanie*) turns into opacity when this medium itself appears as a form and becomes performatively descriptive.

⁹ Vgl. Peter Mahr: Das Metaxy der Aisthesis. Aristoteles' ‚de anima‘ als eine Ästhetik mit Bezug zu den Medien (http://homepage.univie.ac.at/peter.mahr/Peter.Mahr_AristotelMetaxyAisthesis.pdf).

¹⁰ Emmanuel Alloa: Das durchscheinende Bild. Konturen einer medialen Phänomenologie, Zürich 2011, p.132

With the development of the geometrical-mathematical construction of perception (i.e., in perspective modelling in Renaissance paintings), the form through which perception is transmitted was attributed a particular significance for the representation of seeing. The originally diaphanous (transparent) medium of transmission, the 'metaxy' between object and eye (or consciousness), now becomes the visible form of the formulation of visibility, more or less displacing the mediated object. The medium thus changes from one of transparency (*Diaphanie*) to one of opacity.



Fig. 6 Dürer: *Unterweysung*

In Dürer's *Unterweysung* ('Instruction'), a transparent cloth or 'velum'¹¹ is stretched between the (motionless!) object of the perception and the perceiving eye. Visual lines connect every point of the object to the eye of the observer or artist. The positions at which they cut through this 'velum' (or are cut by the 'velum') are conscientiously marked until an image of the object as it appears to the eye is generated on the cloth. No longer invisible (diaphanous) but instead an increasingly opaque medium of perception, it should enable the perception of the object to appear as the image of its perception, which can serve as a matrix for additional images. From the outset, it has its own (media) form, a network

¹¹ Cf. Johannes Endres, Barbara Wittmann, Gerhard Wolf (eds.): *Ikonologie des Zwischenraums. Der Schleier als Medium und Metapher*, München 2005.

structure or grid¹² into which another perceived form of the object is inscribed, until it or its own image is hidden by the object of the perception. From this matrix, it is possible to obtain further images, which can also be repeated in other media contexts. What comes into being here is an intermediate image whose origin reveals the transition from the transparent (diaphanous) medium of the appearance to the opacity of its own image. This interchange between transparency and imagery (representation) recurs throughout the history of technical reproductions and intermedia images, becoming increasingly more important.

How, then, does the photograph operate, this technically reproductive medium that was the first to putatively render superfluous the intervention of the human hand in the image production process (according to Benjamin)? The photograph was invented with the intention of accelerating traditional printing methods by means of the exposure of printing plates. Even today, photographs are referred to as 'prints'. (Here, we are speaking of photographs in the modern sense, following the introduction of the negative vs. positive procedure of Fox Talbot's Calotype.) In the *camera obscura* of the camera, a photochemically treated glass surface is exposed to light through an objective lens. The negative thus produced can be used afterwards as a matrix for light prints on paper. Photographs are thus images taken from a matrix, from which an arbitrary number of photo prints or proofs can be made. With regard to this media constellation, it is difficult to speak of photographs in the ontological understanding as direct fingerprints or traces of

¹² Cf. Rosalind Krauss: „Grilles“, in: Communications, Nr.34, 1981, pp.167-176; see also Marleen Dyett: Aus der Perspektive. Raster, Gitter, Netze: Betrachtungen zu einer Suggestion der Kunst, Würzburg (Königshausen & Neumann) 2013.

reality.¹³ A photograph is the image of its matrix; it is that which appears between a (photographic) matrix (on glass, film, etc.) and its imprint, which in this form can be endlessly repeated. This operative space is open to interventions and manipulations in the image process.

From the outset, the common usability or ubiquitous accessibility of the new technical images enabled by photography was one of the technique's most outstanding characteristic features. In different dimensions, on different backings, etc., these photographic images could be inserted in complete editions of books, for example. In this cumulative sense, photographs were not yet an intermedia part of books (or the literature); up to the end of the nineteenth century, woodcuts (often based on a photograph) were still preferred to photographs because they could be integrated into a text and be printed together with it. Ultimately, the development of the raster process enabled the direct connection of photographs with the surrounding text, using a point structure shared by both (a technique used at first for illustrated magazines). An exemplary intermedia procedure! In this process, the photograph is dissolved into a network of points whose size or density dictates the sharpness or resolution of the representation, and whose variations in brightness (greyscale values) results in the shading of surfaces and contours. Whereas the irregular granularity of the photochemical surface is a media property of the photographic image, the additional raster enables the picture to be connected to the point construction of the printed text. The raster is a form of translation – here, the translation of a text structure into a picture structure for the direct connection of the two; it is the use of a 'velum' in

¹³ The photograms of Man Ray are no exception, as they themselves represent the 'matrix' with their primary impression of light, from which further images can be made in the form of photographs.

the opposite direction, now not for the purpose of constructing an image, but rather for the disintegration of the image into the surrounding text. This image printed in halftone can again serve as a matrix for the rotary press and the printing of text/image combinations.

