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Zeitschrift für Medien- und Kulturforschung

FOCUS Producing Places

Contributions by

Weihong Bao, Jimena Canales, Michael Cuntz, Iris Därmann,
Laura Frahm, Li Lishui, Ulrich Meurer, Andrew Pickering,
Ben Robinson, Ludger Schwarte

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Editorial

PRODUCING PLACES is a twofold topic. It can refer to places as sites that produce something, that are productive, that have operations unfold, or actions happen, or objects emerge. Or it can refer to the fabrication of places as specific entities themselves. With the extended availability and practicability of digital positioning, locating, and tracking systems, it has become evident that places are not just there, but that they are generated, that they are subject to media-technological operations and effects. Nonetheless, and at the same time, the aspect of places as being productive has also attracted considerable attention. Furthermore, in either perspective, a media-theoretical challenge has come up. It invests two different threads within the realm of conceptualizing not only space, but precisely place under conditions of media, both of them leading way back into the evolution of media societies and cultural technologies.

One of the most central assumptions of media theory looks upon every place or site as being a production site. According to this concept, places in their specificity and their qualities do have impacts on what is going on or what is to be found in those places—and vice versa. Hence, place and operation, or even action, are related in a way that ascribes to the place, in which an operation, an action, or production takes place—including the production of thoughts—a certain participation in the action or reflection that takes place in this very place. The production place of whatever product cooperates in the processes of production; hence it has a certain agency. Specific sites, or places, and their material qualities and spatial structures, put actions under conditions, they evoke specific actions to produce or at least make certain actions probable. Places are the conditions under which they put the world—in short, they are media. And as such, they are—to return to the first dimension of the twofold topic of producing places mentioned above—fabricated themselves, they are not only active in production, but subject to production. This theorem is widespread within media theory, e.g. it is to be found in the core of the key concept of the *dispositif* such as it has been developed by Baudry, Foucault, and Deleuze, or in the research on laboratories and laboratory work in science and technology studies (STS), or in modern debates on public spheres and political architecture.

But the theorem of an actively productive place can be traced back far beyond media theory: referring to the creative work of a human brain and body, Georg Christoph Lichtenberg noted that a large part of our ideas depends on the position

of what he calls the sitting room (*Stube*). The room clearly belonging to the realm of Cartesian *res extensa*, the idea belonging to *res cogitans*, Lichtenberg has the latter depend on the former, thus entangling them irreducibly, very much in the sense that recent media theory is directed to. Moreover, rooms have material qualities; they are not empty spaces or just geometrically located, measurable quantitative entities, but they are specific. Lichtenberg relates these qualities to those of the human bodies on the one hand and to the position of the respective room in the house on the other (and one could extend this to the position of the house in a city, in a landscape, and so on). And conversely, they are characterized by the position that they assign to the different objects in the room as well as by the objects obtaining places, and their material qualities themselves. Placing, hence, means relating (and hence placing) places, it seems. Lichtenberg's sitting room as the material medium in which the action of producing ideas takes place is not so much a mathematical (geometrical and arithmetical) entity, but a physical, and maybe even psychological one.

In some theories, such as in Michel Serres, and in Michel de Certeau, the idea of a creative place linked to human action, interaction, and experience productively relating the human and the world (e.g. the active consumer in the case of de Certeau, the traditional farmer or the walking *randonneur* in the case of Michel Serres) is opposed to the concept of space as an abstract, geometrical, neutral, and strategic construction. It is precisely at that point that the concept of a place producing something collides with another important concept in media theory, which is the concept of the address. Like the concept of a producing place, this second concept breaks away from the traditional Euclidean idea of space as an empty and neutral container of subjects, objects, movements, and actions. But unlike the former one, it does not contrast the abstract mathematical space and the qualitative place of experience, but, quite the opposite, conceives of places as numerically and hence digitally identifiable points and their relations. In this view, the dissolution of a coherent and always semanticized space as it is subject to human experience seems to be one of the most remarkable effects of media technologies, from cartography to the Global Positioning System, and from the postal system to cell phone numbers, IP addresses, and random access memories in computer hardware. According to such an understanding, there is no such thing as a place having qualities, or maybe having space; there are only discrete spots on the one hand, and operations which connect them on the other. Addresses are numerically identifiable points that no longer form a consistent and stable space or are to be located in one coherent space, but which are eventually and occasionally interrelated by more or less indexical (instead of symbolical) operations; by technical means of contact, coordination, and causation; by movement, by means of transportation of goods and bodies or transfer of signals and information. All that is

needed to identify, to activate, and to describe a spot or point is its alphanumeric address, beyond semantics and psychology.

Where Lichtenberg's concept of place secretly implied a human subject, the writer, in its very center, modern media seemingly lead beyond those anthropocentric categories mostly by means of mathematization and digitization. And this process has productive impacts and effects, too; it also relates place and production, for instance, in terms of control, and of circulation of information or knowledge, as Deleuze has shown in his concept of control societies as contrasted to disciplinary societies. Like the first concept of place as a qualitative category, this second one conceives of place as an active factor in making things possible. Going deeper into the tensions and relations of these two differing theorems about producing places—starting with the understanding of places as production sites— one way to merge them would be to detach the idea of the productive place having agency and taking part in the production of whatever emerges in that place from anthropocentric assumptions simply by stating that even the human is always being produced by—among other agents, forces, or agencies—a place. This assumption is even supported widely by modern philosophical anthropology. But still it is not clear how such an entity like a place in the aforementioned sense should be possible and should be produced within a universe of individually addressable spots. The question remains how—according to media theory, which ascribes such an importance to the place on the one hand, and on the other hand by conceiving of a completely discrete, mathematized non-space of isolated and individually recombined addresses undermines the concept of place—the notion of producing places is to be thought of. The perspective for a solution, as often, already lies within the question. As we have seen, producing places does not only—and not even in the first place—mean places which produce or participate in production of actions, thoughts, objects, and subjects, but the actions and operations, the objects and subjects, by which and through which places themselves are being produced and reproduced. By which means, and by which operations or actions, or by which supervening effects is it that from any space, be it continuous or discrete, Euclidean or not, places with all their specificities and qualities are being made up or emerge?

If one examines the types of operations which create places as specific entities, which in turn give way to specific types of actions to take place or objects to reside, which in turn participate in the reproduction of that very place, one comes to the point of discerning two basic types of such operations. The first type would be the operation of distinction. A distinct place presupposes operations of distinction (in space). The production of a place, and hence its definition, starts with its delimitation, at its borders. This holds true from very basic forms like plowing a rectangle into the soil to mark off a sacred place distinct from its surroundings, such as in

the case of ancient Rome, to all kinds of aesthetic operations of framing and cadrage. Drawing borders and setting up limitations is an overall operation from politics and law to fashion design and TV programming. In architecture, erecting walls would be a basic distinctive operation, which leads to the generation and specification of places. In semantics, as in logic, the basic operation of definition is an abstract operation of limitation, as are all kinds of articulation in the literal sense of the word. According to Spencer-Brown's topological ontology, drawing a distinction is the basic operation that immediately leads to the creation of physically or logically determined places, and the same could be said about Deleuze/Guattari's concept of striated space. Operations of distinction lead to differences between inside and outside, inclusion and exclusion, and they can be repeated in order to give inner structure to a place. Of course, the operation of distinction also gives way to its inversion, recursion, iteration, and reflection or its destruction as well, such as in deleting fringes or in crossing borders. The operation of distinction is basically a binary one, leading to logics of either/or, and/or distinctions. Places of distinction hence always operate the difference of identity and difference. We can conceive of those places as comprehending the most different kinds of beings or doings, whether they have much in common or not, by just sharing the being in that place.

The second type of place producing operations, in contrast to the first type, is based on a logic of more/less relations. It can be characterized as comprehending all operations of coupling. In this understanding, a place emerges from the relations and operations of relating, referring, touching, attracting, causing, and affecting between either entities or actions and operations, which intersect or cross each other in very different ways. In this case, a place, instead of being preexistent to whatever happens or is produced in that place, emerges from the operations and objects that it allows for. It is not necessarily stable in space. Very much in this sense, the sacred place in the biblical tradition, unlike that in the Roman one, the place where God resides, is right in the middle of the believers. Here the Heideggerian concept of *Being-with* (*Mitsein*) comes into play. In this type of place production it is the assembling of people, of objects, or of operations which constitutes a place in the first place. Thus a market place (which in the age of digital transactions of products has ceased to be a geographical or physical entity) can be described as constituted by the assembly of exchange operations. If the place has borders, they are accidental, and blurred, for instance, as in the case of a human crowd, the market, but also a galaxy in outer space, deriving from the continuously diminishing force of attraction or gravity or intensity in general. In this sense, pictures were to be understood as couplings, as in Flusser's concept of computation, or as fields of intensity. As we learn from Fritz Heider and Niklas Luhmann, couplings can be firmer or looser, so that not only the distinction of media and things—or place

and object—but, as a consequence, also the distinction of object and operation becomes a relative and transient one, very much like the one between place and space, place and non-place.

It is quite clear that these two types of place-generating operations are inter-related in their turn. The operation of differentiation is not possible without decoupling of the formerly coherent and without a certain momentum of touch and tactility, as the operation of coupling requires distinct entities or operations, which are subject to the operation of coupling. The example of recent positioning and navigation technologies illustrates the interrelation of the two types very clearly. The question remains, though, as to how we could ascribe a place to such entities and operations, which do not interrelate, positively or negatively, and which do not touch each other, cross each other, affect each other, or attach to each other. Are there places that are being produced not via coupling, be it firm or loose, nor via distinction of identity and difference, but via an otherness, which doesn't even allow for comparison nor for contact? Are there places of and for objects and operations that do not share anything with other entities, which are unable to inhabit the same place? And, if so, would such a place still fall under the concept of producing places in the double meaning mentioned initially? Wouldn't it rather, instead of being productive, have no impact and no effect whatsoever, and wouldn't it insofar figure as a mere and pure place residing in itself, a sheer place of being? And if so, wouldn't we have to concede that such a place cannot be produced, but just arrive? The question is very relevant philosophically, but it is also of notable practical relevance as far as media cultures and places of media and in media are concerned. Different media, serving as tools of distinction and coupling, produce different places in diverse manners—but do they cooperate in placing operations, do they share places at all, do they even have places? In McLuhan, we find the metaphor of two galaxies (i.e. media cultures and media universes) crossing each other on their way through outer space without interference, without touching, without even contacting or affecting each other in the slightest way. Does this take place? Do they, and does their non-encounter, inhabit one place at all? How could we conceive of such a place? Do non-interference and disentanglement, and do refraining and abstaining from productivity and operativity have a sitting room?

Weimar, February 2014

The Editors

Einstein's Discourse Networks

Jimena Canales

»[Physical objects] are like broadcasting stations that send out signals which we can receive.«

Arthur Eddington, 1932.

»Light brings us the news of the Universe.«

William Bragg, 1933.

TO CONVINCING A SKEPTICAL COLLEAGUE about the merits of his work, Albert Einstein explained that he had developed a new way of understanding »the propagation of an influence that could, for example, be used for sending an arbitrary signal.«¹ Why was Einstein writing about »arbitrary signals«? How could this particular understanding of »signals« impact a work known for revolutionizing modern science?

Einstein's theory of relativity changed our understanding about the nature of time and space by first tackling the concept of simultaneity. The physicist showed that an event that was simultaneous for one observer would not be for one moving at a constant speed relative to that observer. Newtonian physics, with its concept of absolute time, was based on principles of immediate »action at a distance,« but Einstein noticed that the concept of absolute simultaneity neglected to account for the transmission times that led an observer to ascertain the simultaneity of distant events. »There is no such thing as simultaneity of distant events; consequently there is also no such thing as immediate action at a distance in the sense of Newtonian mechanics,« he explained.² Since then, historians have disclosed immediate »action at a distance« to be somewhat of a clever metaphysical trick: the culmination of Newton's successful attempts at *imitatio Dei*, sustained by a hidden global »informa-

¹ Albert Einstein to Wilhelm Wien, August 26, 1907, Bern, in: Albert Einstein: The Collected Papers of Albert Einstein, vol. 5, Princeton 1987, pp. 40–41: 40. (All translations from German and French sources are mine if not otherwise designated.)

² Albert Einstein: Autobiographical Notes, in: Albert Einstein: Philosopher-Scientist, edited by Paul Arthur Schilpp, La Salle 1949, p. 61.

tion order« of Jesuit, slave-trading and commercial networks that permitted physical laws to appear as emerging from nowhere and being valid everywhere.³ The demise of the Newtonian framework affected fields far beyond science, as immediate »action at a distance« came to represent faulty reasoning more generally. As the historian Simon Schaffer explains: »Immediate action at a distance is plausible neither as a historical nor sociological principle.«⁴

If an account of the »information order« of the late seventeenth century shows how global networks of travel, trade, and empire sustained the immediate »action at a distance« forces of Newtonian cosmology, how are we to understand the different networks of the Einsteinian universe—ones no longer based on forces acting immediately at a distance but on their opposite? What »plausible« methodological tools can help us understand them?

Einstein's theory of relativity (1905) was published at a time of key changes in the »discourse network« of the Second Industrial Revolution. Friedrich Kittler has aptly detailed how these changes affected literature and modern culture. How did they affect theoretical science?

In what follows I will introduce a classic case from science into the »discourse network« circa 1900. A discourse network approach permits us to consider scientists as working with language and artifacts as much as with the empirical world, and constituted by them, while at the same time it helps us reflect on the use of evidentiary standards and categories of analysis beyond science, in historical and sociological accounts, for example.

1. »Voluntary-arbitrary« signals and the »universal constant c .«

How did Einstein's work fit within the discourse network of his era? Einstein, and before him Poincaré, relied on a thought experiment based on synchronizing clocks via light signals. This experiment played such a »central role« in his famous 1905 paper that scholars refer to it as the »light signaling protocol.«⁵

³ Simon Schaffer: *Newton on the Beach. The Information Order of Principia Mathematica*, in: *History of Science* 47/3 (2009), pp. 243–276.

⁴ *Ibid.*, p. 245.

⁵ Cf. Galina Granek: *Poincaré's Light Signaling and Clock Synchronization Thought Experiment and its Possible Inspiration to Einstein*, in: *Albert Einstein Century International Conference*, edited by J.-M. Alimi and A. Füzfa, (American Institute of Physics Publishers), Melville 2006. John Norton attests to the »pervasiveness of this analysis in later writings« in: John D. Norton: *Einstein's Investigations of Galilean Covariant Electrodynamics prior to 1905*, in: *Archive for History of Exact Sciences* 59 (2004), p. 92.

