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From Dissemination to Digitality: How to Reflect on Media

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Abstract

J.D. Peters' communication theory rehabilitates communication in the form of non-reciprocal dissemination as a complement to the dominant position of dialogue, which is usually considered the primary form of close communication. This essay, in turn, now complements Peters' communication theory with the cultural-historical phenomenon that we use the stable surfaces of materials to write and to illustrate, starting with cave paintings and skin tattoos and to the invention of writings, diagrams and maps. The 'cultural technique of flattening' is conceived as a projection of spatial and non-spatial facts onto two-dimensionality. 'Artificial' flatness—there is no empirical flatness—forms a productive potential and power that is essential for the development of sciences, many arts, technology and architecture, and complex administrative technology is unthinkable. What this means is (i) examined in a media theoretical context and (ii) explored in connection to digital technology, which establishes a link to Peters' reflections on 'clouds'.

Keywords

Dissemination, mediality, artificial flatness, inscription, transfiguration

I. Dissemination: Communication Beyond Dialogue

To start with a personal experience: Reading John Durham Peters' *Speaking into the Air* (1999) an insight emerges, striking like a lightning bolt.¹ The essence of communication is *not* reciprocal dialogue, but rather non-reciprocal dissemination. I am philosophically socialized in a German tradition of language philosophy and

communication theory, reaching from Wilhelm von Humboldt to Jürgen Habermas. Within *this* tradition the most noble form of using language is the dialogue, the mutual speech between persons, individually addressed by the speaker. Before reading Peters' book, my image of successful communication was something like this: dialogue, the reciprocal form of talking to each other, is participatory and the germinal form of sociality. People with their different attitudes to life, codes of conduct, talents and practices can overcome their differences and disputes just by conversation in such a way that understanding of the other and consensus between dissenting voices is possible. Jürgen Habermas (1984) has called this the “casual constraint of argument” (161): “dialogue” means that dispute is not settled by violence but by mutual speech only. This dialogue-centred, reciprocal perspective is called the “universal pragmatics of communication” (Habermas, 2003).

But how correct and even realistic is this image of language use—outside intellectual meetings and university seminars? “Reciprocity can be violent as well as fair”, John D. Peters notes (1999: 56). Don't Socrates' conversations with the citizens of Athens already have a tyrannical quality, because—in the end of discourse—Socrates must always be right? Does the emphasis on dialogue not overlook countless language uses in teaching and learning, in witnessing, informing and acquiring knowledge or in entertainment, which are by no means reciprocal? Does not our life and culture feed on manifold non-reciprocal forms of action and ritual performances in which cooperation and communality are not rooted in and produced by dialogue?

Two pitfalls of dialogical communication theory are mentioned here; to articulate these problems means to understand why the rehabilitation of non-reciprocity and disseminative communication theory by J.D. Peters is groundbreaking.

The first problem is the latent juridical structure of communication. Speaking means to defend one's own claim to validity, to argue that one is in the right. Speakers and listeners behave like rational, legal or academic subjects who are equal in their formal characteristics, independent, however, of the material, factual differences that persons have with regard to their origin, gender, education, ethnicity, etc. The real inequality of speakers participating in a dialogue transforms the dialogue into a situation, where some speakers hold a position of power and some not (Krämer, 2020: 83).

The second problem is the latent marginalization of media: the goal of consensus-oriented dialogue is to transform the polyphony of different voices and attitudes into the unanimity of agreement and consensus—by virtue of the binding force of rational argument. The aim is to eliminate difference in a way that reminds of an erotic encounter: two bodies or attitudes or opinions falling together. In such a situation of intended unification, media in their in-between are a disruption: they are not enabling but disturbing factors of communication (Krämer, 2015: 23-25).

John D. Peters wants to design communication according to the model of dissemination, a form of distant communication in which one person sends a message to many, which can be received and processed by the recipients, but does not have to be. As a non-reciprocal event, it develops an alternative perspective of human communication; it provides a counter-image to the subtle tyranny of dialogues, which too often are only ‘overlapping monologues’. Just as a sower casts out his seeds, some of which fall on fertile, others on infertile soil, the speech becomes an offer, for the effects of which not only the speaker, but the hearers too are responsible.

