

Mousing, Swiping, Thinking

Magical Conquest Techniques in the Context of Electronic Communications Media

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Some of the physical, chemical and technical possibilities of the modern age are very similar to magic. They appear to be able to overcome perception and awareness. This text approaches the issue of magic both from a sociological perspective and in relation to the world of electronic media. It first identifies and analyzes the criteria that determine the magical to then answer the question whether the new technology results in the old technology of magic making an invisible reappearance.

Keywords: electronic media, religion, magic, structural coupling, meaning

ALL: Double, double toil and trouble, Fire burn and caldron bubble.

2ND WITCH: Fillet of a fenny snake, In the caldron boil and bake. Eye of net and toe of frog, Wool of bat and tongue of dog, Adder's fork and blindworm's sting, Lizard's leg and howlet's wing, For a charm of powerful trouble, Fire burn and caldron bubble.

ALL: Double, double toil and trouble, Fire burn and caldron bubble.

3RD WITCH: Scale of dragon, tooth of wolf, Witches' mummy, maw and gulf of the ravined salt-sea shark, Root of hemlock digged i' the dark, Liver of blaspheming Jew, Gall of goat and slips of yew Slivered in the moon's eclipse, Nose of Turk and Tatar's lips, Finger of birth-strangled babe Ditch-delivered by a drab, Make the gruel thick and slab. Add thereto a tiger's chaudron, For the ingredients of our caldron.

ALL: Double, double toil and trouble, Fire burn and caldron bubble.

2ND WITCH: Cool it with a baboon's blood, Then the charm is firm and good.

—Macbeth, IV, 1

Preliminary Remarks

The title of this article is quite strange. It sounds magical in itself, like an old incantation. But this is exactly how it is intended to be. Although sociology has hardly any doubts that magic has a social function—especially that of world domination technique—it certainly does doubt the fact that magic actually can, for example, transform people into donkeys or pugs into dragons.

Nevertheless, some of the physical, chemical and technical possibilities of the modern age are very similar to magic. They appear to be able to overcome perception and awareness. Even a simple mobius strip dupes everyday perception of the world: inside is outside, outside is inside—at the same time. If you cut through the loop lengthwise in the middle, you don't get two bands —only one.

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If we approach the issue of magic both from a sociological perspective and in relation to the world of electronic media, then it is possible to identify criteria that determine the magical:

- 1) A *background world* is created and experienced through magic.
- 2) Religion is not magic, its transcendental instances cannot be enchanted; by contrast, the magical background world can react; it can respond, even if only in the foreground world. The background world still obeys.
- 3) Magic creates effects. By magic, we command things and relationships that cannot be understood causally. Today, virtual objects can simply be moved without touching them; we can 3D print virtual objects—as physical objects.
- 4) Magic requires signs with release force (Knoblauch, 1991; see also Burke, 1966).² It is much the same with the electronically pervaded world: without a release mechanism, nothing happens.

I would like to analyze these strange conditions, first, on the examples of the computer mouse and, second, on the example of swiping, which, by all accounts, is a technique already mastered by two-year-olds. This raises the question as to why this technique and its functional equivalents can have an enduring influence on psychosomatic complexes (people). Subsequently, the aim is to understand how these technological conditions influence perception and cognition, and which corresponding defects or opportunities may already be observed or predicted for the future. Finally, the medium of meaning is introduced as a key variable and thus the associated co-production between psychic and mechanical systems.

It will initially appear as if I am not talking about what I had promised to talk about, but only apparently so.

Structural Coupling and Virtual Movement

First of all, we need to know more about the expression *structural coupling*. It states that systems are mutually interdependent and maintained in the form of simultaneity. The body breathes, which is the precondition for the possibility of its life—and also that of the neural system. But the neural system controls breathing, it is itself the precondition of the possibility of a living (human or animal) body.³

In a formally similar way, structurally coupled computers, body, perception and cognition are important for us. I am currently working with the mouse, I drag the cursor here and there, scroll up and down, click once or twice on the right mouse button and sometimes on the left one. But as this happens (and here I am variegating

2. The power of naming is the decisive factor: “Let there be ...;” “So be it ...;” “Fiat lux!” I can give instructions to the computer—by talking to it.