To reiterate, it is impossible to connect a picture in its physical state with, for example, a book through an intermedia procedure. The separation of the image from its surface and the associated possibilities for different media representations and resolutions are what enable an image to be connected with other media surroundings. The raster matrix transforms an image into a text that can be printed and read together with the surrounding text: This 'picture' has actually become a media component of another medium, namely the book (or the magazine, etc.).

Aristotle assumed that between objects in reality and their perception there existed a certain 'metaxy', a necessary medium that could transport the appearance of a thing to the eye or the consciousness while itself remaining invisible, transparent or diaphanous. Even without its own form, it formulates other forms, allowing them to be perceived. With the 'velum', this medium has taken a form: the network or grid structure of a cloth, the form of which is increasingly covered by what it formulates (the perceived object). Thereby, it becomes the matrix of its image, which could be removed from the context of its origin and replicated. For Aristotle, such an appearance always maintained the directness of its link with the perceived object by means of the transparent or diaphanous nature of its medium. The opacity of the 'velum', in contrast, has blocked the origin of the appearance with its image. The matrix has thus become

a machine for 'second-hand' appearances of real-world objects and a reality that becomes increasingly invisible behind the flow of images.

At this point, I would like to refer to the distinction that was introduced by Bolter and Grusin into the discussion of intermediality, which they call 're-mediation'. Re-mediation (like our intermediality) is defined as the repetition of a medium as a form in another medium, a form that demonstrates two tendencies. The first, 'immediacy', refers to the connection of media forms that maintains the transparency (diaphanous nature) of the medium of their connection; in the extreme case, this produces the illusion of a second nature, as can be seen in the representation of 'immersive rooms' – i.e., images that seem to be penetrable, an effect that grew more popular with the advent of cinema. 'Hypermediacy' in intermedia procedures means that the process of media formation itself is observable: An accumulation of various media forms leads to a clustering in close proximity or an overlapping of elements that interact, often without being transparent to each other. The immediacy of a Renaissance painting is based on its perspective construction, which guides the viewer's gaze into the depth of the represented space; when the grid of the geometrical construction of the space is superimposed, the result is hypermediacy. The addition of the intermediate image of the matrix disturbs the painting's illusionary depth of space; the image's visibility underneath the grid of lines is threatened, and a new hypermedia aesthetics of geometrical iconicity is generated.



Fig. 7 Construction of perspective
Masolino's 'St. Peter Healing a Cripple and the Raising of Tabitha' (1425)

The complexity of the play between transparency (*diaphanie*) and opacity in the appearance of the image becomes evident with the modern translucent pictures provided by photographs, slides¹⁴ and film images. In these cases, the matrix in the form of a slide or diapositive transmits (via its projection onto a screen) its image as a light print, enabling its appearance at a new location. The light assumes the form (or information) of the matrix, removing the image and invisibly transporting its form to the screen, where it (as an immaterial image) becomes visible or appears. The matrix is left behind (in the projector) and can be forgotten (often hidden behind a wall); the significant event is the appearance of the image. Between the screened matrix of the slide and the projected image, a space of transformation is bridged in which the transparent (diaphanous) intermediate image is transported as pure light-based information or form to the screen upon which it appears.¹⁵ In fact, the image can be made visible at any point along the

¹⁴ Cf. Robert Nelson: "The Slide-Lecture, or The Work of Art History in the Age of Mechanical Reproduction", in: *Critical Inquiry* 26, Spring 2000, University of Chicago; Heinrich Dilly: "Die Bildwerfer. 121 Jahre kunstwissenschaftlicher Dia-Projektion", in: Kai-Uwe Henken (ed.) *Im Bann der Medien. Texte zur virtuellen Ästhetik in Kunst und Kultur*, Ruhr-Universität Bochum, Weimar (CD-ROM), 1996, pp. 134-164; Heinrich Dilly: "Lichtbildprojektion – Prothese der Kunstbetrachtung", in: Irene Below (ed.) *Kunstwissenschaft und Kunstvermittlung*, Gießen, 1975, pp. 153-172; Silke Wenk: "Zeigen und Schweigen. Der kunsthistorische Diskurs und die Diaprojektion", in: Sigrid Schade, Georg Christoph Tholen (eds.) *Konfigurationen. Zwischen Kunst und Medien*, Munich (Fink), 1999, pp. 292-305.