The noteworthy point here is that dissemination does not provide a model for mass communication only, but opens up a maxim of individual conversations as well. Looking at human communication we normally observe a constitutive distance and inaccessibility between communicators. People always remain withdrawn and alien with regard to their inner worlds, individual experiences and personal convictions. Communication oriented towards dissemination acknowledges the irreducible otherness of the participants in conversations, who are not simply formally equal, but rather materially different in terms of biography, experience, gender, education, etc. It goes without saying that this disseminative model of one-to-many is the starting point for a reflection of mediality interpreted as an irreplaceable dimension of all—and not only of distant—communication. In the horizon of dissemination, a theory of communication is developed for which the use of media is indispensable. At this point we can ask: what however is ‘a medium’? Especially if it is not ‘speaking into the air’ in the context of communication but manipulating symbols in the context of cognition, reasoning and calculation?

Within the perspective of media philosophy, it’s our concern to show that we do not just ‘speak into the air’, but rather that we write and draw on fixed surfaces. To put it

in the most general way: the cultural-historical dynamics of many civilisations are deeply rooted in varying forms of inscribed and illustrated surfaces as part of something we want to describe and call the ‘cultural technique of flattening’.

2. Elementary Phenomenology of Media Use

Human artifacts cannot be easily sorted into things that are media and things that are not. Rather, the decisive perspective is what characterizes media-in-use. In the horizon of this praxeological orientation towards use, it takes on clearer contours what ‘mediality’ means as a dimension implicit in our general relationship to the world.

Now there is a significant feature in dealing with media, which we want to call “withdrawal of media in its performance” (Krämer, 2015: 30). As far as media function smoothly, i.e. without disturbances, they tend to make something appear by disappearing themselves and remaining below the threshold of perception concerning their own materiality and constitution. All media—and not only the computer-generated “virtual realities”—thus have an immersive tendency: a content is transmitted, but the medium itself remains almost hidden in this performance (Groys, 2000: 21). We hear a human voice, but no air vibrations; we see colours, but no light waves; a film moves into the action and makes us forget not only the screen, but mostly the bad seat. Media sensualize by de-sensualizing themselves. This opposing aesthetics of media (‘aisthesis’ greek: ‘what is perceptible’) constitutes its elementary logic of use.

Media’s self-fading is not a new insight. Already Aristotle emphasized in his theory of perception that media are both material and transparent: the space between the eye and the seen object is not empty, but filled, yet at the same time transparent and translucent, in other words: “diaphanous” (Aristotle, 1964: 106-109). Therefore—according to Aristotle—materials such as air, water and crystal are favourable as media of perception. This translucency of the Aristotelian medium of perception is subsequently also transferred to linguistic signification: the fading of the voice, the disappearance of the speech sound at the moment of its vocal expression becomes paradigmatic for it: “[...] the word as a sounding vanishes in *time*”, Hegel notes (1971, §462: 220). In the twentieth century, Fritz Heider took up this figure of thought and condensed it into the thesis that media are always “chained” to something important,

something external to them, which they present, but “for themselves they are usually >nothing<” (Heider, 1927: 130). Media are nothing without their own order, but this order must provide a maximum of transparent plasticity: forms presented by media can always be seen, but not the medium itself. Media content appears in the guise of immediacy.

The elementary phenomenology of media use outlined here, which is oriented towards the disappearance of the medium-in-function, is of course not valid unrestrictedly. Disturbances and dysfunctions such as flickering screens, noisy sound transmission, interrupted energy supply lead to media becoming intrusive in the consciousness of their users. Not to forget works of art in which the mediality of artistic objects is exhibited, often subversively thwarted and commented on: for example, Lucio Fontana’s cuts through the surfaces of his paintings open up his pictures to three-dimensionality and a depth behind the surface; through this “incisive act” Fontana exposes and infiltrates two-dimensionality as a familiar condition of traditional pictoriality.

This connection between pictoriality and two-dimensionality leads to a further characteristic of many forms of media use which we want to call ‘artificial flatness’. It is about an attempt to ban the fluidity and disappearance of media-in-use by creating a medium that can circulate from hand to hand and resist temporal erosion—to a certain extent.

3. Artificial Flatness

We don’t just speak into the air, but we write and draw on stable surfaces. Not only the air, but the graphically processed surfaces too function as a first-class medium of dissemination; this is valid not only for communication, but for cognition, composition and construction too. We live in a three-dimensional world, yet we are constantly surrounded by inscribed and illustrated two-dimensionality. From an empirical perspective, there are no pure surfaces. Yet by drawing and writing we act *as if* these surfaces have no depth: what matters can completely be seen on the surface. Interpreted from an anthropological perspective, the ‘cultural technique of flattening’ is an important human invention and a striking cultural tendency in our symbolic and

technical practices. It extends from cave paintings and skin tattoos to the invention of painting, writing, diagrams, and maps to computer screens, tablets, and smartphones.