3. On the biological original context of the concept of structural coupling, see Maturana (1988). On structural complementarity between consciousness and communication (cf. Luhmann, 1988a, p. 894).

an old example from cybernetics), the mouse controls my movements. Nothing would happen, if both would not facilitate each other in a kind of *reciprocal assistance*.

The condition of this coupling is one of the central functions of neuronality, namely the externalization (ek-stasis) of a space, without which psychological systems would not be in the position to generate their world. This externality enables the phenomena, the appearances of things and relationships. Even abstract, differential thinking requires a spatial component, the observation of a Here and There, a separation of X/Y , that is, a whatever minimal spatiality. The idea that there could be cognition without view(points) has been controversial for centuries.

The psychic system can be understood roughly and on the basis of neuronal spatializations as an instance of phenomenalization. Based on social influences (prominently: language), the psychic system reduces the flow of perception, a digitization that converts the indefinite into the definite: dog, cat, mouse, which can never be in the same place at the same time. Precisely this is characteristic of space.

Hence pure perception is an *unconfronted sensing* that knows no sense; perceptions in contrast would be the expression of a *confronted sensing* that has established contact with sense.⁴ The baby has no sense of the world, but the toddler has. The toddler is already bound to the use of sense and language, the baby is a sounding board for the possible use of sense. The baby does not understand *Mama*, the toddler can already say *Mammammam* (but probably not: *Mother* or *Mum*).

The question that interests me focuses on how the psychosomatic coupling is staged. Sigmund Freud writes: “I will divulge to you what this note [in the essay on the unconscious, P.F.] refers to: the assertion that the UCS [unconscious] exerts on some somatic processes an influence of far greater plastic power than the conscious act ever can” (Freud, 1961, p. 317). I differ slightly: Cognition (the corresponding operation) has an intensive plastic effect on somatic processes, and vice versa. In other words: cognition cannot be achieved without physical processes.⁵

This theory is not very easy to understand. But you get closer to the problem, if you perceive speaking as a phenomenon that is only possible if the medium of sense is available, on the one hand, and somatic processes like the activation of laryngeal functions, tongue movements, cheek muscles, breathing, and so forth take place, on the other. This is evident when we speak out loud. The usual idea is that in the case of thinking (cognition, inner speech, awareness, etc.) all of these can be omitted. At the most accurate level of understanding there is no sound. However, we know from phenomenological and neurological tests that inner thoughts activate the muscles and senses that are needed when we speak out loud.

It is easy to create images on a phenomenal level that plausibly illustrate this process. Anyone who tries to hum a song to themselves can only succeed if they have access to the corresponding pitch, sequences of notes and auditory sense with minimal innervation. If someone recites a poem for themselves (that is inaudible to others), the

4. On the presymbolic, on non-confronted feeling (see Pothast, 1990).

5. Stimulating role models for this and the following considerations were provided by Stricker (1882) and Palágyi (1924).

behavior is the same, but now because talking comes into play, the neural impulses of the movements of the mouth, larynx, even a way of inner hearing are used. Thinking about a Ferrari evokes and illuminates this vehicle even if none is available nearby. To put it in traditional terms, individual ghost images are created, that is pictures that would scarcely be possible without the accompaniment of perception, without a somatic accompaniment.⁶

These co-productions and couplings of soma and psyche facilitate the consideration of whether and how corporeal possibilities alter the plasticity of mental processes—and vice versa. The terms *assimilation* and *accommodation* coined by Jean Piaget work well with the idea of this covariation (see Piaget, 1983).

All of this also means that awareness is not always the same thing everywhere and that what can and cannot be seen depends, for example, on which language is spoken. Typical examples are: blindness, hearing impairments, tactility problems, paralysis, and so forth.

For our topic it is important that this reciprocal plasticity is subject to historic changes related to technology: Time only moves in a circle when water clocks (time flows) and hourglasses (time trickles) are replaced by mechanical clocks; time only ticks when the second hand makes an appearance.

When writing emerged in evolution, language (and not only: speaking) is conceivable. Only when writing is no longer *scriptura continua* and is interspersed with the gaps between words, do words arise. You no longer have to read aloud to understand words. In this way, thinking and also awareness are modalized: These gaps are now available. Internal perception and cognition begin to adapt more and more to the altered conditions. They prove to be transformable.