When Einstein's paper appeared in print, it failed to raise more than a few eyebrows. But its fate started to change soon thereafter. In 1907 Einstein introduced some essential modifications that helped its transformation into »arguably the most famous scientific paper in history.«⁶ When he made these changes, he separated his own contributions from the work of Hendrik Lorentz, who up to then was considered by Einstein and by others as a co-author of relativity theory.⁷ Instead of referring to the »Einstein-Lorentz theory« as he had previously done, he now referred separately to »the H.A. Lorentz theory and the principle of relativity.«⁸ What new additions did he introduce marking this significant distinction?

Although the finite speed of light had been noted since the 17th century, scientists up to Einstein believed that certain signals could also convey information instantaneously. The setting of the sun *signaled* the onset of nighttime; the North Star *signaled* a ship's direction. In these cases, the event and the event signaled were simultaneous. Gravitational effects, occurring across tremendous astronomical distances, were largely considered to be instantaneous. No transmission velocity needed to be considered. Examples of instantaneous signals invalidated all of Einstein's momentous predictions about the relativity of simultaneity and of time. What could Einstein do to save his theory?

The definition of time and simultaneity which he used in his paper, he explained to his colleague Wilhelm Wien, was right *if* the time signals he described in it were understood in a specific way, not as any kind of signals but as *communication* signals. The »light signals« he referred to in his work, he explained, were actually »electromagnetic influences« that could be »one-time« and »voluntary« and that could »for example, be used for sending an arbitrary signal.«⁹ For this particular reason they had a finite velocity. The importance of the »light signaling protocol« for understanding time and space in the universe became clear only after it was understood in this way.¹⁰

⁶ Dennis Overbye: *Einstein in Love*, New York 2000, p. 135.

⁷ For a careful historical study of Einstein's particular contributions to relativity see Richard Staley: *Einstein's Generation. The Origins of the Relativity Revolution*, Chicago 2008; Richard Staley: *On the Histories of Relativity. The Propagation and Elaboration of Relativity in Participant Histories in Germany, 1905-1911*, in: *Isis* 89 (1998), pp. 263-299.

⁸ Albert Einstein: *Über das Relativitätsprinzip und die aus demselben gezogenen Folgerungen*, in: *Jahrbuch der Radioaktivität und Elektronik* 4 (1907), pp. 411-462: §1.

⁹ Albert Einstein: *Sending an arbitrary signal*, in: *Einstein to Wien, August 26, 1907*, Bern (as note 1). »Let A be a point from which electromagnetic influence can emanate, and B a point in which the influence emanating from A be perceived.« (Ibid.)

¹⁰ This modification explains why the »light signaling protocol« seems to have played only a scant role in Einstein's research leading up to his 1905 paper, but appears pervasively afterwards. John Norton attests to the »pervasiveness of this analysis in later writings« in

2. From »Lichtzeichen« to »Lichtsignale«

In his »annus mirabilis« 1905 publication, Einstein initially used no less than three terms to describe the transmission of light: Lichtstrahl (light ray), Lichtzeichen (light signs) and Lichtsignale (light signals). He later struggled to refine his terminology, sometimes using the term »signal,« other times »sign,« and creating new terms by hyphenating or concatenating words (as is usual in German), such as »sign-effect« and »arbitrary-voluntary signaling.« By the summer of 1907, he was much clearer. He settled on the term »signal,« which he understood in a specific way. When he defined the term »signal« in distinction to the other terms, he became increasingly confident of the validity of his own interpretation of the theory and its universal implications. He underscored a key difference between his conception and that of Lorentz. He defined a »signal« as a type of causal transmission that could not surpass the speed of light. A »sign,« in contrast, could not be adequately understood in terms of cause and effect with propagation velocities and transmission speeds. While the concept of »sign« was pertinent in a world defined by print *before* electrodynamic technologies, that of »signal« gained importance in the new era of electrodynamic telecommunications that would characterize the 20th century.

During these years, Einstein was struggling for a word that would fill the space between »the observer in A sends« and »to the observer in B.« What, exactly, does »the observer« send? The answer had to satisfy the rules of electrodynamic transmission to be sure, but it would also determine if Einstein's work could actually revolutionize general notions of time and space. Einstein at times used the term »sign-effect« (»Wirkung Zeichen«), but he started to clarify the meaning of this term depending on how it related to the speed of light. The speed of light could only be considered as an unsurpassable velocity in the case of »arbitrary-voluntary signaling« (»willkürliche Signalgebung«). In this case, it would be equal to the value of »a universal constant c .« Einstein explained that there was nothing »illogical« in thinking about instantaneous transmission, but he was confident enough to state that it did not occur in practice in terms of the »spreading of an effect« with »causal« consequences through a »material strip« (*Materialstreifen*). Einstein was finally clear: »A universal constant c « should be understood by reference to this new complex assemblage.¹¹

Some readers were shocked to see a »universal constant c « defined by reference

Norton: Einstein's Investigations of Galilean Covariant Electrodynamics prior to 1905 (as note 5), p. 92.

¹¹ Einstein: Über das Relativitätsprinzip und die aus demselben gezogenen Folgerungen (as note 8), §5.

to signaling techniques used for transferring messages. The mathematician Alfred N. Whitehead was one of many other thinkers of the period who thought of Einstein's work in terms of the transmission of messages. »Signal-theory« is what »we will call it,« he wrote, after he heard the astronomer Arthur Eddington's presentation of new evidence in favor of the physicist's work breaking into headline news.¹² Whitehead placed Einstein's conclusions about light »signaling« within a much larger and varied set of communication and transportation practices. When evaluating the theory, he stressed the role of other messaging technologies which he saw around him, reminding readers that »there is the transmission of material bodies, the transmission of sound, the transmission of waves and ripples in the surface of water, the transmission of nerve extension through the body and innumerable other forms which enter into habitual experience.« His verdict and critique of Einstein's was clear: »The transmission of light is only one from among many« ways of sending »physical messages from place to place.«¹³ Sir Oliver Lodge, one of the most important scientists to work on telegraphy and wireless, similarly understood it in terms of information transfer. He opposed Einstein's theory as necessary for changing the understanding of time, space, and the universe: »It is true that these [light] waves are *among our methods of receiving and conveying information*; but too much attention may be paid to the mere reception of information.«¹⁴ Many other scientists understood Einstein's work as a treatise detailing new signaling possibilities.

How did Einstein's investigations fit within the new discourse network of global telecommunications? Why was Einstein discussing back-and-forth bouncing light in the first place? Since ancient times, people at a distance communicated across distances by using torches.¹⁵ Code systems were later developed for maritime and military communications. The semaphore, primarily a military technology, was used in the 18th century to send all the letters of the alphabet as well as numbers across long distances. With the development of telegraphy, these complex sign systems were reduced to simple dots and dashes that were eventually codified as the Morse telegraph system. By the time Einstein authored his paper, light signals were optical (from torches to semaphores), electrical (telegraphs), and electromagnetic (wireless).

¹² Alfred North Whitehead: *An Enquiry Concerning the Principles of Natural Knowledge*, Cambridge 1919, p. 53. See Jimena Canales: *A Science of Signals: Einstein, Inertia and the Postal System*, in: *Thresholds* 39 (2011), p. 12–23.

¹³ *Ibid.*, p. 54.

¹⁴ Oliver Lodge: *The Geometrization of Physics, and its Supposed Basis on the Michelson-Morley Experiment*, in: *Nature* 106/2677 (1921), pp. 795–800: 800.

¹⁵ Charles Mugler: *La lumière et la vision dans la poésie grecque*, in: *Revue des Études Grecques* 73 (1960), pp. 40–72.

3. WWI

Up to the end of WWI, light signaling technologies concerned physicists as much as the military. How could men with a scientific background contribute to the war effort? The physicist Joseph S. Ames, professor of physics at Johns Hopkins University, had a clear answer. They could work on light signaling technologies. Physicists, he argued, were the »obvious« experts in certain kinds of communication technologies and therefore essential during the war: »But consider a problem like this: to devise a light signal, which can be used by day or by night, and which will be absolutely invisible to the enemy. Who can solve that? The answer is obvious: only a physicist.«¹⁶

Innovations in telecommunications proliferated during the war. Commanders in Europe quickly lobbied to increase the supply of triode vacuum tubes (until then manufactured in bulk only in the U.S.) so that they could use them for military wireless.¹⁷ A few years before the Great War exploded, count Alfred von Schlieffen, one of the most successful military strategists of all time, explained how light-based technologies were completely changing how war was waged. »Electrifying words« sent by generals through telegraph wires sent chills across the troops that rivaled those of actual bullets. Von Schlieffen explained that with the aid of new electrodynamic technologies, »the general will be situated farther back, in a building with roomy offices, where cable and wireless telegraphs, telephone and signal apparatus are at hand.... There is a comfortable chair behind his big desk, the modern Alexander has the entire battlefield before him, from there he telegraphs *electrifying words*.«¹⁸

Light-based technologies for communication changed the hierarchy between leaders, no longer at the fronts, and the soldier or militant who manned a weapon, becoming an indispensable tool for expanding chains of delegation.

¹⁶ J. S. Ames: The Trained Man of Science in the War, in: *Science* 48/1243 (1918), pp. 401-410: 403.

¹⁷ Lewis S. Feuer: *Einstein and the Generations of Science*, New York 1974, p. 214.

¹⁸ Cited in: Bernhard Siegert: *Relays. Literature as an Epoch of the Postal System*, Stanford 1999, p. 189. (Italics mine.)

4. Light standards and »alle sonstigen Dinge«

»One is struck by the fact that the theory« of special relativity, explained Einstein, »introduces two kinds of physical things, i.e., (1) rulers and clocks [Maßstäbe und Uhren], (2) all other things [alle sonstigen Dinge].«¹⁹ The difference between measuring devices and »all other things« was due to their connection to light signals. In his study of measurement standards, the philosopher and historian of science Robert Crease has explained how the establishment of light-based standards created a situation where light could »no longer be measurable« becoming »the ruler, not the ruled.«²⁰ Light-based standards permitted the very foundations of science to be considered as lying outside of history: »For the first time in history, if all basic standards were somehow lost, they could be recovered and the world would have exactly the same measurement standards as before.«²¹ Light signals, in Einstein's work, were treated as different from »all other things.« This particular characteristic of the discourse network circa 1900 undergirded the notion of theoretical science characteristic of this period, one that clearly separated science from any mundane connections, including military ones. But light signals only appeared as different from »all other things« in the decade before WWI.

Measurements of time and space based on »light signals« held a privileged status in science and culture well beyond the end of the century. In the 1970s, Léon Brillouin, who had started his career working at the Signal Corps during WWI, described how further advances on the theory of relativity were hampered by difficulties determining the constancy of the speed of light given that time and length were *both* defined using light waves: »The unit of length is based on the spectral line of krypton-86 [...] and the unit of time is based on the frequency of a spectral line of cesium [...] Hence the same physical phenomenon, a spectral line, is used for two different definitions: length and time.«²² Under this system, any change in the velocity of light which affected a spectral line would go undetected because the changes would cancel out (when length was divided by time): »It should be stated, once and for all, whether a spectral line should be used to define a frequency or a wavelength, but not both!« he wrote with complete exasperation.²³

¹⁹ Einstein: Autobiographical Notes (as note 2), p. 59.

²⁰ Robert P. Crease: *World in the Balance: The Historic Quest for an Absolute System of Measurement*, New York 2011, p. 215. Ludwig Wittgenstein in the *Philosophical Investigations* famously stated how: »There is one thing of which one can say neither that it is one meter long, nor that it is not one meter long, and that is the standard metre in Paris.« in: Ludwig Wittgenstein: *Philosophical Investigations*, Oxford 1958, p. 24, §50.

²¹ Crease: *World in Balance* (as note 20), p. 215.

²² Léon Brillouin: *Relativity Reexamined*, New York 1970, p. 5.

²³ *Ibid.*

Since length and time were both defined through light waves, scientists had no other standards against which they could measure the velocity of the waves themselves. Brillouin protested that »with the legal definitions of length and time it seems rather difficult to check experimentally« some of the claims of relativity theory. But instead of blaming Einstein for this problem, Brillouin blamed metrologists: »This raises a very real problem of metrology.«²⁴

5. The exceptionalism of light signals

How did »light signals« acquire this special status and what were the consequences? The exceptionalism of light in modern science furthered the Enlightenment idea that communication could be clearly separated from the *means* of communication, even when it was sustained by technologies devised for military purposes.

In one of his first important works on the theory of relativity, Eddington described Einstein's rules of the transmission of »light signals« as an »ultimatum« reaching the »ruler of the country,« who would then immediately act on this information.²⁵ But soon, sending and receiving light signals would no longer be a matter belonging solely to the state and the military (which at first employed astronomers for determining time and longitude and meteorologists to send news about the weather)—it was nearly everyone. Einstein's investigations into »light signals« were thus not simply investigations into military signaling technologies. They were *theoretical* investigations which led to knowledge about the nature of the universe in a different way than the practical investigations that could lead to action, military or otherwise.

Commanders during WWI developed the method of »sound ranging« based on comparing the timing of an actual explosion, the time it was set in motion, and when the explosion was heard. Because of the finite speed of sound, the »location of the gun« could be determined »by means of a system of triangulation« in order to strike back at the enemy.²⁶ »Sound-ranging« was extremely complicated as it was affected by myriad environmental factors, including weather-related wind patterns. For this reason, it was complemented with visual evidence, leading scientists to take into consideration the different speeds of explosions, their sound (»boom« or »bang«), and their light (»flash«) as a matter of course. The practice of

²⁴ Ibid.

²⁵ Arthur Stanley Eddington: *Space, Time, and Gravitation. An Outline of the General Relativity Theory* (1920), Cambridge 1987, p. 52.

²⁶ Ames: *The Trained Man of Science in the War* (as note 16).

comparing the sound signals of ejection, trajectory, and explosion against the visual light signals of the firing and explosion became standard in WWI.