What is the reason for the overwhelming success of ‘artificial flatness’?² Our sense of spatial orientation is grounded in the fundamental relationship between our bodies and the environment around us; due to the fact that our bodies have three axes that are perpendicular to one another we distinguish between over/under, right/left, and front/back. One of these axes is associated with a perceptual deficit, as whatever lies *behind* us is not only invisible but also uncontrollable. The technique of flattening involves projecting the two registers of right/left and over/under onto a surface, while the distinction between front/back is eliminated. As a surface without depth, without a ‘subface’, an artificial space is produced in which everything that is inscribed or drawn can be overseen, manipulated and controlled. Flatness cancels the unobservable and uncontrollable ‘back’ and ‘below’.

The fullness of the real world as well as the phantasms of fictional worlds thus obtain an observable and processable form. An illustrated or inscribed surface can become a device of communication, it can turn into a laboratory of cognition as well as a workshop for aesthetic experimentation and technical draft. Artificial flatness is a first order cultural achievement. Its aesthetic and cognitive ramifications are obvious, yet surprisingly little studied.³ Just as the invention of the wheel facilitated mobility and creativity in the world of the body, the invention of artificial flatness facilitated mobility and creativity in the world of the mind. In what follows, I will not focus on the communicative or aesthetic, but *cognitive and epistemic use of artificial flatness*.

Whenever we have to orient within a space of knowledge, the graphic projection of complex content onto a surface makes invisible theoretical entities visible, insofar as relations and connections become viewable and complexity becomes manageable (Pombo & Gerner, 2010). The diagram is the birthplace of the idea of relations, the graph is the hometown of connecting time and space. Simultaneity of the chronological matters here. Think about the timeline in History, or about calculating in Mathematics and Science (Giaquinto, 2007); synoptic overview is furnished, which allows complex operations to be performed by “paper and pencil” (Galison & Jones, 1998). Every symbolic structure written down can be restructured; every configuration can be reconfigured. In short: artificial flatness is the domain of operative reversibility.

Inscribed surfaces are used not only as instruments for *visualizing* information but also as tools for *operating* and *exploring* the inscribed and visualized entities (Giardino, 2014). When we do not know our way around a foreign city, we can become oriented with the help of a map or navigational device. We can transfer this operative principle, this cartographic impulse, into the realm of the cognitive. Written and graphic notations help us to navigate spaces of knowledge in much the same way we navigate unfamiliar terrain by maps. Let me give a philosophic and a mathematical example for that.

3.1

Plato's *Meno* (1976: 82b-85c) dialogue is designed to show that knowledge is not a kind of entity which is transferable from one person to another through language and telling; instead, knowledge is something to be produced by the knowing individual him or herself. Plato demonstrates this using the situation of an uneducated slave boy. Socrates draws a two-foot square in the sand and tells the youth to double the area.

The boy first doubles the length of the sides of the square, but he recognizes that this fourfold increase is too much. He then increases the length of the sides to three feet, but—as he can see—this produces a square more than twice as large. The boy is puzzled and admits that he is irritated: “I don't know”, he confesses to Socrates. With the aid of further Socratic questions, in which Socrates does *not* communicate the technique of doubling a square, and further different drawings, the boy finally recognizes that it is possible to double the area by constructing another square from the diagonal.

What does this “diagrammatic primal scene” (Krämer, 2016) reveal? The first step is that the engagement with the drawing involves the realization not of knowledge but rather of a *lack of knowledge*. An intellectual mistake literally becomes *visible*, and the perceptibility of this *false* assumption paves the way for the generation of positive knowledge. The surface becomes the experimental field of this mathematical insight, insofar as the drawing is always also revisable: everything that is illustrated can be drawn in an alternative way. It is also clear that the act of working with diagrams is embedded in communicative procedures. Image and text, or drawing and speech, are interconnected. There is not such a thing as a singular, context independent diagram.

The Menon scene is not a singular diagrammatical event in Plato. A lot of scenes can be found in Plato's dialogues, where diagrams are used to produce an intellectual insight; his graphical procedure of Dihairesis especially displays an analysis of concepts through diagrammatic drawing (Philip, 1966). It was an everyday practice in the Platonic academie.