¹⁵ Even the electric light, as "pure information without any content that could detract from its capacities for transformation and information", represents "a complete change". (Marshall McLuhan: *Die magischen Kanäle (Understanding Media)*, Düsseldorf, Vienna, 1968, p. 62.

projection beam¹⁶ if the transparency (*diaphanie*) of the intermediate image is disturbed by an opaque medium or interrupted by an opaque body. Clearly, the projected light contains the intermediate image as a transparent (diaphanous) form until it is made visible by the intervention of an opaque medium.

A film projection is nothing more than slides projected 24 times per second. The matrix of the filmstrip projects a series of frames that appear on the projection screen as a single moving picture. Their figurative difference within a coded margin allows the illusion of movement in the cinematic moving picture (without this difference, no movement becomes visible, despite the continued projection). The individual frames are projected on top of one another, as in a palimpsest;¹⁷ their transparency allows them to blend into one another, and the differences between them are seen as movement.

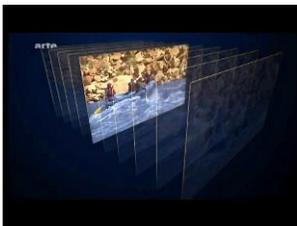


Fig. 8

Film screening by the projection of single frames on top of each other

In the beam of light from the projector to the screen, they are mere forms, transparent (diaphanous) intermediate images, 'metaxy' that are condensed only on the opaque screen (or any intervening body) into a single moving picture. The

¹⁶ Anthony McCall gives the projection beam itself a form in his installations *Line Describing a Cone* (1973) and *Five Minutes of Pure Sculpture* (Berlin, 2012).

¹⁷ One can also refer to the moving image as a 'composite image' of pictures with a certain family resemblance (e.g., different faces superimposed upon one another, the sequence of which appears as movement).

visible moving picture on the screen owes its existence to a disturbance¹⁸ in the transparency (*diaphanie*) of the intermediate images in the light beam after they have been detached from the matrix, at 24 times per second. This disturbance, which allows the intermediate images to become visible, can take place anywhere in the beam of light.

This becomes clear f.i. in Roberto Rossellini's short film *Illibatezza* (1963) where he uses this idea of interference in the film projection to emphasize the disturbance in the psychic projection of his hero. *Illibatezza* tells the story of an American who falls in love with a stewardess, whom he records with his film camera during a layover in Bangkok. Because she avoids him, he must be content to meet her in the form of these filmed pictures, which he projects in his hotel room. He positions himself in the projection beam, using himself as the screen and attempting to unite with the object of his desire – meanwhile making her image, which he embodies, appear on his body between the projector and the screen.



Fig. 9



Fig. 10



Fig. 11

Rossellini: *Illibatezza* from ROGOPAG (1963)

4. Digital matrix images

¹⁸ Ludwig Jäger: "Störung und Transparenz. Skizze zur performativen Logik des Medialen", in: Sybille Krämer (ed.): *Performativität und Medialität*, München (Fink), 2004, pp. 35-74.

I turn once again back to Aristotle. To the ancient philosopher, for an object to be able to appear, it was essential that the substance of the object be realized as a mere possibility in light of its form or shape. The form of the thing is that which is real; its substance (materiality) is a mere possibility. It is a question of the lighting that allows forms to become detached from their objects and appear as they are. Even today, the entire analogue world of pictures and images is a world of appearances whose forms have left behind the things that they formulate. Their medium is the light¹⁹ that illuminates the objects and projects their forms. In my opinion, this ancient model of making the world appear has returned in the cinematographic process. A great deal has changed in media history during recent years, but “it is still the light - whether it comes [for Aristotle] from the sun, an electric lamp or a videoscreen – which is the origin of all pictures and representations which presents and explains the world to us. Without light, no picture”.²⁰ Between the material world and the human eye, light – itself without form – shows us objects by their forms, transmitting them to our consciousness. In the space between the film projector and the screen, it is light that transports the forms of the matrix and the virtual intermediate images, and then renders them visible on the screen. Without light, no film.

The French new media scholar Edmond Couchot claims that the evolution of the computer and digital data processing has allowed the development of a “new kind of picture that no longer owes anything to light, at least not in its production: These are the new synthetic or numerical pictures. [...] [I]n its creation, the synthetic picture is completely calculated by the computer”. This also applies to

¹⁹ Hans Blumenberg: “Licht als Metapher der Wahrheit”, in: *Studium Generale*, Vol. 10, Nr. 7, 1957, pp. 432-477.