Before being assassinated by right-wing militias, Germany's foreign minister Walther Rathenau asked Einstein what would happen if instead of thinking about relativity in terms of light signals one thought of it in terms of an assassin throwing a stick of dynamite on a train carrying the czar of Russia. »What startles the czar twice, is only a single matter for the assassin,« he concluded.²⁷ Rathenau was wrong: Einstein's work showed that a different logic applied to light signals than to vehicles and bullets. The theory of relativity revealed how two flashes of light would appear simultaneous to an observer standing midway between them but they would appear as sequential for one moving at a different speed. Were they actually simultaneous or not? According to Einstein's formulation of the relativity of simultaneity, they were both. The result appeared paradoxical to many, including Rathenau, who were accustomed to thinking of light flashes in terms of actual explosions. But Einstein had shown that light flashes had a unique quality in that they, and only they, traveled at constant speeds in the absence of a gravitational field. For this reason, their effects were distincter than if one were dealing with the transmission of other things, such as a stick of dynamite.

»Your illustration of the two flashes of lightning and the train really gripped me here (incidentally, I turn it into two dynamite explosions and a czar train),« wrote Rathenau to Einstein.²⁸ Rathenau was hardly the only one mesmerized by the new theory during those years. Einstein had by then already published his popular version, a text populated with famous examples of trains and light flashes. Part of readers' bewilderment towards Einstein's account stemmed from how the transmission of light signals did not fit with the usual understanding of other forms of transmission, including that of actual objects, which included those designed for producing violent acts.

Rathenau wondered how Einstein's work fit or did not fit with conventional wisdom about artillery and explosions. Commentators of Einstein work often compared the special characteristics of the speed of light (flash) *by contrast* to the transmission of a sound after an explosion (bang) and to the speed of bullets.

In his article on relativity published in *Popular Astronomy* after the war, the American astronomer William H. Pickering carefully elaborated on »the analogy of the bullet« to light, by imagining a train equipped with »guns« on either end.²⁹

²⁷ Walter Rathenau to Einstein, May 10–11, 1917, Berlin. Cited in Albert Einstein: The Berlin Years. Correspondence, 1914–1918, vol. 8, in: The Collected Papers of Albert Einstein, Princeton 1998, pp. 327–329: 328.

²⁸ Walter Rathenau to Einstein, May 10–11, 1917, Berlin. Cited in *ibid.*

²⁹ William H. Pickering: The Theory of Relativity, in: *Popular Astronomy* 28 (1920), pp. 334–344: 338.

Eddington, who used the example of a rifle bullet, discussed the »simultaneity of a flash and a bang.«³⁰ M.F. Cleugh, who surveyed the theory of relativity in *Time and its Importance in Modern Thought* (1937), summarized the purpose of the common »flash and bang« trope which was widely used to explain it: »The time-lag between »flash« and »bang« shows that sound has a finite velocity, and from that an analogy may be to the case of light.« A reader might at first resist theory, but would later come to accept it: »But if he is given a carefully graduated series of examples, beginning with the familiar »flash and bang« of a distant gun, going on to two guns between which he stands, and ending with a full-blown Einstein and trains and light signals, he will admit that it follows from these that simultaneity is, after all, relative.«³¹

The common use of these examples shows how popularizers of relativity invoked the examples of flash, bang, and bullet as evidence for the exceptionalism of light.

In the age of relativity theory a different status applied to light—which was infinitely fast—than to sound and bullets which were slow in comparison. This bifurcation entailed a split in the common understanding of the communication of signals, words, things, and violence.

6. News and light

Readers in the era of Einstein knew full well that letters took time to reach their recipients—his contemporary, Franz Kafka, famously obsessed over the delays of the postal system. Correspondents drew on their own common habit of including the delay of the news when ascertaining the moment an event occurred in order to understand Einstein's point about the difference between the rules of transmission in cases involving the constant speed of light and others: »Any observer whom news of a distant event reaches before, or at the instant when, something happens to him, will judge that since the news took time to reach him, the distant event occurs before the receipt of the news.«³²

Einstein's commentators often thought of his work in terms of the speed necessary for the transfer of »news.« When Oliver Lodge warned how reception of an event should not be confused with the event itself, he proceeded to criticize relativity scientists who »speak as if the duration of the event could be extended by

³⁰ Eddington: *Space, Time, and Gravitation* (as note 25), p. 103.

³¹ Mary Frances Cleugh: *Time and its importance in modern thought*, London 1937, p. 58.

³² Benjamin Ives Gilman: *Relativity and the Lay Mind*. II, in: *The Journal of Philosophy* 24/19 (1927), pp. 505–521: 508.

merely delaying the reception of the news at its end.«³³ References to the »news« were typical in popular accounts of Einstein's relativity theory. Readers, explained one popularizer, knew well how to factor in »the amount of time taken by the news—or the *delay of the message*.«³⁴

Why should scientists accept Einstein's light signals as a privileged way of understanding space and time? While Whitehead and Lodge had refused to accept a special status of light as a particularly privileged method for receiving and conveying information, many others would soon accept the special status of light as the fastest news-bearer. Why should this lead us to reevaluate theories of time and space? Because »while all news takes time to come, *there is a kind that takes the shortest possible time*. This swiftest of messengers is at present believed to be light.«³⁵

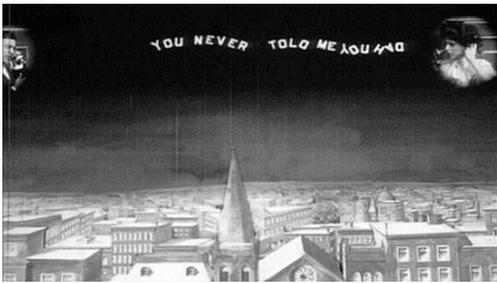


Fig. 1: This image from College Chums (1907) shows a creative illustration of how the actual transfer of words could take place from one point to the other during a telephone conversation. (Still from silent film COLLEGE CHUMS (USA 1907, Edwin S. Porter, Edison Manufacturing Company).

7. 1920s: The electrodynamics of moving *media*

New innovations combining telegraphs with typewriters and printing presses made the science of electrodynamics relevant for news culture, mainly newspapers and daily press publications, permitting its transformation into mass media. Before the 1920s, the meaning of the word »media« was originally modest and technical. It referred to material substances between two solid bodies, such as oil between lenses or fluids inside tubes and was indistinguishable from the plural of »medium.«³⁶ Important changes in the term »media« appeared in direct connection to Einstein's work. Einstein titled his famous relativity theory paper »On the Electrodynamics of Moving Bodies,« but by the end of 1922 the National Research Council referred to investigations pertaining to relativity under the new label of »Electrodynamics

³³ Lodge: *The Geometrisation of Physics* (as note 14), p. 800.

³⁴ Gilman: *Relativity and the Lay Mind. II* (as note 32), p. 508.

³⁵ *Ibid.*, p. 510.

³⁶ Raymond Williams: *Keywords: A Vocabulary of Culture and Society*, Croom Helm 1976, pp. 203–204.

of Moving Media.«³⁷ Why this change? The mathematician Hermann Weyl, one of the first popularizers of the theory, found that Einstein's work fit perfectly with preexisting research on the »electrodynamics of moving *media*,« referring to experiments by Armand Fizeau and Agustin Fresnel where light was passed through the »media« of moving or still water.³⁸ The laws governing the »bodies« initially referred to by Einstein, explained the mathematician, were the same as those governing light transmission through these other »media.« Soon Einstein's work on these topics would no longer be described in terms of bodies (as Einstein had initially titled his contribution) or in terms of light *in* moving »media« (as an intermediary substance). Rather, light itself was understood as »media.« As electrodynamic communications technologies became increasingly relevant in the wider society, especially used in combination with traditional transportation-based communications, the *electrodynamics of moving media* became a more relevant label for these inquiries than the *electrodynamics of moving bodies*. During these years, the term »media« was used in science as much as in the communication and advertisement industry. The term »media« in both relativity theory and communication and advertisement forums appeared by reference to methods for sending messages »in the least time.«

To contrast the reach of new electromagnetic-based technologies in the face of the previous slow, bulky alternatives that had to be transported in vehicles, the organizers of the 19th *Associated Advertising Clubs of the World* convention (in June 1923) printed their invitation using a mammoth Underwood typewriter, on a ten-foot wide by twenty-foot wide piece of paper, which was one of the attractions of Jersey City.³⁹ This large billboard image reached viewers at the speed of light. During this same New Jersey convention, the term »mass media« was, for the first time, in vogue.⁴⁰

Light's quality as the fastest messenger became vouchsafed not only by physicists, but by advertising agents and their publics. The concept of »mass media« depended largely on new ways of combining light, visual, and print technologies. One of the presenters of the *Associated Advertising Clubs of the World* defined the

³⁷ W. F. O. Swann et al.: *Electrodynamics of Moving Media*, in: *Bulletin of the National Research Council* 1 / 6 (December 1922); Vernon Kellogg: *Work of the National Research Council*, in: *Science* 58/1505 (November 1923), pp. 337-341 and 362-366: 340.

³⁸ Hermann Weyl: *Space-Time-Matter*, London 1922, p.186. (Italics added.) »The fact that the theory of relativity accounts for this remarkable result [Fresnel's] shows that it is valid for the optics and electrodynamic of moving media.« In the German original, the word is »Medien.«

³⁹ Evan Johnson (ed.): *Office Appliances*. *The Magazine of Office Equipment* 36 (1922), p. 211.

⁴⁰ Noble T. Praigg: *Advertising and Selling*, New York 1923, p. 240.

new term: »Mass media represents the most economical way of getting the story over the new and wider market *in the least time*.«

The electromagnetic transmission of images proliferated in the coming years. In the days after September 1, 1923, audiences around the world eagerly wished to see images of the Japanese earthquake. To satisfy their public, newspapers pioneered a new process to transfer film and photographic footage across long distances. Photographs of the earthquake had been sent to Seattle by airplane and were waiting on the runway. Newspapers had workers code numbered squares of light and dark and hired an artist at the receiving station to recreate the image by translating the code. Two years later, AT&T started the first commercial public service for sending photographs by telegraph wire.⁴¹ In the 1920s electromagnetic transmission ceased to be an autonomous, expensive, and imperial-military technology but one that engulfed the public at large and which could be used in combination with traditional forms of print and visual culture. The term »telecommunications« soon became a label for this new form of communication. The International Telegraph and Radiotelegraph Conference (of 1932) changed its name to International Convention of Télécommunications. It defined visual images as a subset of a much broader category. The new term »telecommunications« included »any telephone or telegraph communication of signs, signals, writing, images and sounds of any nature by wire, radio, or other systems or signaling processes electrical or visual (semaphore).«⁴²

8. 1930s: Radio signals

With the development of radio, the understanding that all physical phenomena could be known in terms of the behavior of light signals became even more widely accepted. During the 1930s, references to telecommunications media were not only invoked to prove Einstein's point about delays and his focus on the particular status of light—rather, the universe itself was described as a signaling device. In the 1930s when broadcast radio was in vogue, Eddington described all »physical objects« as broadcasting stations: »They are like broadcasting stations that send out signals which we can receive.«⁴³ »Light brings us the news of the

⁴¹ A. J. Ezickson: Wired Photos, in: *The Complete Photographer* 54 (1943), pp. 3515–3518: 3518.

⁴² Documents de la Conférence Radiotélégraphique Internationale de Madrid (1932), vol. 2, Conférence Radiotélégraphique Internationale, Bureau International de l'Union Télégraphique, Bern 1933, p. 410.

⁴³ Arthur Eddington: The Decline of Determinism. Presidential Address to the Mathematical Association, 1932, in: *The Mathematical Gazette* 16/218 (1932), pp. 66–80: 71.

Universe,« explained the crystallographer and Nobel Prize winner William Bragg in 1933. In contrast with previous decades, scientists rarely continued to ask, why light? »We come naturally to the question as to the nature of this messenger and as to the means by which it travels from place to place,« explained Bragg.⁴⁴ Light brought the news of the universe as it carried the news of the world.

For light to be able to bring the news of the universe, it also had to bring the news of the world—first through newspaper print media in combination with telegraphy and later through radio. If seen in this way, the development of the most theoretical of the sciences and mundane communications technologies appear to have much in common—broader cultural transformations that undergird them both.

Early critics of Einstein had protested his focus on light signals. His supporters defended his work by pointing out how wonderfully it explained light signaling phenomena. Western Union radio clocks, wrote a philosopher on the occasion of Einstein's 70th birthday, proved the physicist correct. »Any one who checks his clocks by radio is determining simultaneity at a distance in this [Einstein's] way.« For this reason, Einstein's critics no longer had a valid point. »If it be objected that when this statement [criticizing Einstein] was made radio was not in very general use, the reply is« simply no. Why? Because »Western Union clocks« have been in use in America for more than 22 years.«⁴⁵ While the philosopher referred to radio time service, time distribution was only one component of the company's full repertoire—primarily a profitable financial services and communications business now known as »Dinero en Minutos®.« But despite constant references to actual technologies involving light signals and their widespread cultural use, the merit of Einstein's science lay in its theoretical and universal implications.

9. Scientists' »signs«

Scientists' work with signs, signals, and symbols was clearly different from those that concerned linguists, philosophers, and humanists. What sustained this difference? Did scientists read the book of nature as others read alphabetical signs on a page? Did they read it *as a* book? In the 16th century, investigators understood reading nature as an activity similar to that of reading the Bible. But by the early 20th century, scientific practices had changed so significantly that scientific work

⁴⁴ William Bragg: *The Universe of Light*, New York 1933, p. 3.

⁴⁵ Evander Bradley McGilvary: *Space-Time, Simple Location, and Prehension*, in: *The Philosophy of Alfred North Whitehead*, edited by Paul Arthur Schilpp, Evanston 1941, pp. 209–240: 216.

no longer seemed comparable to the work involved in reading a text. Galileo was an important figure in effecting this change. Because »the book of nature« was written in the language of mathematics, he argued, scientists did not need to interpret it in the same manner as they had to interpret other texts.⁴⁶ Science, in his view, was not an interpretative (that is, hermeneutical) activity like others. Scientific work could be considered as essentially different from that of the humanists.