3.2

Let us go to our arithmetical example. The legend of the German mathematician Carl Friedrich Gauß is instructive in this context. At the age of nine, Friedrich Gauß's teacher gave him the task of determining the sum of the first one hundred numbers, and unlike his fellow students in the classroom Gauß produced the correct answer within minutes.

Look at this reconstruction (Hayes, 2006: 200-205):

$$(1) 1+2+3+4+5+\dots+97+98+99+100$$

By exchanging the positions of the signs, he rearranged this sequence as follows:

$$(2) (1+100) + (2+99) + (3+98) + \dots + (49+52) + (50+51).$$

This resulted in an optical situation that showed that the sum in each set of brackets was equal.

$$(3) (101) + (101) + \dots + (101) + (101)$$

Due to the fact that there were 50 such sets of brackets, the answer was

$$(4) 101 \times 50 = 5050$$

You have never seen a number. As *theoretical* entities, numbers have no spatial position. As signifying numerals, however, their spatial positioning on the surface can become a tool of arithmetic problem solving. By shifting signs in their position on paper a *spatial* operation produces a visual configuration that makes the solution immediately obvious. Complex intellectual activity is less performed mentally and thus 'within the head'; rather, it can be carried out externally through the systematic manipulation of

external symbols on paper. Eye, hand, brain and the medium work together, and the ‘mind’ emerges through this mediation.

3.3

Let us now try to unlock the artifice of the intellectual and operative potential of artificial flatness. The surface constitutes a third, something in-between the one-dimensionality of time and the three-dimensionality of space. Artificial flatness opens up the possibility of translating temporal sequentiality into spatial simultaneity, time in space and vice versa. This position in-between two heterogenous fields—as space and time—characterizes the surface as a medium. It is of no coincidence that one of the first cultural uses of flattening out has been the sundial (Bogen, 2005). The ancient sundials are based on the *epistemic* use of shadows to measure time. A gnomon or pointer is placed in a hole within a network of lines that is subtly constructed as a diagram based on astronomical observations and mathematical calculations. The shadow allows the hours of the day and the months of the year to be ascertained.

We see: the technique of flattening out with its interplay of sequentiality and simultaneity makes it possible to notate musical scores and choreography as instructions for performance, to develop literature as a kind of experiencing what we do not live, to write computer programs, and to prepare technical drawings. Temporal performances solidify into stable and transmissible spatial configurations, which can become fluid through their implementation and then solidify once again into new stable structures. And all that can be disseminated, can be seen, read and realized by the public. Operative flatness facilitates not only the transfer between space and time but also the mediation between the individual and the social. The inscribed surface introduces a form of visibility and operativity that is always in the ‘we-mode’: an organon not only for intersubjective communication, but for mutual perceptions and shared experiences. There is no social epistemology without reflecting the operativity and dissemination of illustrated and inscribed surfaces.

At this point we would like to emphasise once again the cognitive and epistemological perspective we have adopted. J.D. Peters commits his considerations to a communicative perspective. By rehabilitating the disseminative dimensions of

successful communication, he relativises and rebukes the predominance of the dialogical principle and this precisely with regard to the proximity of human communication and not only within mass media distance communication. It is our intention to complement Peters' approach by emphasising the epistemic perspective, and the cognitive advantages which are initiated by the use of 'artificial flatness'.

4. The Medium Understood as Mediating 'Third Party'

To speak of a 'mediality of artificial flatness' is easier said than done. What does it actually mean to reflect on the cognitive handling of surfaces in a media perspective? What kind of knowledge does it open up? We referred to the fact that it is characteristic of media use to make a content perceptible by the self-retraction of media's own materiality. Now another—related—aspect becomes relevant: media functionally take the position of a third party, a 'thirdness' which mediates between two different sides, fields or systems and creates a nexus of connection and transmission in between. Mediality is to be understood as a form of generating relationality.

An etymological view of the ancient Greek language is revealing (Bahr, 1999: 273). 'Medium' refers to the syllogistic concept of the middle: the term 'medius' is the word that appears in both premises and establishes their connection. But the concluding sentence connects the premises in such a way that the 'medius', the word connecting both sentences is eliminated: in the *Conclusio* this term vanishes. The position of the middle disappears in successful mediation (Krämer, 2015: 36).

Let us go beyond the etymological example: what written and illustrated surfaces convey, if they are used for cognition? Between which differential sides or systems do they function as a third party?