When electric current was invented, people learned to deal with invisible forces that were not generated by demons. When the mail coach was replaced by the railway, cars and airplanes travel changed. It quickly became one of the conditions of the modern global society. Telegraphs enabled long-distance communication, e-mails are replacing love letters, handwriting is disappearing gradually.

All this changed the states of awareness and experience. Magic, as it used to be, assumes a different form. You can become so used to it that the failure of these possibilities is disastrous. A power failure would quickly demonstrate this; anachronistic lifestyles would have to be reactivated.

Our presentation has at least created plausibility up to now that awareness, apperceptions, all psychological operations are historically plastic. Without handwriting, the way language is dealt with changes. Since the introduction of checking tools in word processors and with the option of deleting and moving chapters, carefulness has been eliminated. You can write faster. People's level of education can no longer be identified solely on the basis of correct spelling. If you want to know more about it, you have to focus on handwritten shopping lists. Physical experiences intervene in cognition structures—and vice versa.⁷

6. Awareness develops ideas, imagination, self-ghosting images. Refer to figure in Piaget (1973, p. 333ff.)

We would now like to say that the key principle behind such a change in form is *virtual movement* (Palágyi, 1924–99).⁸ There's no need to adopt the entire apparatus of Palágyi's thought here, merely that cognition virtualizes minimal processes of motion internally but keeps them active even in this minimality.⁹ These movements do not reach the zone of visibility, audibility or tangibility. But they are not simulations. They merely unfold almost unnoticed, so that particular attention is required if they are to be registered. This non- or practically non-registration is perhaps the precondition for enabling variations of virtual movements to creep in. You have to forget them so that they can function.

You can begin to analyze the input devices, the applications technology of computers from thoughts about virtual movement. Access to these devices is selective. Applications technologies that allow analogies to magical practices warrant concentration.

The Magic of the Computer Mouse or the Disempowerment of Reality

It is important to remember that the motility of the computer mouse is not the issue at stake when we talk about virtual movement. The mouse does not move by itself. Muscle and eye activity is required that control and register what is happening on the monitor. Everything that takes place, happens—from the traditional perspective—on the level of reality. Or to be more precise: It is observed as a reality. It is not remarkable that there are invisible processes at work in the computer, because all contact with people depends on the fact that psychic systems work—invisibly, untransparently, silently. Like communication, speaking is not thinking.

You may know in theory that the computer works in the medium of digitality, but in practice movements take place, the analogue of which is played out on the screen: when you move the mouse to the left, the cursor moves almost synchronously in the same direction. It is not much different when you steer a vehicle. If you imagine (again silently) that you are driving a vehicle, the corresponding virtual movements arise almost automatically. You control the vehicle in difficult terrain. The

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7. Using the example of a typewriter: “One who speaks, needs his/her whole body: «language». One who speaks, breathes air from the inside, circulates it in the mouth and throat, grunts and clucks, moves sound waves which creep into the ear of the other person and become a direct part of that other body. Talking is an intensive physical exchange. Sedentary at the table, merely the hand moves: «writing». Absorbent paper sucks every pen held and stores the hand movement of the person in the depth of his materiality. But one who types on a typewriter, loses his thoughts not only from the easily available body in the presence of other people, but similarly also from the emotional trifles of his own emotional worlds. If a paper is pulled out of the machine, handwriting no more indicates a blood perfused person. By means of a machine ideas, thoughts and notes are removed, separated and eliminated on paper. What was previously inside, is now out. What was previously implicit, now explicit. Liberated from felt feelings, emotional emotions, entangled entanglement. Really tough. A letter after the other. A word after the other. A sentence after the other. A paragraph after the other. One chapter after the other. One book after the other. One who would like to merely move a point or maybe a comma on such a machine: impossible. Not without leaving a trace!” (Piazzi & Seydel, 2010, pp. 28–29). In this context very important: Kittler F. A. 1985.
 8. For this I am grateful to Rolf Balgo.
 9. One can assume that animals have this feature.

corresponding movement patterns set in—steering, braking, spraying water, switching on the wipers—without you having to do it all.