The idea that scientists worked with natural signs that were completely different from linguistic signs strengthened in the middle of the 19th century. The German scientist Hermann von Helmholtz was one of the most important thinkers to discuss the relation of signs to nature. In a set of authoritative and influential texts, he sought to understand scientists' engagement with the natural world as an engagement with signs. Helmholtz, like Saussure would do later, stressed the gap between representations and things represented. The thing sensed and our perceived sensation did not need to have a direct correspondence:

»To ask whether a perception which I have of a table, of its shape, solidity, color, weight, etc., is true and corresponds with the real thing or whether it is false and rests upon an illusion independently of the practical use to which I can put this perception has no more sense than to ask whether a certain sound is red, yellow, or blue.«⁴⁷

He also understood spoken linguistic signs as different from alphabetic signs. The lack of direct correspondence between things-in-themselves and our perception of them was as stark as the difference between written and spoken language: »Perception and things perceived belong to *two completely different worlds* which admit of no more comparison to one another than colors and sounds or the letters of a book to the sound of the words which they signify.«⁴⁸

Helmholtz understood the stark difference between »things« and »things perceived« to be as important as the difference between speech and text. With Kantian skepticism, he described scientists as unable to grasp the thing-in-itself and as dealing with nature indirectly only through its appearance through signs, in ways comparable to readers focusing on »the letters of a book.«

Did this mean that the signs processed by our brains when confronting nature were no different from those processed when dealing with texts? For Helmholtz,

⁴⁶ Mario Biagioli: *Stress in the Book of Nature: The Supplemental Logic of Galileo's Realism*, in: *MLN* 118/3 (2003), pp. 557–585.

⁴⁷ Helmholtz' *Treatise on Physiological Optics*, Vol. III, edited by James P.C. Southhall, published by The Optical Society of America, Menasha 1925, p. 19; Hermann von Helmholtz: *Handbuch der physiologischen Optik*, Leipzig 1867, p. 443.

⁴⁸ *Ibid.*

the analogy between spoken and written language and the language of sense impressions had *a clear and distinct limit*. Helmholtz was clear about where the difference lay between regular language and the language of science. According to him, the difference between »the symbolism of human language« and the »symbolism of our sensitive nerves« resided in that the first one was »produced by arbitrariness [Willkür]« while the other emerged from »nature itself.« In his famous *Treatise of Physiological Optics* he explained his position clearly: »Our representation of things can absolutely be nothing other than symbols« yet he included the caveat that these are »signs given naturally by the things that we learn to use for regulating our movements and actions.«⁴⁹ In other work, he explained how the diversity of languages, of »linguistic families [Sprachstämme] and dialects« contrasted sharply with »the language of our sensitive nerves« which was »the same for all humanity.«⁵⁰ The first was taught to us by our »mothers«; the other one by nature (Helmholtz set apart mothers from the rest of nature): »The first lessons of the mother tongue are clearly much harder than any subsequent attempts to learn a foreign language,« he explained. Why? Because learning our »mother tongue« required dealing with the »sounds« of spoken language for the first time, something more complicated than the relatively simple process of deciphering our »sensorial impressions« during active life.⁵¹

10. The transportation of violence

Many scholars have remarked on Helmholtz's understanding of our engagement with the world in terms of signs.⁵² It is now time to investigate more fully how he understood the difference—the demarcation—between an engagement with signs which could lead to science and one that would remain literary. When Helmholtz described the transmission of stimuli through the nerves as a telegraphic dispatch, he did *not* conceive it in terms of everyday communication. His description of the technology was consonant with how it was used at the time: an imperial and

⁴⁹ Ibid.

⁵⁰ Hermann von Helmholtz: Ueber die Natur der menschlichen Sinnesempfindungen, in: Koenigsberger naturwissenschaftliche Unterhaltungen 3 (1854), pp. 1-20: 19.

⁵¹ Hermann von Helmholtz: Die neueren Fortschritte in der Theorie des Sehens (1868), in: Id: Populäre wissenschaftliche Vorträge, Braunschweig 1876, p. 97.

⁵² Particularly useful are Timothy Lenoir: Helmholtz and the Materialities of Communication, in: *Osiris* 9 (1994), pp. 185-207; Jacques Bouveresse: Language, perception, et réalité, Nîmes 1995; Timothy Lenoir: Operationalizing Kant. Manifolds, Models, and Mathematics in Helmholtz's Theories of Perception, in: *The Kantian Legacy in Nineteenth-Century Science*, edited by Michael Friedman and Alfred Nordmann, Cambridge, MA 2006, pp. 141-210.

mostly military technology to which the general population had no access. It was a technology that actually transmitted effects. In the 1850s Helmholtz described it as transferring »intelligence [Nachrichten] from the extremities of the land to the governing center, and then in like manner bringing [zurückbringen] the will [Willensmeinung] of the ruling power to every distinct portion of the land.«⁵³ In other publications he repeated how it was used to produce a certain faraway *effect*.

Helmholtz compared sense impressions traveling through nerves to telegraph signals. »The nervous wires,« he explained, »may be compared to the wires of the electric telegraph.«⁵⁴ Later, in on *The Sensations of Tone* (first edition 1863) he was even clearer about the connection. »Nerves have been often and not unsuitably compared to telegraph wires. Such a wire conducts one kind of electric current and no other; it may be stronger, it may be weaker, it may move in either direction; it has no other qualitative differences.«⁵⁵

When discussing the telegraph he described it in terms of the »propagation« (Fortpflanzen) of »news.« In the original German he used the terms »Nachrichten« and »Botschaft.« But the transmission of signs and news that concerned him were those that produced clear effects: »ring bells, explode mines, decompose water, move magnets, magnetize iron, develop light, and so on.« Helmholtz described our engagement with nature as an engagement with signs *because these could produce causal effects*: »Nevertheless, according to the different kinds of apparatus with which we provide its terminations, we can send telegraphic dispatches [Despeschen], ring bells, explode mines, decompose water, move magnets, magnetize iron, develop light, and so on. So with the nerves.«⁵⁶

To explain the process of nerve transmission, Helmholtz and his collaborator Emil Du-Bois Raymond used the example (later borrowed by John Tyndall) of wounding a whale by throwing a harpoon on its tail. His notion of how sense impressions affected the brain was that of »sending« and »receiving« »news« in ways comparable to the effect of a weapon on its target. His technique for measuring the time lapse between stimuli and response, that first permitted him to describe sense stimuli in terms of sign transmissions, was first developed by Werner Sie-

⁵³ Hermann von Helmholtz: On the Methods of Measuring Very Small Portions of Time, and Their Application to Physiological Purposes, in: The London, Edinburgh and Dublin Philosophical Magazine and Journal of Science 4 (1853), pp. 313–325: 320; Hermann von Helmholtz: Ueber die Methoden, kleinste Zeittheile zu messen, und ihre Anwendung für physiologische Zwecke, in: Königsberger Naturwissenschaftliche Unterhaltungen 2 (1851), pp. 169–189.

⁵⁴ Ibid.

⁵⁵ Hermann von Helmholtz: On the Sensations of Tone as a Physiological Basis for the Theory of Music, New York 1954, p. 149.

⁵⁶ Ibid.

mens, then lieutenant of the Prussian army, and by Claude Pouillet *with the purpose of measuring the speed of artillery weapons for military processes.*

Helmholtz made no distinction between the transmission of sense-impressions, signs, and other ways of transmitting things, from news to harpoons. While he claimed that »perception and things perceived belong to two completely different worlds,« these two worlds overlapped in key ways, such as in the process of »regulating our movements and actions.« Perceptions and things perceived, he explained, matched in the same way a weapon connected with its target (the actual example he used). He referred to the transmission of sensorial signs from nature to our consciousness in the same way as he described the transmission of an object to its target. The role of sensorial signs in coordinating our movement and actions was what granted them a special status different from other signs.

11. Nietzsche and the violence of language

Because Helmholtz understood the transmission of signs in terms of the transmission of such things as a harpoon, the spark of a detonator for mine explosions, or a firm military order, sensorial signs remained tightly coupled to technologies of violence.

Nietzsche followed closely the scientific research on the physiology of nerve transmission associated with Helmholtz' investigations. In an unpublished text *On Truth and Lies in a Nonmoral Sense* (1873), he waxed poetic about the possible implications of the disconnect between sensory stimuli and the world itself. What were the consequences of thinking of reality in terms of signs? He sided with the Kantian maxim that stressed the impossibility of ever knowing the »things-in-themseves,« but he took this critique further by saying that no principle of »sufficient reason« could ever vouch for the validity of our inferences drawn from things. »What is a word? It is the copy in sound of a nerve stimulus (Nervenreiz). But the further inference from the nerve stimulus to a cause outside of us is already the result of a false and unjustifiable application of the principle of sufficient reason.«⁵⁷ Nietzsche displayed a thorough knowledge of recent work on the physiology of sense impressions, which was being popularized by Helmholtz and his colleague Du Bois-Reymond: »The thing in itself first appears as a nerve stimulus, then as an image, and finally as a sound.« Because of how nerve stimuli ended up as words, one could think that scientists dealing with nature ran the risk of not getting to the bottom of things: »Their senses nowhere lead to truth; on the con-

⁵⁷ Friedrich Nietzsche: *Über Wahrheit und Lüge im außermoralischen Sinn*, in: *Unzeitgemässe Betrachtungen*, edited by Alfred Baeumler, Stuttgart 1955.

trary, they are content to receive stimuli and, as it were, to engage in a groping game on the backs of things.« Scientists as much as philosophers were living in the »never-never land« of language: »All the material within and with which the man of truth, the scientist [Forscher] and the philosopher later work and build, if not derived from never-never land [Wolkenkuckucksheim], is at least not derived from the essence of things.«

A new understanding of the world as a system of sign transmissions brought with it distinct philosophical riddles. How could one leave the »cuckoo in the clouds« land of language divorced from the essence of things, even in the case of those most directly connected to sensory stimuli? For Nietzsche, these lessons in physiology and linguistics taught him that a *different kind of non-scientific truth* would invariably show itself, erupting frightfully and communicating in a different, archaic and, complex way: »And he requires shelter, for there are frightful powers which continuously break in upon him, powers which oppose scientific ›truth‹ with completely different kinds of ›truths‹ which bear on their shields the most varied sorts of emblems [Schildzeichen].«⁵⁸ Violence erupted in the use of language—even when it was disconnected from the »things-in-themselves.«

How could science defend itself from Nietzsche's pessimistic conclusions? How could scientists escape from a labyrinth of signs, one that despite its connections to communication, nonetheless led directly to »frightful powers which continuously break in?«

12. Signs, beyond Einstein

Position Einstein's »discourse network« within the larger technical, philosophical, and scientific discussions involving the terms »sign,« »signal« and »symbol.« The definition of these terms was in flux during the first decades of the twentieth century. The philosopher Edmund Husserl struggled to clarify the concept of sign in the first volume of his *Logical Investigations* (1900). Husserl started his text by »pointing out a confusion: The word ›sign‹ (Zeichen) covers ... two heterogeneous concepts: that of expression (Ausdruck), which is often wrongly taken as a synonym for sign in general, and that of indication (Anzeichen).«⁵⁹ Husserl concluded that »Anzeichen« or indication signs »are signs that do not express anything,« because they »do not transport anything that one could understand as meaning

⁵⁸ »Und Schutz braucht er: denn es gibt furchtbare Mächte, die fortwährend auf ihn eindringen und die der wissenschaftlichen ›Wahrheit‹ ganz anders geartete ›Wahrheiten‹ mit den verschiedenartigsten Schildzeichen entgegenhalten.« Ibid., p. 618.

⁵⁹ Cited in Jacques Derrida: *La Voix et le phénomène*, Paris 1967, pp. 2, 17.

[Bedeutung] or sense [Sinn].⁶⁰ By noting the different role of these two concepts, meaningful and meaningless signs, Husserl hoped to shed light on how »essential distinctions« in Western thought emerged, with the purpose of finding a common ground from which both surfaced.

The publication of Ferdinand de Saussure's lectures in 1916 laid out the basic categories for the linguistic study of »signs« for the rest of the century. During those years, Saussure's students noted their teacher's preference for breaking down the term »sign« into two components, »signifier« (which in spoken language corresponded to the word uttered) and »signified« (which was the concept referred to by the word). By dividing the concept of sign into two parts, Saussure stressed one particular insight that would be frequently cited and remarked on for decades to come: the »arbitrary« notion of the sign: »Since I mean by sign the whole that results from the associating of the signifier with the signified, I can simply say: the linguistic sign is arbitrary.«⁶¹ By arbitrary, he clarified, he did not mean that it depended »on the free choice« of the speaker, but rather only that there was »no natural link« between them. This insight permitted thinkers to consider the study of language as entirely separate from the study of nature.

Where did »signals« and »symbols« fit within Saussurean linguistics? Did they also have an arbitrary relation to the concept represented? According to the influential linguist, a symbol was a type of sign (closer to the signified), but it was not precisely the same, since the symbol maintained »a vestige of a natural connection« to a concept. »The symbol for justice, the scales« he explained, »could hardly be replaced by just anything, such as a chariot, for example.« Signals, in contrast, had no connection *at all* to the concept. They were like linguistic signifiers, but less »important« than those used in spoken language:⁶² »Language is a system of signs that express ideas, and is therefore *comparable to* writing, the alphabet of deaf-mutes, symbolic rites, polite formulas, military signals, etc. But it is the most important of all these systems.«⁶³ Signals and symbols represented the two extreme poles constituting a sign, where one end (that closer to symbols) maintained a »connection« to nature, whereas the other (signals) did not at all, being even more free-floating and arbitrary than linguistic signs.

It is hard to underestimate the impact of Saussurean linguistics on numerous disciplines, from anthropology to philosophy. What I want to stress is one particular aspect of it. Recall Saussure's reference to military signals. Their importance resided in that they had even less of a connection to the concept represented

⁶⁰ Ibid.

⁶¹ Ferdinand de Saussure: *Course in General Linguistics* New York ³1966, p. 67.