Let us discuss this using the example of arithmetic: numbers as mathematical entities are invisible and cannot be localized in space/time. Using written numerals means to give the invisible numbers a precise position on the surface and to operate on them in a way that the manipulation of the signs at the same time performs a numerical calculation. The mediality of artificial surfaces enables the visualization of theoretical entities; through operations within the visible, insights into the invisible world of

numbers can be gained. This is the reason that using the decimal positional system changes the concept of number: The modern number-space emerged from the existence of zero (Rotman, 1963), over-calculating with negative and infinitesimal quantities up to imaginary and real numbers. The mediality of written decimal number calculation changes what is considered a number at all and what the number space is like.

Descartes' invention of a coordinate system, even if it was not yet orthogonal, is a significant demonstration of this advance in knowledge through two-dimensional spatialization (Descartes, 1981). The "Cartesian coordinate cross" in use today divides the paper surface into four quadrants so that geometric points are represented by pairs of numbers in such a way that they are given a numerically well-defined position on the surface. It was now possible to represent certain curves as equations and to solve geometric problems as arithmetic calculations. Figures can be converted into formulas and vice versa. Descartes' Analytic Geometry ends the schism between geometry ('magnitude') and arithmetic ('multitude'), which has existed since the Greek discovery of incommensurability. His invention of a line configuration as a reference system mediated between two mathematical domains that have become alien to each other. The Coordinate system—seen as a medium—is situated between the domains of geometric points and arithmetic numbers; it forms a translation manual between curves and equations, which simultaneously gives a new physiognomy and contour to what 'geometry' and 'arithmetic' mean respectively.

We see: when media are used in the role of a mediating thirdness, which is located between two disjunctive sides and creates their nexus, this connecting function transforms what both sides 'are' and mean within this connection. Within artificial flatness as cognitive, and creative devices the inscribed surface can be understood as a mediator between time and space: writing transforms the temporal succession of spoken words into the two-dimensional spatial configuration of texts; timelines transform sequences of historical events into a discretizing constellation of lines. Something procedural, and fluid, coagulates into structure and figuration, and can then—let us think of scores or the reading of texts—be converted back into proceduralism. This cognitive creativity of artificial flatness mostly remains a blind spot in its artistic, scientific, cultural effects. The core of its productivity is the fact of being

situated between the one-dimensionality of time and the three-dimensionality of space as a lived environment, and thus being able to transfer, transpose, and translate the one into the other by virtue of this positioning in-between.

It is clear that processes such as connecting, transferring, mediating and translating involve extremely different forms of activity. But what matters here is that the perspective of mediality does not primarily accentuate tasks like the production and creation of something, but rather activities oriented to the basic act of transmitting.

We stress transmission instead of generation for good reasons. It is a way to design media philosophy in a non-constructivist perspective, and to avoid media's becoming monolinear causes for history and culture. Especially the insight into the mediality of almost all cultural artifacts and actions, which developed in the 1960s, which appeared in the guise of an absolutization of media as the ultimate founding instance of cultural dynamics. In the case of authors such as Marshal McLuhan (1964) or Friedrich Kittler (1999), media were interpreted in terms of sovereign agency. With the beginning of modern times demiurgic creativity was transferred from God to human subjects, which—as the potential of the human being—in the nineteenth/twentieth century increasingly eroded from Nietzsche to Foucault. The 'homo generator', this modern secular echo to the demiurgical potential of the divine, then continued with the rise of media-theory in the form of an empowerment and autonomization of media.

But media are not autonomous, but rather heteronomous. Ideas such as the post-structuralist dictum that there is nothing outside of texts (Derrida, 1983: 274), but also the assumption of many analytical and some non-analytical philosophies that language—and only language—forms the Archimedean point of our world relationship, are untenable in the context of a media reflection in the perspective of media as a transmitting thirdness.

This non-constructivist media perspective can be accentuated with the help of a "messenger model" (Krämer, 2015: 108-121). The 'messenger'—be it human, symbolic or technical—creates a connection between heterogeneous sides by transmitting something and thereby transfiguring both these sides.

This is not the place to explicate the messenger model more precisely. Its philosophical concern, metaphorically characterized as an errand, is to place a differently oriented model alongside the author model, which was the inspiration for the modern concept of the subject with its generativistic furor. The telos of the messenger model does not consist in the over-emphasis of creation and invention but aims at rewarding less glamorous forms of activity: connecting, passing on, mediating, translating and circulating. Forms of activities functioning as genuine cultural acts that include the interaction between humans, signs and technical devices in all conceivable hybrid forms.