²⁰ Edmond Couchot: “Synthèse et simulation: l’autre image”, in: *Hors Cadre* No. 6, 1987, p. 115.

the light in such pictures, which as an algorithmically programmed effect forms an element of the figurative surface. Lighting here detaches no forms from objects in order to transmit their appearances; rather, it is itself a programmable form that can be distributed in a few points or extensively on the picture's surface. This picture does not require the constitutive differences that formerly separated the picture from the image and the image from its matrix. It was these differences in media forms that enabled the integration of other such forms through intermedia operations. The digital or synthetic picture no longer differentiates an image from its matrix, but it is itself a matrix image ("l'image-matrice"²¹): It is its matrix as a picture.

The representation of this matrix image is often hard to distinguish from photographs, although it gives itself away through the depiction of 'impossible' points of view and unreal objects. The matrix image does not organize processes of intermediality in the way that films do (as a combination of photographic images, sounds, writing, visual and narrative structures, etc.); rather, the it is from the start a virtual intermedia construction of media forms that it melds with its own universal form of the computer medium. Because these synthetic pictures can presuppose no true referential reality and also claim no substantial reality for themselves, the performative data processing deals only with pure forms and their algorithmic relations in a defined pixel space. If analogue photographs become the basis for the digital representation of objects, for example, for the "picture-based modelling"²² of a three-dimensional data space, then two different media forms must be reduced to a common denominator in the algorithmic

²¹ Couchot, p. 116f.

²² Cf. Barbara Flückiger: *Visual Effects. Filmbilder aus dem Computer*, Marburg (Schüren Verlag), 2008, esp. p. 51f.

calculation. Sounds and colours are media forms that are not formulated additively, as in analogue films, but instead as media forms that are algorithmically broken down and directly tied together with data from other media forms.

Because the matrix image no longer recognizes the constitutive difference between picture and image – or the object, its transformation and the form of its appearance – there are no intermediate images in which the transformation operates either transparently (diaphanously) or opaquely to realize connections to other media forms. By means of ‘digital compositing’, point for point, pixel for pixel, other media forms are inserted into the actual matrix image as they are substituted (in coding procedures such as ‘chroma keying’) by these forms. Computer-generated representations themselves also use grid structures in a network for the arrangement of pixels in the picture space or in the development, for example, of polygon structures for the modelling of three-dimensional bodies. In every phase, such grids are components of the programmed picture process itself, rather than individual media forms added to supplement the (analogue) perspective construction that will disappear after contributing their spatial effect. A grid of polygons is no ‘velum’ that can be withdrawn so that the completed picture appears behind it. It is the picture itself.

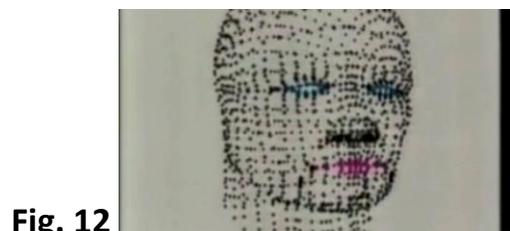


Fig. 12

Particle Dreams (Karl Sims, 1988)

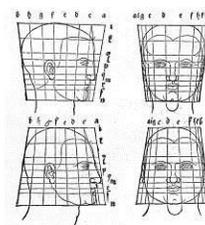


Fig. 13

Dürer: Faces under grids

The intermediality of digital matrix pictures takes place as a combinatorics of coded data complexes that represent different media forms but nevertheless originate from the same media form of the computer. Many concepts left over from the analogue era have lost their meaning in digital procedures because these procedures are no longer defined based on media differences. If they are still addressed as normal pictures or images as usual it is also because digital pictures can appear to be analogue pictures without actually being them. Nevertheless, the appearance of their forms is a programmed pretense of the exclusive reality of the data stream that universally established them as nothing but 'visual effects' (Flückiger). Or, in the words of Morpheus in answer to Neo's question: "What is the Matrix? Control. The Matrix is a computer-generated dream world built to keep us under control." And: "The Matrix is everywhere. It is all around us, even now in this very room. You can see it when you look out your window, or when you turn on your television. You can feel it when you go to work, when you go to church, when you pay your taxes. It is the world that has been pulled over your eyes to blind you from the truth. [...] Unfortunately, no one can be told what the Matrix is. You have to see it for yourself." In the Wachowskis'²³ film, the machines control humanity, a world of people who experience a computer-generated false world as their augmented reality. Those who belong to it cannot make a distinction between truth and the make-believe of the programmed matrix. Their matrix has ceased to be a picture; it has become - only in the film of the same name? - the entirety of the perceived reality.

²³ Andy and Lana Wachowski: *The Matrix* (1999).