⁶² New translations may render »signifié« as »signal.«

⁶³ Saussure: *Course in General Linguistics* (as note 61), p. 16.

than the signs used in spoken language, which although also arbitrary, were nonetheless a much more »important« system. By framing signals as »arbitrary« Saussurean linguistics furthered the separation of the study of language from the study of nature. What conclusions did this separation entail for our understanding of science, in particular theoretical physics, and for applied physics research that was used to improve military signaling? One aspect was clear: »signals« had a special status within language systems because they were considered to be completely »arbitrary« and not part of nature itself. Scientists, even when their work referred to the limits and possibilities of communication characterizing a specific historical era, dealt exclusively with nature—since the communication concepts they used were considered as belonging to an »arbitrary« system. In other words, lessons about the speed of »arbitrary-voluntary signaling« (willkürliche Signalgebung) could be understood as a »consequence« of the cosmological implications of »a universal constant « but not the other way around. In Einstein's words: The inability »to send signals that would travel faster than light in a vacuum« was a »consequence, as strange as it is interesting« of his theory.⁶⁴

13. Derrida's critique of Saussure's »military signals«

WWII introduced a new element into the discourse network of the Second Industrial Revolution. During Vichy and afterwards, the philosopher Louis Lavelle explained how certain signs systems connoted »presence« more than others. His work was continued by the Jesuit media scholar Walter J. Ong, author of *The Presence of the Word* (1967). Ong privileged the spoken word as most tightly connected to »present actuality« than anything else.⁶⁵ »Communication, like knowledge itself,« he explained, »flowers in speech.«⁶⁶ Sound was special, according to him, because it was »indicative of here-and-now activity, the word as sounds establishes here-and-now personal presence. Abraham knew God's presence when he heard his »voice.«⁶⁷

Ong was concerned with how »electronic media of radio and tapes and loudspeakers« joined with »the telegraph...and progressing through the telephone, radio, television, the computer, and now Telstar, have brought virtually all parts

⁶⁴ Albert Einstein: *The Principle of Relativity and Its Consequences in Modern Physics*, in: *Archives des sciences physiques et naturelles* 29 (1910), pp. 5-28.

⁶⁵ Walter J. Ong: *The Presence of the Word: Some Prolegomena for Cultural and Religious History*, *The Terry Lectures*, New Haven 1967, pp. 111, 116.

⁶⁶ *Ibid.*, p. 1.

⁶⁷ *Ibid.*, p. 113.

of the globe into contact with all other parts.«⁶⁸ This new media configuration could potentially disrupt »the story of the word among men as a natural mystery, a key point at which Christian revelation (and preceding it, Hebrew revelation) establishes contact with human existence.«⁶⁹ He sought to protect the biblical story of *viva voce* revelation with all his might.

Was the privileging of the »voice« which such humanists extolled related to scientists' privileging of light signals in the physical universe? Electromagnetic media played key roles in both. But by 1968 magnetic »tape« recorders and »computers« were changing the discourse network of the era in a radically new way.

Why were certain signs more special than others? The answer changed with the appearance of new media. A new generation of scholars led by Jacques Derrida criticized the strange privileging of certain signs that previous thinkers had considered to be closer to nature than others. Derrida, followed by Kittler, pointed out that a »metaphysics of presence« underpinned most investigations of communications media—including those of Marshall McLuhan.⁷⁰ Derrida and Kittler continued to contest the hierarchy attributed to different kinds of signs. Kittler, upon noticing that McLuhan »converted to Catholicism long before his international career,« considered it in connection to an »arch-catholic media cult.«⁷¹

Derrida's critique, although centered on practices involving spoken and written signs, had implications for science as it questioned the category of »signal« by referring to Saussure's comments on »military signals.« Derrida first returned to Husserl's musings about signs in *Logical Investigations*, a text that »opened a way in which, as we know, marked the whole of phenomenology.«⁷² He noted that the concept of sign used by most linguists and philosophers from Husserl onwards privileged the spoken word over other signs, including signals. Derrida was particularly irritated at how Saussure's model of language set it apart from other systems, such as those that included the system of military signals. In *Of Grammatology*, he cited Saussure's reference to »military signals« and his setting aside of them by virtue of their arbitrary relation to nature, which he then proceeded to dismantle throughout the rest of the book.

⁶⁸ Ibid., pp. 15, 101.

⁶⁹ Ibid., p. x.

⁷⁰ Jacques Derrida: Excuse Me, But I Never Said Exactly So. Yet Another Derridean Interview, in: *On The Beach*, no. 1 (August 1983), p. 42, under: <http://www.egs.edu/faculty/jacques-derrida/articles/excuse-me-but-i-never-said-exactly-so/> (February 7, 2014).

⁷¹ Friedrich A. Kittler: *Optical Media: Berlin Lectures 1999*, Cambridge 2010, p. 30.

⁷² »Les *Recherches Logiques* (1900-1901) ont ouvert un chemin dans lequel, on le sait, toute la phénoménologie s'est enfoncée.« Derrida: *La Voix et le phénomène* (as note 59), p. 1.

Derrida inaugurated a new way of thinking about signs in relation to signals in a manner that differed markedly from how they were understood in the system of sciences around 1900. He explained that the hierarchy that attributed such »presence« to spoken language at the expense of other forms of communication and sign systems was actually the result of a particular technological configuration that could shift. To make his point against the »metaphysics of presence« that clouded contemporary philosophy (Lavelle and Ong among others) just as much as media theory (McLuhan), he explained how if a »tape recorder« were to be considered a writing machine, it would become impossible to continue privileging the »voice.« »Tape recordings are writings in some sense,« he explained, arguing against the view that considered the spoken word as having a special status within communication systems.⁷³

Derrida's work proved particularly useful for studying the world—including human subjects in it—as part of underlying transformations of spoken and written signs and signals. Our sense of »subjectivity« was tightly connected to the act of hearing oneself speak, he argued.⁷⁴ The act of hearing oneself speak could be seen as creating the subject, not the other way around.

14. Kittler on »the system of science in 1900«

While Derrida criticized the common coupling of a subject and his voice, Kittler focused on how the modern author, both male and female, lost mastery of writing itself. Describing laboratories of experimental psychology in which subjects reacted to signs and symbols and tracing the impact of these practices for high literature, Kittler remarked how the author was no longer the master of writing: »Writing ... is no longer based on an individual capable of imbuing it with coherence through connecting curves and the expressive pressure of the pen, it swells in an apparatus that cuts up individuals into test materials.«⁷⁵ »The system of sciences in 1900,« explained Kittler, »destroyed the monopoly of writing« through new techniques for managing, storing, and distributing »streams of information« in a way that could no longer be controlled or determined by autonomous subjects.

How did the Second Industrial Revolution connect with the Einsteinian revolution? By focusing on the instruments of the first industrial revolution, lamented Kittler, scholars had forgotten to pay attention to those of the second. »Steam

⁷³ Derrida: *Excuse Me, But I Never Said Exactly So* (as note 70), p. 42.

⁷⁴ Derrida: *La Voix et le phénomène* (as note 59).

⁷⁵ Friedrich Kittler: *Discourse Networks 1800/1900*, translated by Michael Metteer and Chris Cullens, Stanford 1990, p. 223.

engines and looms,« he explained, »became topics, but typewriters did not.« What can we learn by shifting our focus away from the paradigm of »energy and labor« to that of »information«? The stakes involved in Kittler's contribution were not limited to extending the historian's repertoire; they were, most importantly, about exploring a new relation between communication, poetics, reason, and technology in a way that would »explode the two-cultures schema of our academic departments« and the Enlightenment conception of the human subject.⁷⁶

Consider the difference between physics and psychology and between quantitative versus symbolic knowledge. According to Kittler, one consequence of the system of sciences around 1900 was that it could permit us to see why the discipline of psychoanalysis increasingly relied on the »symbolic method« and parted ways with the ideals of transcendental knowledge.⁷⁷ The »symbolic method« to which he referred was one no longer based on standard operations of reasonableness and comprehensibility used in the human and physical sciences of the Enlightenment tradition.⁷⁸

During the early 20th century, dream interpretation became one place where the focus on the symbolic flourished most rapidly, since it was not hard to convince people (and patients) that dreams carried important messages while at the same time it was clear that these were coded in an unreasonable language. After all, since ancient times, the belief that omens came in dreams, and that these were hard to decipher, was commonplace. But soon Freud was able to convince many that the benefits of the symbolic method could be applied beyond dreams to the study of the psychopathology of everyday life. In consequence, the division between the rational interpretative techniques of the physical sciences and those staking out a completely different order of understanding widened.

What could be gained by considering unreasonable discourse on the same footing as rational communications? Kittler faulted Habermas for not wanting to acknowledge the centrality, in the history of modernity, of these alternative »symbolic« forms of knowledge and to brush them aside as a »scientific misunderstanding.«⁷⁹ According to Habermas, these trends were nothing other than missteps that led

⁷⁶ Ibid., p. 371.

⁷⁷ Information technologies, in Kittler's view, played a decisive role in the branching off of a dastardly »symbolic method,« no longer based on transcendental notions of comprehensibility: »But innovations in the technology of information are what produced the specificity of the discourse network of 1900, separating it from transcendental knowledge and thus separating psychoanalysis from all human science.« Ibid., p. 278.

⁷⁸ Ibid.

⁷⁹ Ibid. The reference to Habermas appeared in note 27, p. 408. It referred to »The Scientific Self-Misunderstanding of Metapsychology: On the Logic of General Interpretation,« in Jürgen Habermas: Knowledge and Human Interests, Cambridge 1987, pp. 246–273.

some to characterize Freud's psychoanalysis *as* science. In the Habermasian view, legitimate sciences, including the bona fide human sciences, which did not include psychoanalysis, belonged to the order of *reasonable* discourse.

Parting ways with transcendental knowledge and Enlightenment ideals of sense and reason was controversial. A reluctance to focus on this aspect of Western civilization could be tantamount to turning a blind eye to the increasing militarization occurring alongside the uncritical acclaim of techno-scientific culture. Was it fair to ignore the violent and irrational bursts of modernity that periodically reared their multiple heads, no matter how hard thinkers tried to discount them? Kittler was greeting alternative accounts of reason in modernity with open arms; Habermas was not. Habermas decided to remain a staunch defender of particular Enlightenment ideals of modernity, optimistically thinking that consensus (and wWorld peace) could result simply by combining human reason with unhampered flows of communication. For him, the quantitative sciences based on clear scientific measurements were ideal exemplars. He considered them to lay at the pinnacle of knowledge, superior to others: an »ideal speech situation,« belonging to »analytic-empirical« discourse that should be held up as a model for the rest of reasonable discourse.⁸⁰ Where did his optimism come from? Habermas considered science largely through the lens of Karl Popper, who understood it as a process of hypothesis formation and falsification. It hardly fit with actual scientific practices, with clear commercial and military connections.⁸¹

15. Foucault and the Second Industrial Revolution

»Foucault's historical research did not progress much beyond 1850,« lamented Kittler.⁸² In contrast to Foucault, Kittler started to focus on the emergence of a new system of sciences by focusing on the role played by information technologies. Although Foucault thoroughly studied discursive rules or epistemes, he neglected to connect them to technologies on the ground. But Foucault's blindness toward

⁸⁰ Gordon R. Mitchell: Did Habermas Cede Nature to the Positivists?, in: *Philosophy and Rhetoric* 36/1 (2003). See my discussion of this ideal in: Jimena Canales: *A Tenth of a Second. A History*, Chicago 2009, p. 219.

⁸¹ For the influence of Karl Popper on Habermas's account of science see his »Analytische Wissenschaftstheorie und Dialektik.« Habermas's blindness to scientific practices was hardly anomalous, since an attention to actual scientific practices was systematically effaced by positivist philosophers and only reemerged in the history and philosophy of science after the groundbreaking laboratory studies of Bruno Latour, Steve Woolgar, Karin Knorr-Cetina, and others.

⁸² Kittler: *Discourse Networks 1800/1900* (as note 75), p. 369.

technology came from a particular assumption, argued Kittler: that discursive rules and epistemes *were* comprehensible. His attention was focused on finding »order« and his task in the tellingly titled *The Order of Things* and elsewhere, was to show »the coherence that existed ...between the theory of representation and the theories of language, of the natural orders, and of wealth and value« at specific historical periods by inquiring into »the order that divided [things] up before presenting them to the understanding.« But according to Kittler, a belief that certain historical epochs were comprehensible because of a subtending cohesive »order« could only be maintained at the price of excluding technology from history. »Foucault conceived discursive rules as comprehensible and therefore overlooked technologies.«⁸³

Technology indeed posed a problem for thinkers who attempted to divide knowledge practices into epistemes as they often cut across radically different epochs. The development of technology, as well, often seems to go beyond the control of human reason. A focus on technology quickly reveals that our very ideas of order, causality, and effectiveness change in step with different kinds of technology, implicating our explanations of breaks, continuities, and historical development. When asked about how one could think of the »causes« for a change from one episteme to the next Foucault was simply embarrassed by the question: »Questions like these are often highly embarrassing because there are no definite methodological principles on which to base such analysis. The embarrassment is much greater in the case of those general changes that alter a science as a whole.«⁸⁴

The role of technology in the history the Second Industrial Revolution showed Kittler simply too many historical transformations incompatible with Habermas's »communicative rationality.« It also showed him too many examples that did not fit with the neat borders of Foucauldian epistemes stacked in neat chronological order.

Habermas was optimistic; Kittler was pessimistic. Habermas separated reason and communication from violence and war; Kittler claimed that »information technology is always already a strategy or war.« Habermas placed an emphasis on understanding and trust in the development of history; Kittler on misunderstanding and mistrust. Habermas assented to Walter Benjamin's contributions to historical materialism and the Frankfurt school while he lamented those tainted with »theology« and »mysticism«⁸⁵; Kittler, in contrast, celebrated Benjamin's pessimis-

⁸³ Ibid., p. 278.

⁸⁴ Foreword to the English edition, in: Michel Foucault: *The Order of Things*. An Archaeology of the Human Sciences, New York 1973, p. xiii.

⁸⁵ »Benjamin did not succeed in his intention of uniting enlightenment and mysticism because the theologian in him could not bring himself to make the messianic theory of experience serviceable for historical materialism.« Jürgen Habermas: Walter Benjamin.

tic rebelliousness in its unrepentant disclosure of the role of misunderstanding and mistrust in human history, which arrived with new and potent technological innovations:

»And that means: pessimism all the way down the line. Mistrust in the fate of literature, mistrust in the fate of freedom; mistrust in the fate of European humanity, but above all mistrust, mistrust, and more mistrust in all understanding, between the classes, between peoples, between individuals. And unlimited trust only in I.G. Farben and the satisfactory perfection of the air force.«⁸⁶

Habermas and Kittler differed in how they read Walter Benjamin as much as they differed in their understanding of technology.⁸⁷ Habermas thought of »language« as distinct from »nature« and considered the basic elements of communication as separate from technology.⁸⁸ Kittler, in contrast, did not attribute to language this otherworldly status.

16. Conclusion

Kittler corrected Foucault's blindness towards technology, but he left science untouched. What happens if we think of science in connection to much broader changes in other forms of communication? We can see its unique place within broader systems based on emblems (an early modern concept present in the work of Galileo), signs (a 19th-century concept in the work of Helmholtz), and later signals (in the work of Einstein).⁸⁹

Consciousness-Raising or Rescuing Critique, in: *Walter Benjamin: Critical Evaluations in Cultural Theory*, ed. Peter Osborne, London and New York 2005, pp. 107-136: 124; Jürgen Habermas: *Consciousness-Raising or Redemptive Criticism. The Contemporaneity of Walter Benjamin*, in: *New German Critique* 17 (1979), pp. 30-59.