5. Transfiguration

Does the attempt to avoid the hypostasis of a constructive or causal role of media by reflecting mediality in the terms of the errand, not obscure the significant formative power of media, almost ‘throwing the baby out with the bath water’? The fact that media in use mostly appear *as if* they are transparent, does not mean that what media present is withdrawn from media’s shaping force. How can this figurative and transformative power of the medium be described and explained?

It is the concept of ‘transfiguration’ that matters here. In its religious-spiritual origin, this word aims at a medium taking on the characteristics of what it conveys. It is about a metamorphosis in which a medium seems to transform itself into what is transmitted. The figure of Christ is regarded as the mediator between humans and God. As a consequence, the biblical transfiguration turns Jesus as a human being into the mode of a heavenly, godlike being. Raphael’s painting *TRANSFIGURATION* shows how Christ’s human form undergoes a metamorphosis into something superhuman as a process of a visible, perceptible transformation: in this painting Jesus looks no longer as a human being, but has become a figure of light, embodying a heavenly, divine entity.

Transfiguration, understood as a religious scene,⁴ can be interpreted and commented on prosaically in terms of media theory: ‘Transfiguration’ is another term for the withdrawal of a medium in use. The medium fades out its own physical existence in order to make another existence appear in the act of mediation through self-retention.

What could better embody this power of metamorphosis than a literal transformation of the medium into that which it transmits.

But—and this is what makes ‘transfiguration’ interesting for us as a *concept*—a transfiguration does not erase the medial figuration but preserves mediality in the form of a trace. In Raphael’s painting *TRANSFIGURATION*, Christ’s human corporeality is not simply deleted—while God has no body!—but preserved: the cruciform arrangement of his limbs reminds of the posture of the later crucifixion: symptom of a future event, which—what matters in the Christian view—will take place in the physicality and corporeality of the medium and not in his—immortal—divinity.

Our question was how to describe, in terms of the messenger model, that the medium does not simply pass on its content but rather shapes and conditions it. The concept of transfiguration offers a first answer: within the transmitted content the medium reveals itself in the form of a trace. Traces are changes in the visible in the mode of a latency, but only if the latent and implicit are made manifest and explicit, i.e. identified, read and interpreted by those who are interested in the revelation of traces at all. In the process of reading traces, we encounter a reverse function of the errand: trace readers behave as if they were addressees of something whose sender has to be reconstructed first of all (Krämer, 2015: 174).

Core point and hinge of our argument for media philosophy is: bringing to mind such a reconstruction of the medium’s trace on its message and presented content is an act of critical epistemology of the media. In the practical use of the medium we “only” see its content; yet in the suspension of its use in the course of theoretical and critical reflection, the inherent logic and obstinacy of the medium reveals itself.

6. Computational Synchronicity

We want to explain the idea of transfiguration as a media-philosophical concept using the example of the digital. The epoch of digitality with its ubiquitous uses of interfaces, screens and smartphones seems to radicalize the cultural technique of flattening. In front of the screens, users continue to watch, read and produce images and messages in the format of two-dimensional presentation, as is familiar from the culture of

letterpress. With the smartphone, artificial flatness has—as perhaps never before—become an everyday dispositive. But behind the networked screens is a rhizome-like, sprawling space of interacting protocols, machines, and data that is hidden from the user. The deep region, which was annulled by the cultural technique of flattening, returns as an invisible, uncontrollable space removed from user’s access.

Digital data processing appears from the user’s perspective in the guise of two-dimensionally labelled and illustrated interfaces. Yet this flatness functions as a mask. Behind the mask, networked digitality is a system that transcends artificial flatness through the operative introduction of a third dimension: the dimension of time.

In the phenomenal realm of human perception, time is the ordering form of a succession of moments or steps. But the computer-generated form of time, its micro-temporality, is not that of a humanly perceptible time interval, but is the experience of an elementary simultaneity. The speed at which data processing and the search for information in billions of documents takes place is unimaginable for humans and cannot be perceived as something that actually consumes time—at least for normal screen usage. This form of time is different from two regimes of time we are familiar with: on the one hand, there is the extensive, measurable time—whether with the help of clocks or in the face of natural rhythms; and on the other hand, there is the intensive subjectively experienced time, which Henri Bergson characterized as “duration” in his philosophy of time. But computational simultaneity, which can no longer be perceived by the human sensory system as a time gap, establishes a third socially effective form of time: it appears as a machine-generated synchronicity.