The internal imagination of a computer game is similar. You jump, you fall down, you shoot. At the same time, you trigger corresponding minimal innervations of the body without wanting to do so, otherwise—this is my theory—these imaginations would not be possible. This could refer to dreams as well.

The conditions change with the computer mouse. It controls a virtual background world where nobody is found. This is more magical than magic, as the background world is empty, even though it unfolds, something moves, speaks, moves text, e-mails are sent all over the world at a speed that appears to eliminate the distance. You find no demons, ghosts or witches: the strategies of enchantment, the invocation formulae are condensed into the computer mouse—as technology.

Thus, awareness and experiencing perception change. The transcendence that was there for thousands of years disperses or—even better—can easily be forgotten. Causality fails. What remains is a release mechanism that no longer requires the background—particularly in young people whose neural system is still plastic. It is disempowered. That which is considered reality becomes virtual; it is superficial. It can only be partially differentiated from the unreal. The difference appears to collapse, at least in part.

The Swipe—A Magical Change of Dimensions

The computer mouse is still linked to the experience of a distance, a distance between the instance of release and the device that is controlled. Analogue movements and digital impulses (clicking) are connected with another agent: the keyboard. You can hear it in its click-clack; it may be quieter than the typewriter, but the sound is felt; the click-clack has been internalized. This sound is so important that it is simulated on virtual keyboards, although the soundless possibility of *swiping* has been available for some time (and is now commonplace).

However, the swipe itself alters the ingrained possibilities of perception hugely. The first heuristic step is to make sure that tactility occurs (touch-screen) in the foreground in such a way that two-dimensionality (pure surface) is used; tactility in motion, if one may put it so. The users turn into flatlanders (Abbott, 1884). Or to be more precise: The three-dimensionality of users' bodies is narrowed down to a two-dimensionality that understands neither the background nor the foreground.¹⁰

Although the eyes, ears and movements of the highly innervated finger pads are still present, the contact with the surface on which these pads move produces a change

10. However: “The two-dimensional surface is, however, already softened. Apple has introduced its latest trackpad Force Touch. I can now swipe and trigger a deeper action by a slight increase in pressure. There it is, the gateway to the ‘world behind’ in the swiping world. Hence, according to me, voice control (refer SIRI in the Apple world) appears to be more and more important for the future. Here we would have a spatialization of sequential language. I speak and then get a text on the 2D surface, which can then be blurred again. Conversely, a text is also read out and so space becomes time. I need to understand not to get lost in this world in permanent change between space and time.” I am indebted to Alexander Zock (pers. comm, Jan. 14, 2017) for this information.

of dimensions, perhaps something akin to an entanglement of conditions between space and two-dimensionality. That which starts to move with the swipe, generates again the experience of a volatile spatiality in an as-if mode. A kind of *mixture impossible* arises that is nonetheless clearly not impossible. Hence you can tentatively explore the idea that the psychic system is confronted with other conditions of perception, with the magic of a dimensional shift that, as far as I can see, has not been analyzed either phenomenologically or empirically thus far.

The further development (which is in progress) would be the introduction of neural release techniques. However this is initiated (direct reception of neuronal impulses, control by mere eye movement, etc.), it invokes the old topology of the power of thinking, and if something may seem magical, this at least does.¹¹

This is heightened, or sharpened, when you realize that many computers seem to activate themselves now. The latest example: self-driving cars, literal auto-motives.

The Form of Meaning

We have used the paradigm of *virtual movement* up to this point and have assumed that the use of new self-activating devices (or release without direct contact) alters the experience of users on an evolutionary basis. The relationship between users and devices is asymmetrically conceived: on the one hand the experiencing, conscious, sentient beings, on the other the world-less (Heidegger) machine that only acts as though it experiences. A man caresses a baby on the swiping panel, and it gives a heartwarming squeal. The man becomes teary-eyed. But the computer does not squeal with pleasure, and yet the man is touched or only pretends to be because someone stands next to him who finds his emotion sweet.

This Here and There works without problem. People are not computers, computers are not people.

Strictly speaking, however, the situation is far from being so simple because the bodies are as world-less as the machines. The spleen sprawls, the neural system does what it does, but does not know what it does (fire, trigger, etc.), the eyes look around but cannot even see their own seeing, hearing cannot hear itself either. And that what is heard and seen instead has no name without socialization. The baby does not have a sign or symbol for itself.