⁸⁶ Walter Benjamin: *Der Surrealismus. Die letzte Momentaufnahme der europäischen Intelligenz*, in: *Gesammelte Schriften*, edited by Rolf Tiedemann and Hermann Schweppenhäuser, Vol. 2, Frankfurt am Main 1972, cited in Friedrich Kittler: *Discourse Networks 1800/1900* (as note 75), p. 371.

⁸⁷ Cf. Jürgen Habermas: *Science and Technology as ›Ideology‹*, in: *Toward a Rational Society. Student Protest, Science, and Politics*, Cambridge 1987, pp. 81-122.

⁸⁸ »What raises us out of nature is the only thing whose nature we can know: language.« See Appendix in Habermas: *Knowledge and Human Interests*, Cambridge 1987, p. 314. Habermas separated technology from the challenges of communication: »[T]he institutional framework of society is still distinct from the systems of purposive-rational action themselves. Its organization continues to be a problem of practice, not one of technology, no matter how scientifically guided.« Habermas: *Toward a Rational Society. Student Protest, Science, and Politics* (as note 86), p. 104.

⁸⁹ For emblems see Mario Biagioli: *Galileo the Emblem Maker*, in: *Isis* (1990), pp. 230-258.

Einstein's work depended on a particular understanding of the role of signals in nature, where »light signals« appeared as separate from »all other things.« They belonged to a separate realm, of »universal constants,« on which the scientific understanding of the physical universe depended. While the introduction of the alphabet and the expansion of literacy fostered a belief in the separation between myth and history, the second industrial revolution, based on electrodynamic information technologies and light standards (signals), furthered the separation between myth, history, and science. Can signals, and within them light signals, be reconsidered as part of culture? Signals are, after all, »the call that summons the people within and beyond borders of the parish to gather to hear the word of God, to put out the fire, to fight the enemy.«⁹⁰

The »light signaling protocol« central to the theory of relativity was based on a new way of understanding the relationship of science to technology and to violence. The belief in the separation between might and right is as old as civilization, but the actual place of »light« in these divisions is much more recent.⁹¹ Light signals during Einstein's time were part of a new model of communication that was no longer based on transportation and which excluded the transportation of physical violence. In 1934 the famous historian of technology Lewis Mumford connected two different types of »communication technologies« in a famous phrase. »If the cannon was the first of the modern space-annihilating devices by means of which man was enabled to express himself at a distance, the semaphore telegraph (first used in war) was perhaps the second.«⁹² Mumford's phrase was particularly shocking because by the time it was written, the difference between these two forms of »communication at a distance«—one based on light rays and the other one on cannon bombs—had grown to the point that one was frequently associated with peace, rationality, science, and functional communication while the other was associated with violence, irrationality, technology, and communicational breakdown.

In Paris after WWII, the philosopher Michel Serres was still shell-shocked by the tight links he noticed between science and war. He lamented that »traditional epistemology still was not asking any questions on the relationship between science and violence« and started to find a different way of theorizing the relation between them. A friend lent him a copy of Brillouin's *Science and Information Theory* (1959), the culmination of a scientific career that started in WWI when the

⁹⁰ Bernhard Siegert: Mineral Sound or Missing Fundamental. Cultural History as Signal Analysis, in: *Osiris* 28 (2013), pp. 105-118: 117.

⁹¹ Jimena Canales: Flash Force: A Visual History of Might, Right and Light, in: *Seeing With Eyes Closed*, edited by Elena Agudio and Ivana Franke, Munich 2011, pp. 34-41.

⁹² Lewis Mumford: *Technics and Civilization*, New York 1934, p. 89.

young soldier started working in the Signal Corps.⁹³ The tome, and its historical context, helped Serres understand how violence introduced itself into »reasonable« discourse, becoming its precondition: »Violence is one of the two or three tools that permit us to insert the local into the global, to force it to express the universal law, to make reality ultimately rational.«⁹⁴ Mumford, Serres, and only a handful of other thinkers considered technologies of communication in connection with technologies of violence, rewriting standard narratives about the role of science and technology in a world marked by good and evil.

Einstein's work formed part of a broader discourse network in which technologies of communication were separated from those used for the transportation of violence. For this reason, telecommunications media were largely assessed in terms of veridical and false reporting. Although they continued to be central to war, they were manned from a sanitized »behind-the-desk« distance. The ethical valance attributed to communicative action changed accordingly, as it was safely separated from direct violence. True or false, rather than right or wrong, vice or virtue, became the pertinent binaries of the Information Age.

The play between reason and unreason was defined by referring to »light signals« in the age of mass media, where »reason« took as its model the sciences based on them as representing ideals of consensus while »unreason« was associated with the violence typical of miscommunication and symbolic discourse (Habermas). But their separation on that basis falls apart the moment we consider the role that »light signals« played in science as a small subset of the much more complex role they held in the broader culture.

What happens if we turn off the light? »If ›straight line‹ or ›geodesic‹ has *light ray path* as physical correlate, what about straight lines in the dark?« asked the philosopher Bastiaan van Fraassen. The universe would still maintain its shape. Scientifically, nothing would change. »[T]here is a real fact of the matter whether the signal *would* have reached if it *had* been emitted.«⁹⁵ The discourse network that emerged around 1900 was a universe of signals that would always arrive—even in the dark and with all light switches turned off.

Image caption: Still from silent film COLLEGE CHUMS (USA 1907, Edwin S. Porter, Edison Manufacturing Company).

⁹³ Michel Serres and Bruno Latour: *Conversations on Science, Culture, and Time*, Ann Arbor 1995, p. 12.

⁹⁴ Michel Serres: *Jouvenances sur Jules Verne*, Paris 1974, p. 75.

⁹⁵ Bastiaan C. van Fraassen: *Time in Physical and Narrative Structure*, in: *Chronotypes: The Construction of Time*, edited by John B. Bender and David E. Wellbery, Stanford 1991, pp. 19–37: 33.

Myths of Labor

Elements of an Economical Zoology

Iris Därmann

LABOR IS AT THE SAME TIME punishment and a curse. In his *Theogony* and in *Works and Days* Hesiod describes the revocation of the peaceful table fellowship which at one time connected gods, men, and animals with one another. Zeus commissions Prometheus with the first slaughtering and distribution of a bull and leaves it up to him to select those portions which are intended henceforth for the gods and those which are intended for human beings. In a battle of poisoned gifts and gifts in return which pass back and forth between Zeus and Prometheus, the story finally culminates in that misfortune with which Zeus had wished to burden human beings from the very first: with Pandora, that »beautiful evil« which divides the at one time undivided human race into men and women. Pandora forms the diametrically opposed counterpart to the Promethean deception: clad in a white robe, she shimmers just as seductively as that layer of fat with which Prometheus had concealed the inedible beef bones meant for the gods. In her essence she corresponds in turn to that repulsive stomach with which he had hidden the pieces of meat intended for human beings from the view of Zeus. The female sex is for men what the drone is for bees. She is the ever-hungry stomach which incessantly devours other people's labor (that of men), the grain harvested by them.¹ In return she of course offers them sexual pleasure and in marriage relationships legitimate offspring.² While the Hesiodian myth dramatizes the aspect of labor as punishment imposed on the male sex mainly because of its limitlessness, the Old Testament expulsion from the Garden of Eden particularly underlines the drudgery associated with the physical labor of men in the fields. Admittedly, the Old Testament myth already provides for human beings tilling the soil in paradise.³ Nonetheless, the curse placed on farmland and the hard field labor imposed on men represents genuine punishment for the knowledge-seeking violation of the

¹ Cf. Hesiod: *Works and Days*, translated by Hugh G. Evelyn-White, London 1914, pp. 53-105; Hesiod: *Theogony*, translated by Hugh G. Evelyn-White, London 1914, pp. 570-614.

² I follow here the corresponding interpretation by Jean-Pierre Vernant: *Le mythe prométhéen chez Hésiode*, in: Jean-Pierre Vernant: *Mythe et société en Grèce ancienne*, Paris 1987, pp. 177-194: 180 and 182 sq.

³ Cf. Genesis 2.15.

divine ban by man's female companion, who henceforth is compelled to beget children in toil and pain. In both myths labor has the character of a punishment. Given this exaggerated aspect of labor as a burden and suffering—»In the sweat of your brow you will eat your food«—the notion of labor put forward by Genesis indeed appears to be closer to that of Virgil than to that of Hesiod. In the *Georgics* Jupiter brings to an end the Golden Age and all-plentiful nature by compelling men to labor through scarcity and suffering.⁴

The economic treatises of antiquity and of the modern age are undoubtedly under the spell of these two mythical scenes and the divine power to curse and judge. How do the theoretical economic writings of antiquity—and in particular Aristotle's *Politics* and *Ethics*—regulate female *pleonexia* on the one hand and the unbounded hard labor imposed on men on the other? In turn, how do the economic treatises of the modern age—and in this case especially the relevant labor economics essays of John Locke—deal with female hubris on the one hand and the nature of labor as suffering and a burden on the other? As a part of this, what role is played by distinguishing between and distributing free and unfree, productive and reproductive labor and, not least of all, the economic marginalization inherent in reproductive labor? And finally: how in this context do the king bee, the working bee, and the drone manifest themselves as figures of an economic-mythical zoology whose emblematic effectiveness extends as far as Mandeville's *Fable of the Bees*?

1. Apiology in antiquity

Once upon a time the goddess Ceres ordered her favorite animals, the bees, to instruct Heros in the art of beekeeping. In antiquity beekeeping had spread since the 8th century and formed an important branch of agriculture. Legal provisions laying down the distances between beehives in order to avoid neighborhood disputes among beekeepers bear witness to this. Thus, Solonian legislation provides for a distance of at least 300 feet.⁵ In the *Nomoi* Plato even proposes the death penalty for the unlawful appropriation of a neighboring beehive through shaking.⁶ From the perspective of beekeepers and authors in antiquity, both the king bee and the bees observe clearly defined tasks in the system of the beehive as it is based on a division of labor: it is the duty of the king bee, which is itself inactive, to

⁴ Cf. Virgil: *Georgics*, translated by C. Day Lewis, Oxford 1983, Book 1, p. 140 sqq.

⁵ Cf. P. Martell: Die Biene im Altertum, in: *Entomologischer Anzeiger* 9 (1929), pp. 414–419: 414 and 418.

⁶ Cf. Plato: *The Laws*, translated by Thomas L Pangle, Chicago/London 1980, pp. 843d and 933d.

maintain the regulation, assignment, and monitoring of the labor of honey collecting, which rests on all the bees. A good amount of uncertainty still appears to exist concerning the actual role of the drones. For Aristotle, the authority for all classical agrarian writers on issues of beekeeping, the drones, because of their parasitic way of life, represent the lowest order of bees: »Some people maintain that the drones build cells but produce no honey. They mostly remain in the beehive and only leave it in order to stagger around. Then they return and eat from the reserves of the worker bees.«⁷ Like Hesiod, Aristotle also emblemizes the virtue of hard labor and the vice of laziness by using the two animal figures of the »bee« and the »drone.«⁸ For Plato, the sex of the unstinging and stinging drones, which turn up in the *Politeia* as beggars, gluttons, rogues, and idlers, represent within the confines of the oligarchic soul and form of government bad, wasteful appetites.⁹

Indeed, Hesiod already proves himself to be an adviser on issues of proper housekeeping and the labor economy. Marriage with a previously unwed woman offers the opportunity of constraining her insatiable hunger by molding her into that type of being which she ought to be.¹⁰ Then the particular profit of industrious labor in the fields can be gained in the form of an increase in domestic wealth.¹¹ The tirelessness of labor in the fields, which is moderated through the application of field animals, plowing tools, and other people's labor, assumes, from the perspective of wealth accumulation, a direction which makes it independent of the boundless hunger of women and the sexual desires aroused by them. The increase in property stems from a new stimulus, which entails a displacement of the mythical scene: labor and property can be spurred on by the »struggle« or competition between the poor and the rich.¹²

Aristotle's domestic doctrine submits to the authority of Hesiod when it seizes on the latter's advice to marry a virgin »in order to teach her proper behavior,«

⁷ Aristotle: *Historia Animalium*, translated by D'Arcy Wentworth Thompson, Oxford 1910, Book IX, p. 40 624a; see also R. Billiard: *Die Biene und die Bienenzucht im Altertum*, translated by Rektor Breiden, Leipzig 1904, pp. 43-44.

⁸ Aristotle: *Historia Animalium* (as note 7), Book V, p. 22 553b.

⁹ Cf. Plato: *The Republic*, translated by I.A. Richards, New York 2009, pp. 552c-556a, 559c-e.

¹⁰ Cf. Hesiod: *Works and Days* (as note 1), pp. 695-700.

¹¹ Cf. *Ibid.*, pp. 295-320. On the aspect of the multiplication of possessions and wealth in Hesiod see Peter Spahn: *Die Anfänge der antiken Ökonomik*, in: *Chiron* 14 (1984), pp. 301- 323. See also Renate Zoepfell: *Einleitung*, in: *Aristoteles: Werke in deutscher Übersetzung: Oikonomika. Schriften zu Hauswesen und Finanzwesen*, vol. X, part 2, translated by Renate Zoepfell, Berlin 2006, p. 70 sqq.

¹² Hesiod: *Works and Days* (as note 1), pp. 20-23.

that is, the moderation of her own lust.¹³ In issues of the proper composition of the household, Hesiod is also decisive for Aristotle: »first of all the house, the wife, and the plough animal, since the bull fulfills the role of slave among the poor.«¹⁴ Not, however, in relation to the doctrine of labor and the accumulation of wealth. The Aristotelian *chrematistike*, which draws a rigid distinction between needs-based barter and profit-based bartering, obeys the *mesotes* doctrine of the *Nicomachean Ethics* and the *Eudemian Ethics*, for which *too much as well as too little* both represent *kakia* (wickedness): leading an ethical life under the aegis of *eudaimonia* requires the ability to distinguish between the good and the bad, and this means in each case finding the good, the proper mean, and avoiding the bad—excessiveness as well as meagerness. This applies not only to the issue of courage, that is, finding a virtuous position between cowardice and recklessness, or that of generosity, which has to be situated between miserliness and wastefulness. It also applies to desire, which as *pleonexia*, as wanting more, as greed and arrogance,¹⁵ always comes into play when what is involved is hunger, love, honor, and money,¹⁶ that is, over-determined objects, the longing for which finds no end even in satisfaction.