It is information science and data engineers themselves speaking of time as a ‘third dimension’. In the “Big Table database system” developed by Google, data is stored three-dimensionally and is described this way: a data cell is addressed via rows and columns and in a third dimension via different timestamps. We know the principle of digital indexicalizing from digital cameras or computer files. Regardless of the special advanced methods of data compression, it is significant for the computer-generated time regime that the speed of data processing undermines every phenomenal human conception and perception of time. This is the reason why a digital search is nearly unrepeatable: it produces different results at different points in time because after

some seconds millions of new documents have to be included by the crawler's operations.

To summarize this point: the “micro-temporality” (Sprenger, 2015: 93) of computer-generated operations is no longer perceptible by humans as a time-consuming process. The grueling experience when only a ‘slow internet’ is available shows especially how deeply rooted our expectation is that the computational time regime is that of phenomenal instantaneity without time delay. To label the networked computer as a diagrammatic machine⁵ thus means to conceive the metamorphose of ‘artificial flatness’ to a time rooted three-dimensionality. This, however, is a hypothesis that needs to be examined more closely—yet not here.

7. Back to John Durham Peters: Two Closing Thoughts

(i) Peters has developed his media theory far beyond his theory of communication by enquiring the role of ‘clouds’ in nature and digital technology (Peters, 2016). Unlike *Speaking into the Air*, his *Marvelous Clouds: Toward a Philosophy of Elemental Media* is not only about the relations between people as the core of communication, but also about our relationship to the environment as a hinge of our connection to the world and to ourselves. The environment itself—this is a central idea of Peters’ philosophy of media—becomes the medium of our being-in-the-world. But just like air, clouds also remain fluid entities in a literal sense, although the latter are not transparent but opaque. It is especially this cloud-like opacity which is of interest to us. How much clouds can obscure and make overview and foresight obsolete is known not only to those who climb mountains or get caught in fog. Peters’ reference to the technology of digital clouds opens up an insightful analogy regarding the opacity of modern digital technology. We know: digital networking entails a fundamental experience of loss of data transparency, sovereignty and control during movement in data universes, and we usually do not pay attention to the tracks and data footprints we leave. It remains an important task to examine the transformation of the transparency that was often—but of course not always—associated with the epoch of alphabetical literality into the genuine opacity of networked interactions under the conditions of digital literacy.

Nevertheless, we only get to the dilemmatic core of our media-technological existence when we consider how much digital technology—contrary to the metaphors of ‘air’ and ‘clouds’, which always suggest a kind of immateriality—is bound to the materiality of resource consumption generated by networked computer interactions; a physical condition without which our chips and smartphones can neither be built nor used.

(ii) John Durham Peters does not simply speak, but rather writes. It is only because his thoughts take the form of the printed text, because keyboard, screen, and paper are required, that dissemination of his thoughts to the academic public takes place. It is a law of media history that the invention of a new medium does not make the old superfluous, but that the latter also finds new uses, kinds and potentials in and with the new media (Hörisch, 2001). Just think of the relationship between the spoken language and alphabetic writing: with the alphabetic transcription of speech, language not only acquires a new mode of existence, but also new forms of scientific, artistic or administrative use. John Durham Peters can only appreciate ‘air’ and ‘clouds’, can only celebrate disseminative communication, because he has not only banished their fluidity through his writing practice, but also made their dissemination possible in the first place. Is the ‘cultural technique of flattening’ the condition for the possibility of sustainable dissemination?

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Notes

¹ For a detailed interpretation of Peters' theory of communication: Krämer 2015: 68-74.

² For more details on 'artificial flatness' and the 'cultural technique of flattening': Krämer, 2014: 3-22; Krämer, 2015: 10-19; Krämer, 2020.

³ Different however; for art historians: Summers, 2003; Bender/Marrinan, 2010; for epistemic /cognitive oriented: Giardino, 2014; Latour, 1986; Stjernfelt, 2008; for linguistic studies: Linke/Feilke, 2009; for literary studies: Best/Sharon, 2009.

⁴ We do not understand 'transfiguration' in the meaning of an aesthetic concept used by Arthur Danto 1983.

⁵ To the connection between networked computer and diagrammaticity: Mackenzie, 2017: 21-50.

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