All of this only changes when we introduce *psychic systems* that have learned not only to see but also to perceive something specific: a naked mole rat, morels, bitters. What is striking is that it is impossible to see things without a name after this learning: the dog as a non-dog, for example. Zen Buddhists try to somehow enable the experience of this before all namings, but then they speak about it and everything is just as it was before the attempt. The consequence: psychic systems are filled with meaning. They also only know about their own body in the form of meaning. This is

11. See Freud 1956, where he—in “Animismus, Magie und Allmacht der Gedanken” (Animism, Magic, the Omnipotence of Thoughts)—developed a theory of magic that was about the “omnipotence of thoughts” and the copy of the psychological inner world to the outside world.

what is meant in German when you differentiate between *Körper und Leib*,¹² life and limb, or objective and subjective body. Leib then means the organism which cannot appear as a body (the subjective body of experience cannot be turned into an objective body). For systems theorists, meaning is the general medium of psychic and social systems. A definition of the form of meaning can initially be fixed phenomenologically: only when something definite is experienced in the context of other possibilities, does the Sinnform (form of meaning) come into play (Luhmann, 1975). Or something indefinite becomes definite when it is placed within the horizon of other possibilities.

For example, there is the word: *Supercalifragilisticexpialidocious* or in German: *Superkalifragilistikexpialigorisich*. For some people, the word has a meaning, it makes sense. But if you mention that this is an invention from the musical *Mary Poppins*, the strange expression begins to make some more sense. The precise definition in the text is given by the character Jane: “something to say when you don’t know what to say.” Now it is clear. The word makes sense by not making any sense. Some will now remember that part of the musical with amusement or will remember that science sometimes creates words of this type, if terms are missing. In the words of Goethe:

For where no concepts are
The proper word is never far.
With words a dispute can be won,
With words a system can be spun,
In words one can believe unshaken,
And from a word no iota can be taken. (Goethe, 1963: 203, 205)¹³

The form of meaning later becomes something indefinite and removed from the phenomenological description. Meaning is understood as the difference between actuality and virtuality (possibility) (Luhmann, 1988b). It gains a constructivist note thereby, through which it is transformed into a form that can be used in terms of difference theory and observation technology. The fact that virtuality appears in this difference would be a fascinating angle for further studies. But what interests us here is the swiping.

The Meaning of *Swiping*

So we know roughly what *swiping* means; to strike or steal in English and the German equivalent *wischen* can also refer to cleaning something with a cloth. But there’s no point in thinking about striking or wiping if you want to understand *swipe* as a release technology in computers. Nothing is cleaned, instead it is smeared. If you look at the German synonyms, there are words like: flitting, polishing, brushing, grooming, as

12. For difference between limb and life, see Schmitz, H. (1966, 2011). For the discursive mediation of the body and as radicalization of the sex/gender distinction above all refer to Butler, J. 1990, 1991.

13. The original English translation by Walter Kauffman has been slightly modified by Markus Heidingsfelder, who replaced *ideas* with *concepts* and *title* with *iota*.

well as bundles of straw, a warp (scrap of paper), paper pages and so forth. Meanings also exist that are closer to our topic, for example to rub gently over a surface with the hand, to move something from one place to another, to quickly and quietly move to a different place. The latter meaning is etymological: to move quickly (*wisken* in Old High German). In English, a similar horizon of meaning can be noted in English.

But this horizon is not complete. We can definitely associate computers and a corresponding release technology with the word. Some of the above-listed synonyms fit in this context. What is missing, however, is the horizon of meaning of *tablet*, taken here as a *pars pro toto* (“a part taken as representative of the whole”), for all swipe-enabled computers.

The sense-paramount for ‘tablet’ is noteworthy. First, we are led into the realm of medicine. Tablet is a synonym of pill. It is not a matter of priority for our topic, but nonetheless associated with the healthy/sick schema. It may become the main focus, if someone says: “Go away with the thing, just throw it out the window ... it makes me sick when I see you with it in your hand all day long!” Response: “Old man ... You’re really sick in the head and way behind the times! Just take your sedatives!” – “Just swallow the drug ... I hope, you crash into a lamp post!”