Exchange based on the reproductive order of the household is thus that which from the oiconomic point of view finds the proper mean and balance: »Exchange is possible in every case, building on the natural fact that human beings in one instance have too much of the necessary goods and in another instance too little.«¹⁷ Natural exchange thus makes it possible to exchange those surpluses which have been gained and which might spoil for those goods of which there is from time to time a scarcity. In this way exchange is of value in satisfying natural wants.¹⁸ From the moment on, however, when money comes into play, when professional commerce becomes only interested in profit¹⁹ and when money is increased through moneylending and the business of interest rates, the natural order is damaged. The bone of contention for Aristotle is the ethically dubious limitlessness with which money arises from money,²⁰ which has, like the »commercial way of life itself [...]

¹³ Aristotle: *Oikonomika* (as note 11), vol. I, pp. 1343a 18–21, 1344a 17 and Renate Zoepffel p. 329; Hesiod: *Works and Days* (as note 1), pp. 695–704.

¹⁴ Hesiod: *Works and Days* (as note 1), pp. 404–405; Aristotle: *Politics*, translated by Carnes Lord, Chicago 2013, vol I, p. 1252b 11 sqq.

¹⁵ Aristotle: *Eudemian Ethics*, translated by Anthony Kenny, Oxford 2011, p. 1129 b 32.

¹⁶ Aristotle: *Nicomachean Ethics*, translated by Robert C. Bartlett and Susan D. Collins, Chicago/London 2011, II 5 1106a 13–II 9 1109 b 27.

¹⁷ Aristotle: *Politics* (as note 14), pp. 1257 a 6–18.

¹⁸ *Ibid.*, pp. 1257 a 28–30.

¹⁹ *Ibid.*, pp. 1257b 2–5.

²⁰ *Ibid.*, pp. 1258 a 37–1258 b 8. Money is contrary to nature, it exists and is valid »solely through the *nomos*, solely through law,« see Edgar Salin: *Politische Ökonomie. Geschichte der wirtschaftspolitischen Ideen von Platon bis zur Gegenwart*, Tübingen 1967, p. 8. For

something violent about it.« It makes, after all, that which should only be a means into an exclusive goal.²¹

From the perspective of the Aristotelian work *Generation of Animals*, the self-generation and self-accumulation of money²² nonetheless represents the symmetrical counterpart to the extraordinary ability of king bees to fertilize themselves and reproduce and at the same time to give life to the family of worker bees, which in turn ought to produce the for their part infertile species of the drones. Without a doubt the self-fertilization and self-reproduction of the king bees is an affront to the reproductive order of nature, a state of affairs which Aristotle nonetheless attempts to resolve by singling out the bee as a »divine creature.« In the case of such »noble beings,« it sometimes happens that »nature seems to deviate from its own laws.«²³ The divinity of bees is otherwise in keeping with their gold-colored product. Honey,²⁴ a product located at the periphery of human cooking, forms the basis of nectar, the drink of the gods, which is said to taste nine times as sweet as honey itself. In the mythology of Apollo, bees are in turn the »birds of the muses,« while the priestess of the Delphic oracle is popularly known as the »Delphic bee.«²⁵ In addition, bees, when they hang like grapes on houses and temples, act as omens in private and public life, omens which are often validated by big events.²⁶

Aristotle of course reincorporates the perverse generative relationship between the king bee and worker bees into the natural order of things when he emphasizes: »It is entirely natural that bees obey their kings, since they owe their very existence to them, for without this subjection the circumstances which make up the supremacy of the kings would be baseless; it is also obvious that bees happily suffer the idleness of their kings because they are the parents.«²⁷ The king bees represent a form of idleness that is diametrically opposed to the laziness of the

the ancient Greek word »nomisma« (money) see the etymology in the Nicomachean Ethics (as note 16), p. 1133a.

²¹ Ibid., pp. 1096 a 6–8, Gigon.

²² I have drawn on Joseph Vogl for the insight into the reproductive dimension of the Aristotelian *chrematike*. Cf. Joseph Vogl: *Das Gespenst des Kapitals*, Berlin 2010, p. 122.

²³ Aristotle: *Generation of Animals*, translated by A. I. Peck, London MCMXLIII, Book 10, p. 60 sqq.; Cf. R. Billiard: *Die Biene und die Bienenzucht im Altertum* (as note 5), p. 34 and p. 43.

²⁴ Cf. On this cf. Claude Lévi-Strauss: *Mythologiques. Du Miel aux Cendres*, Paris 1966, pp. 11–12.

²⁵ P. Martell: *Die Biene im Altertum* (as note 5), p. 417. See also the zoological emblematics of the Platonic theory of poetry in the dialogue *Ion*, translated by H.N. Fowler, Harvard 1925, p. 543a.

²⁶ Cf. Pliny the Elder: *The Natural History*, translated by Henry T Riley, London 1855, Book 11: *Insects*, Chapter 18.

²⁷ Aristotle: *Generation of Animals* (as note 23), p. 60b; R. Billiard: *Die Biene und die Bienenzucht im Altertum* (as note 7), p. 43.

drones. They can count on the natural recognition of the worker bees, since the latter without their progenitor kings would never even exist. In Aristotelian *oikonomia* the master and the slave stand in an analogous asymmetrical relationship of being to one another. As a »living tool« the slave cannot exist without despotic orders and accomplish the physical labor appropriate to him, labor which serves the very existence of the master.²⁸ As an »animated piece of property« the slave in turn belongs to the ownership domain of the *oikodespot*. This proprietary legal determination is further strengthened by Aristotle in that he establishes a parallel between the asymmetrical relationship between slave and master and the relationship of a part to the whole. In the same way that a part belongs to the whole, the slave also belongs to his master, without the latter in turn belonging to the slave.²⁹ At the same time, Aristotle goes so far as to call the slave »a designated part of his master, namely an animated and autonomous body part.«³⁰ In addition, he equates the relationship between the two to that of the despotic regime which the soul exercises over the body and which is just as useful to the latter as it is natural.³¹

It is true. Aristotle scarcely ever spoke about labor and he certainly never made the distinction between productive and reproductive labor. For him all labor is instead physical and reproductive in nature. Escape from the mythical curse of labor occurs through a targeted shifting of labor on to slaves and domestic animals: »The services that one derives from both of them differ little: both of them, slaves and domestic animals, help us to fulfill our bodily needs.«³² To this shifting corresponds a strict division of labor into the contemptible reproductive labor of slaves on the one hand and the political practice of free men on the other, which in turn corresponds to the industriousness of bees and the idleness of the bee king as the administrator of the labor of others, an aristocratic form of idleness that has found its ugly mirror image in the laziness of the female drone.

2. The sweat beads of others or the rehabilitation of the parasitic drone

For Roman agrarian writers, too, such as Varro or Columella, who were considered Rome's most accomplished beekeepers, beekeeping represented an important part of the agricultural activity of distinguished large landowners. They remain faithful to the mythical stigmatization of the drone when they call the latter

²⁸ Aristotle: *Politics* (as note 14), p. 1253 b 42 sqq.

²⁹ *Ibid.*, pp. 1253 b 27–254 a 26.

³⁰ *Ibid.*, p. 1255 b 15 sq.

³¹ *Ibid.*, p. 1254 b 10.

³² *Ibid.*, pp. 1254 b 36 sqq.

»furries,« »thieves,« or as Virgil does, »lazy cattle,« which expel the hardworking worker bees from the »honey cribs.«³³ In the *Natural History of Bees*, the drone, which Pliny calls the »most incomplete bee« and a »slave,« is allocated only a marginal position: »Occasionally larger bees which expel the others occur at the edges of the honeycombs. These are called *oestrus* (drones).«³⁴ A special form of economic marginality is attributed to drones in John Locke's labor policy educational program for abolishing the poor. Locke was well versed in Greek and Roman agrarian writers and elevates them to paradigms in his recommendations for a gentleman's education. Both social classes, the begging poor and the idle aristocrats, are from an economic point of view marginal and must be compelled to engage in labor or meaningful activity under the aegis of manufacturing or »manual art«; the poor with the help of »houses of correction« as well as fines and corporal punishment, the nobility through ascetic education and a craft occupation. In order to increase the productivity of the English nation, the »begging drones, who live unnecessarily upon other people's labor,«³⁵ must be transformed into worker bees and the idle country gentlemen into gardeners and bookkeepers.

In the history of the reception of economics John Locke is considered to be the founder of the idea that work, the value-adding labor of one's own body and one's own hands, creates the right of ownership to its product. The doctrine of labor value and ownership which John Locke developed in his work *Two Treatises of Government*, written between 1679 and 1683 and published anonymously, still can only be adequately situated historically when connected with three kinds of programmatic interventions and economic interests of Locke: first of all, this doctrine stands in relation to the debate on »the employment of the poor« which had kept the English parliament on tenterhooks »in the 17th century in a long series of state papers and Acts of Parliament.«³⁶ As late as 1662 Charles II had enacted *The Poor Relief Act*.³⁷ At the behest of the king, Locke as a member of the Board of Trade

³³ Vergil: *Georgics* (as note 4), vol. 4, p. 166.

³⁴ Plinius: *The Natural History* (as note 26), Book 11: Insects, Chap. 11.

³⁵ John Locke: A Report of the Board of Trade to the Lords Justices, Respecting the Relief and Employment of the Poor; Drawn up in the Year 1697, in: *Society for the Promotion of Industry, Lindsey: An Account of the Origin, Proceedings, and Intentions of the Society for the Promotion of Industry, in the Southern District of the Parts of Lindsey, in the County of Lincoln*, printed by R. Sheardon, 3d. edition, Louth 1789, pp. 99–126: 104 and 103.

³⁶ E. J. Hundert: *The Making of Homo Faber: John Locke between Ideology and History*, in: *Journal of the History of Ideas* 33 (1972), pp. 3–22: 3. This and other key bibliographical indications are taken from the illuminating study by Jörg Thomas Peters: *Der Arbeitsbegriff bei John Locke. Im Anhang: Lockes Plan zur Bekämpfung der Arbeitslosigkeit von 1697*, Münster 1997, p. 149.

³⁷ This was the first law that required of every poor person a »Settlement Certificate,« which

founded by him in 1696 had intervened in the debate with a catalogue of measures for fighting unemployment among the poor and for its removal from English streets and had published his proposals in 1697 under the title *Respecting the Relief and Unemployment of the Poor*. Second, the Lockean theory of labor value corresponds to his work *Some Thoughts Concerning Education*, in which he sought to impress on the minds of the members of the land-owning gentry by means of suitable educational and training measures that they could acquire political importance vis-à-vis the idle higher nobility only by attaining an economic leadership position, which would in turn promote the welfare of the English nation. Finally, the doctrine of natural law set forth in *The Second Treatise of Government* constitutes the legal-philosophical foundation of legitimation for the agrarian-economic colonization of the North American »waste land« as well as for the transatlantic slave trade. At least in passing the well-known fact should be brought to mind that Locke succeeded through share purchases in the Royal African Company (RAC)³⁸ and Bahama Adventures, founded in 1672, in gaining significant profits from the transatlantic slave trade.³⁹ Locke was also secretary of the United Farmers of Carolina.⁴⁰ In the decree written by him of the Fundamental Constitutions of Carolina it is stated that every free man »shall have absolute power and authority over his Negro slaves.«⁴¹ This corresponds in turn to the Instructions of Governor Francis Nicholson of Virginia⁴² which Locke helped to draft in 1698. These viewed every Negro slave as legally enslaved who had been captured in a »just war« and thus forfeited his life through an act worthy of the death penalty.⁴³

everyone had to carry as soon as he or she left their place of residence. It guaranteed that the municipality responsible for the person had to assume the costs of transporting the person back home, in case he or she was in need of poor relief.

³⁸ This firm was, incidentally, a successor of the first stock company in the world, the *Company of Adventures of London* (1660).

³⁹ A list of Locke's investments is found in Maurice William Cranston: John Locke. A Biography, London/New York/Toronto 1957, p. 115. According to it, in 1674 Locke purchased shares in the Royal African Company for the value of 400 pounds and in 1675 further shares valued at 200 pounds.

⁴⁰ Peter Laslett: John Locke, the Great Recoinage, and the Origins of the Board of Trade: 1695-1698, in: John W. Yolton (ed.): John Locke: Problems and Perspectives, Cambridge 1969, pp. 137-164: p. 143; Walter Euchner: Einleitung des Herausgebers, in: John Locke: Zwei Abhandlungen über die Regierung, translated by Hans Jörn Hoffmann, edited and introduced by Walter Euchner, Frankfurt am Main 1977, pp. 9-59: 19.

⁴¹ Sir Leslie Stephen: History of English Thought in the Eighteenth Century (1876), Vol. 2, London 1902, p. 139.

⁴² Peter Laslett: John Locke, the Great Recoinage, and the Origins of the Board of Trade: 1695-1698 (as note 40), p. 162 sqq.

⁴³ James Tyrell: Patriarcha non Monarcha (Anon., Appendix B, no. 84.), London 1681, p. 62. On the theoretical ambiguity of Locke's attitude to slavery see Raymond Polin: La

This classical practice of the law of war perfectly reflects that punishment which Locke provided for in the *Second Treatise* with respect to criminals who violate the law of nature; that is, for criminals who, incited by vain ambition and criminal greed (*amor sceleratus habendi*),⁴⁴ have through their acts travestied themselves in the shape of predators, lions, and wolves; who can, however, escape their deserved execution through the act of grace consisting of justified enslavement.⁴⁵

The mythical theory scene of the »Golden Age« conceived by John Locke in the *Second Treatise*, on the one hand, and the state of nature corrupted by the introduction of money, on the other, represent an attempt to do »justice« from the perspective of natural law to the expulsion from paradise, the curse of field labor, the imposition of the hard labor of atonement and punishment as well as the colonial expansion into North America. Thus it is stated there on the one hand: »In the beginning all the world was America,«⁴⁶ while on the other Locke stresses that God, after he gave the World in common to all Mankind, commanded Man also to labor.⁴⁷ It is above all »the Industrious and Rational« to whom God has turned over the world for their usufruct, those, in other words, who understand how to cultivate the initially common fallow land by growing »sugar and tobacco,« »barley and wheat.«⁴⁸ Thus to them falls the law of nature vouchsafed by God which consists in acquiring more than »the Fancy or Covetousness,«⁴⁹ more than the Indians, say,⁵⁰ who in the woods only pursue hunting, who can lay no claim to ownership of the woods and the land because they do no labor. »Virginia's colonists would not deprive the Indians of their cornfields,« declared William Strachey, one of the early chroniclers of the English colonization of North America, »but only break up new growndes that lay vacant.«⁵¹ John Locke questions the very existence of Indian agriculture and horticulture, even though the most influential contemporary source, the *America* series published since 1590 by the publisher Theodor

Politique Morale de John Locke, Paris 1960, pp. 277–281, and the helpful hints provided by Peter Laslett, which I follow here, in: John Locke: Two Treatises of Government. A Critical Edition with an Introduction and Apparatus Criticus by Peter Laslett, Cambridge 1960, Second Treatise, p. 43 sq.