Of the remaining synonyms, we shall select only the following: memorial plaque, board, tablet, block.¹⁴ Be it thin or thick, small or large, they refer to a block-like shape, block shapedness. It appears that these words describe the appearance of an electronic tablet. On the other hand, it is widely known that the focus here is on the meaning of *writing tablet* (USA - *notepad*).

It also seems to be about writing and writing as memory technology. Again, Goethe provides an ironic metaphor: “For what we possess black on white, we can take home and keep for good.” (Goethe, 1963, p. 202) He believes that you don’t have to think anymore yourself if you have books. Plato would have heartily agreed with this, because it corresponds to his famous criticism of writing that marks the beginning of the Western theory of writing.

However: what does a tablet or swiping have to do with writing? Such devices have virtual keyboards, with which you can actually write, but swiping cannot be considered as writing. This technology is consistent in many respects with the technology of the computer mouse.

When you reach this point, meaning seems to conceal itself. A kind of crack in the meaning arises which expands as we observe that the term *swipe* is indeed related to writing boards, but temporally inversely so, so to speak, as blackboards were wiped after use with a damp sponge. This process emerges from the synonyms of *swipe*: clean, brush, clean surfaces for reuse, in short: delete.

With the exception of blackboards very few historical models can be found for this process. But at least one example is very well known.

14. Closer to the topic are synonyms such as *log* or *ingot*, but again only closer.

The Magic of the Mystic Writing Pad

We are talking about a toy that some readers are already familiar with. It is called a *Wunderblock* in German and has been—not particularly well—translated into English as a magic or mystic writing pad, although *pad* works very well with our topic. Sigmund Freud wrote a very famous text entitled: *A Note Upon the Mystic Writing Pad*, in which he considers this pad to be a metaphor for the memorylessness (*Gedächtnislosigkeit*) of perception and awareness (Freud, 1924; see also Derrida, 1989).

This toy can be simply described as follows: There is a sheet of cardboard plate enclosed in a frame on which the entire thing is based. Let's assume that this sheet is black. Directly above it is another flexible or plastic sheet, for example red in color, which completely covers the lower sheet. Above this there is a transparent film, on which you can write or draw with a pen (without cartridge), as this pen pushes the plastic color to one side and thus makes the bottom sheet visible, not completely, but in such a way that lines, rulings, hatching, and so forth become visible (white on red in this case). There is nothing magical or miraculous about this.

This aspect comes into play as follows (and namely to the astonishment of children): on one side of the Mystic Pad, there is a slider that can be pushed forward and back over the upper colored layer. Due to its plasticine-like nature, this smooths it out and everything that was marked or written disappears. Moreover, it cannot be restored; it is lost forever. You have to start again and the next time you push and pull the slider (equivalent to swiping), everything that was new is erased again and irretrievable. No traces can be found. And what's also special about it is that the pen cannot write on paper, not like chalk on a blackboard. The loss is irrevocable. This is indeed a magic stick.

For the scientific observer, the metaphor of the Mystic Pad refers to *memory loss*. This pad has no memory, no more than the perception that arises from one moment to the moment but cannot be fixed. Perception is incapable of perceiving itself, let alone putting itself into a re-accessible state. Even a thought passes. You cannot call it back again. It is never the same one. But some trace must nevertheless be understood, even in the case of the Mystic Pad?

Yes, the consequences of the use of the pen (pressure) on the lowest level, on the cardboard sheet, can be considered as a trace. Over time, indentations, bumps and grooves form, in short: traces are formed, but they are not legible. They are form as illegible, randomly bound patterns without meaning. They occur involuntarily and only become apparent when the Mystic Pad is illuminated or destroyed. The point, however, is that the more it is used, the magic stick not only produces these indentations, but is itself guided by these bumps in a way that is barely noticeable to the human hand. The walls of the house drawn by a child are no longer perpendicular. They look shaky, as though the child suffered from a slight tremor in its fingers. For me (and from a didactic perspective), this is one of the most beautiful images for

reciprocal structural determination, or to use George Spencer Brown's term, for *conditioned coproduction* (Spencer-Brown, 1995).¹⁵

The question here is, what can be learned through swiping?

Swiping—As Seen From the Context of the Magical Pad

For the next few considerations, it is important that we focus on swiping as an activity of the hand or fingers. It is not about the “inner life” of a tablet, but about the fact that it offers a sensitive surface that responds sensitively to certain movements. The hand represents the magic pen. As already noted, swiping does not write or read. As an activity, it does not have a memory of its own movements. None of them can be repeated identically. That this activity has been carried out many times by someone, does not alter the fact that it is never the same. It is self-similar; you could say it exercises a pattern, it is redundant. But points in time do not stand still. They leave the places—spaces—unobservable (Luhmann, 2000).

On the face of it, this does not change the fact that swiping establishes order: **It** pushes small pictures back and forth, drags rows and lines across the screen, it opens and swipes new images in the window back and forth together with their captions. You could say: it generates and transforms orders that are not produced from the swiping itself. This is done by a computer that projects all these movements, openings, and so forth like a servant who obeys a subject, that also controls the fingers and can also read what flashes up on the screen or what is swiped on the screen sensorially and thus transfers or saves it to an imaginary space outside.

However, this cascade of metaphors can disturb theoretically oriented people considerably. The disturbing factor is the *subject-model*, which suggests a core underlying all psychic operations. *Subject* (*hypokeimenon* in Greek) means the underlying basic factor, the controlling core, the instigator of all arrangements, the instance that acts and controls of its own accord. This idea has long become obsolete. Not only is God dead, as Nietzsche said, but above all the subject.¹⁶ Goethe puts it in a nutshell: “And you are shoved, though you may think you shove” (Goethe, 1963, p. 379).

But we ignore the philosophical tradition here and refer instead to cybernetics, which allows circular causalities and rejects the dualism of the Western tradition.¹⁷ This thesis is hardly defensible in everyday life, dualism remains widespread. In dualism, someone wipes—and the symbols follow. The subject determines what happens, and what happens, as it were, happens in a *Handstreich* (at the stroke of the hand), and can therefore be understood as magical. If one wants to avoid this figure, one has to reverse it, so that the swiping determines the shape of the swipe—and not

15. Also see Spencer-Brown (1997, p. ix): “The entire text of the Laws may be reduced to a principle which could be recorded as follows. Canon zero (coproduction): What is a thing, and what it is not, are, in the form, identically equal.”

16. The subject as *mere blind*, as Schelling formulates (1998, see p. 29).

17. Here also belongs the *law of requisite variety*. It states that a regulator must be able to adopt the same states like the system that it regulates. See Ashby (1985).

the subject. More precisely: The swiping determines the possible moves, therefore enchanting the subject. Magical from our perspective, then, is the idea that what can be swiped—the symbols, and so forth—constitute the very form of swiping; conditioned coproduction or structural coupling as usual. It would be similar, if the tablet screen would be able to retain “bumps” from the force of touch that controls the movement of the fingers. Another example: The keyboard of my computer is littered with tobacco flakes. I now have to hit some keys five times to get a particular character to appear on the screen. It feels as though a magician is limiting my time so that I work less.

Coda

Many more questions can arise, for example, about the role played by swiping and similar techniques in social systems. How will interaction change, for example organization or society? What happens (and it is happening right now) if the experience of magic is forgotten because we no longer need to remember it, what happens if you can suddenly swipe a blackboard and nobody is surprised that the form of magic is repeated in the process? Is progress possible through all of this? An epochal break?

As a researcher, I do not entertain any progress mythologies. They have shown themselves fruitful since Darwin’s time. What happens is always subject to chance. Niklas Luhmann always tended to sober people who are too focused on progress with the remark that everything is getting both better and worse at the same time. And I would like to add: You can seldom know what is worse and what is better. Moreover, both adjectives are in the comparative. The “worse or better than WHAT?” is missing.

There is no doubt that computer technology has changed many things, simplified a lot and (to say it with systems theory) reduced complexity. On the other hand, complexity does not disappear in the face of time. It only shifts and goes elsewhere. Problems that are solved create other problems elsewhere. Sometimes old solution patterns are revitalized when modern solutions develop their own game. The question at stake here was whether the new technology would not result in the old technology of magic making an invisible reappearance in the precise paradoxical understanding.

Answer: It would seem so.

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