⁴⁴ Ovid: *Metamorphoses*, translated by Brookes More, London 1922, p. 131.

⁴⁵ John Locke: *Two Treatises of Government* (as note 43), paragraph 16, p. 296 sq.

⁴⁶ *Ibid.*, p. 319 and p. 357 sq. Carl Schmitt already drew attention to this formulation in Carl Schmitt: *Der Nomos der Erde im Völkerrecht des Jus Publicum Europaeum*, Berlin 1997, p. 66.

⁴⁷ John Locke: *Second Treatise* (as note 43), paragraph 32, p. 308 sq.

⁴⁸ *Ibid.*, paragraph 34 and 40, p. 309 and p. 314.

⁴⁹ *Ibid.*, paragraph 34, p. 309.

⁵⁰ *Ibid.*, paragraph 30, p. 307 sq.

⁵¹ Virginia DeJohn Anderson: *Creatures of Empire. How Domestic Animals transformed Early America*, Oxford 2004, p. 80.

de Bry and the relevant volumes on Virginia, which were demonstrably present in Locke's library,⁵² proved quite the opposite in words and pictures.⁵³

Locke's theory of labor places itself entirely at the service of an unequal distribution of the original common property of the earth, and this also means the unequal distribution of property on North American soil.⁵⁴ As »the Workmanship of one Omnipotent, and infinitely wise Maker,« man is at one and the same time the property of God and the absolute owner of his own self,⁵⁵ equipped with the duty to preserve himself and the rest of creation. Locke appropriates the Stoic-Ciceronian *oikeiosis* doctrine, the notion of self-preservation and self-appropriation of one's own person as well as the related *oikeiosis* of natural objects through work:⁵⁶ »Of the things, then, that are essential to the sustenance of human life, some are inanimate (gold and silver, for example, the fruits of the earth, and so forth), and some are animate and have their own peculiar instincts and appetites. Of these again some are rational, others irrational. Horses, oxen, and the other cattle, [bees] whose labour contributes more or less to the service and subsistence of man, are not endowed with reason. [...] And so those benefits that human life derives from inanimate objects and from the employment and use of animals are ascribed to the industrial arts,« namely the industriousness of the »human hand,« according to Cicero in *De officiis*.⁵⁷ Let us note in passing that the bee serves only

⁵² Locke's library included the works on the Americas by Theodor de Bry (cf. John Harrison and Peter Laslett: *The Library of John Locke*, London 1965, p. 96), as Francesca Falk points out when she emphasizes that Locke had deliberately not taken account of it, in order to legitimize the colonization of the supposed »waste land.« See Francesca Falk: »Thomas Hobbes' horror vacui und John Lockes leeres Land,« in: *Historische Anthropologie. Tierische (Ge)Fährten* 19/2 (2011), pp. 292–310: 302.

⁵³ Cf. De Bry: *Amerika oder die Neue Welt. Erster Teil*, edited by Friedemann Berger, Leipzig/Weimar 1977, plate 20; *The New World. The First Pictures of America*, edited by Stefan Lorant, New York 1964, plate 20, p. 265.

⁵⁴ »Labor is the Father and Active Principle of Wealth, as Lands are the Mother,« as Sir William Petty, whom Locke knew during his studies, had previously stated. On the acquaintance between Locke and Petty during their time as students see Reinhard Brandt: *Zu Lockes Lehre vom Privateigentum*, in: *Kant-Studien* 63 (1972), pp. 426–435: 432.

⁵⁵ »Every Man has a *Property* in his own *Person*.« John Locke: *Second Treatise* (as note 43), p. 290 and p. 305.

⁵⁶ On the Stoic *oikeiosis* doctrine see Max Pohlenz: *Grundfragen der stoischen Philosophie*, Göttingen 1940, p. 12.

⁵⁷ M. Tullius Cicero: *De Officiis*. With An English Translation, translated by Walter Miller, Cambridge, MA 1913, pp. 11–17; on the relevance of the Stoic *oikeiosis* doctrine for Locke's theory of personal identity in the chapter »Of Identity and Diversity« of the second edition of the *Essay concerning human understanding*, and on the labor theory of value in the *Second Treatise*, see Reinhard Brandt: *Zu Lockes Lehre vom Privateigentum* (as note 54), p. 430; in regard to the corresponding significance of Cicero see Jörg Thomas Peters: *Der Arbeitsbegriff bei John Locke* (as note 36), pp. 37–63: 166 sqq.

as an emblem of industriousness in Cicero. Its product is, on the contrary, an object of appropriation through the working hand of the beekeeper.

A person's labor, that is, »the *Labor* of his Body, and the *Work* of his Hands,«⁵⁸ is for Locke the addition and blending of a personal »something« with »Nature, the common Mother of all.«⁵⁹ The product which arises in this way lawfully belongs to that person who preserves himself through physical labor, namely without the approval of the other co-owners of the earth. With this law of ownership based on work, Locke rejects the dominum theory *sensu* Grotius and Pufendorf, that is, the legal foundation of ownership through contractual agreement. Ownership is for Locke a one-sided, quasi magical act of personifying an object rather than a reciprocal legal relationship between individuals. A certain appeal would lie in associating the divested »something« appended to the natural object with the beads of sweat which are supposed to rise on the face of the male sex as an agonizing sign of the forced labor imposed by God: »In the sweat of your brow you will eat your food.«⁶⁰ As Aristotle and Cicero already did, Locke also avoids the effort of physical labor by passing it on both from a work-theoretical standpoint and *in praxi* to servants, day laborers, slaves, and labor animals, that is, by drawing a distinction between the sweat-inducing labor of dependents and the capital-accumulating activity of despotic managers.⁶¹ The land-owning gentleman appropriates the labor of others: first, the physical labor of slaves, second the labor of servants who »for a certain period of time sell [their] services« against a wage, for a wage which in the »Golden Age« of Virgilian provenance first consists of payment in kind and subsequently, following the invention of value-representing signs, of money:⁶² »money is a barren thing, and produces nothing, but by compact transfers that profit, that was the reward of one man's labor, into another man's pocket.«⁶³ The

⁵⁸ John Locke: Second Treatise (as note 43), paragraph 27, p. 305 sq.

⁵⁹ Ibid., paragraph 27–28, p. 306. »[H]e hath mixed his *Labour* with, and joynd to it something of his own, and thereby makes it his *Property*.«

⁶⁰ Genesis 3:19. Reinhard Brandt correctly notes that »this interpretation [...] would not correspond to Locke's original ideas.« Reinhard Brandt: Zu Lockes Lehre vom Privateigentum (as note 54), p. 433.

⁶¹ John Locke: Second Treatise (as note 43), paragraph 28, p. 306 sq. The authority and possessions of the *Pater familias* extends over and includes, incidentally, women and children, as well as servants and slaves. Cf. paragraph 85 and 86, p. 251 sq.; C. B. Macpherson: The Political Theory of Possessive Individualism. Hobbes to Locke, Oxford 1962, p. 215 sq.

⁶² John Locke: Second Treatise (as note 43), paragraph 46, p. 317 sq.

⁶³ John Locke: Some Considerations Concerning Raising the Value of Money and Some Consequences of the Lowering of Interest and Raising the Value of Money, in: The Works of John Locke. A New Edition, Corrected in Ten Volumes, Vol. V, London 1823, pp. 1–116: p. 36. See the quote in Reinhard Brandt: Zu Lockes Lehre vom Privateigentum (as note 54), p. 434.

power to act and the emotional power inherent in money annuls those two limits to appropriation which Locke had initially seen as necessary with a view to preserving divine creation and had based on the neediness of others, on the one hand, and on the corruptive effect of goods,⁶⁴ on the other. With the introduction of money, however, the accumulation of wealth and the unequal distribution of common resources become unlimited. Money makes possible not only the exchange of perishable goods for non-perishable ones but also and precisely the disproportional appropriation of the labor of others and the enlargement of one's own land ownership through conscientious management. In marked contrast to the Aristotelian doctrine of labor, however, this occurs in a legitimate manner—legitimate in terms of natural law—since the cultivation of the »waste land«⁶⁵ through pasturage, tillage, and planting miraculously promises to promote the welfare also of the dispossessed.⁶⁶ Mother Nature and the earth provided only the per se worthless raw materials. Only physical labor, »the Plough-man's Pains, the Reaper's and Thresher's Toil and the Bakers sweat«⁶⁷ give the natural raw materials and not least of all the fallow land their real, almost one hundred percent value,⁶⁸ which thanks to money can now be enumerated, sold, bought, accumulated, and reinvested and finally contributes to the circumstance that the English day laborer lives in greater prosperity than an Indian chief. It is the reference and value system of labor (of the fallow land cultivated through labor) which Locke puts forward against Aristotle and the limitless self-generation of money. In this system some are destined to take on the divine curse of labor while others are destined to appropriate the labor of the former, to transform the surpluses produced into money and to reinvest the accumulated capital to the benefit of all.⁶⁹ As a result, however, it is precisely the investors who obey the divine directive to preserve themselves and the rest of humanity.

⁶⁴ John Locke: Second Treatise (as note 43), paragraph 31, p. 308.

⁶⁵ Judy Whitehead notes that the term »waste land« appears 14 times alone in this chapter: »Locke here is following existing legal usages of wasteland in the sense of land being left unused, a category introduced into English common law in the 13th century to curb the rights of tenants to do anything they pleased with rented land, and to disallow them from leaving it idle.« Judy Whitehead: John Locke and the Governance of India's Landscape. The Category of Wasteland in Colonial Revenue and Forest Legislation, in: Economic & Political Weekly December 11 (2010), Vol. XIV., No 50, pp. 83–93: 85.

⁶⁶ See in particular the precise reading and accurate interpretation by C. B. Macpherson: The Political Theory of Possessive Individualism (as note 60), p. 203 sqq.

⁶⁷ John Locke: Second Treatise (as note 43), paragraphs 42 and 43.

⁶⁸ Ibid., paragraph 40.

⁶⁹ Jörg Thomas Peters: Der Arbeitsbegriff bei John Locke (as note 36), p. 179; cf. Eduard Fechtner: John Lockes *Gedanken über Erziehung* (1883), Schutterwald/Baden 1999, p. 25.

Practice should come from this theory of labor. Consequently, the educational theory developed by Locke both for the laboring class and for the land-owning gentry fulfills this labor economic program and especially the attempt to do away with the two economically marginal ways of life, that is, on the one hand the drone-like laziness of the begging poor and, on the other, the idle wastefulness of the English aristocracy.

Proceeding from the well-known thesis that every human being from birth is an unwritten sheet of paper (*tabula rasa*) or an untouched bee wax tablet,⁷⁰ Locke sees everything having to do with a gentleman's education as dependent on the proper »habitus,« which should not make an impression with the whip but rather through friendly sternness.⁷¹ As far as corporal discipline is concerned, it is advisable to introduce pupils to the ascetic lifestyle in order to prevent them from becoming accustomed to a life »in plenty and ease.«⁷² The toughening of the body⁷³ finds its counterpart in the mind: here the »rules and restrictions of reason« and »the true principles of virtue and industry« should be the focus. To the impracticality of scholastic education Locke opposes the acquisition of decent handwriting, commercial bookkeeping, and accounting (casting account)⁷⁴ together with industrial training.⁷⁵ Of the traditional teaching subjects Locke finds solely Latin to be dignified enough for a gentleman in that it enables him to read the classics and not least of all the Roman agrarian writers. They allow the future »man of business«⁷⁶ to find paradigms for a life befitting one's social status under the aegis of an aristocratic agriculture and the »manual arts.« Locke is aware of the scandal that for the 17th century resides in connecting a gentleman's education expressly with training in a trade and the crafts.⁷⁷ It is the privilege of the nobleman to lead an idle life and to regard physical labor, the church service of the lower classes, with contempt. Therefore he also wants to have nothing to do with the imposition of »hard and painful labor.«⁷⁸ Instead, the noble handicrafts are meant to allow recuperation from one-sided mental and mathematical activity. At the same time they are a useful diversion which should take the place of morally corrupting drinking,

⁷⁰ John Locke: *Some Thoughts Concerning Education*. The Clarendon Edition of the Works of John Locke, edited and with introduction, notes and critical apparatus by John W. Yolton and Jean P. Yolton, Oxford 1989, paragraph 1 and paragraph 176.

⁷¹ *Ibid.*, paragraphs 1, 130.

⁷² *Ibid.*, paragraphs 66, 21, 5, 7, 15.

⁷³ *Ibid.*, paragraphs 147, 148, 167.

⁷⁴ *Ibid.*, paragraph 210.

⁷⁵ *Ibid.*, paragraphs 164, 208.

⁷⁶ *Ibid.*, paragraph 94.

⁷⁷ *Ibid.*, paragraphs 201, 208.

⁷⁸ *Ibid.*, paragraph 206.

dice throwing and card playing⁷⁹ and prepare the future gentleman for his role as an efficient administrator. Just as for Cato, Cyrus, or Xenophon,⁸⁰ for the English gentleman too agriculture, fruit-growing, and horticulture, as well as the grafting and breeding of plants and animals, is particularly expedient.⁸¹ Just as the gentleman should not remain idle if he is to serve as a model for the failed higher nobility and to increase the welfare of the country as a whole, his spouse should also not be corrupted by unproductive idleness. In his work *Oikonomikos*, written around 360 B.C., Xenophon has already said what needed to be said about the education of wives by their husbands. He equips her, after all, in a paradigm which can be seen as a response to Hesiod's misogyny—encompassed in the image of the drone—with the crown of the queen bee that is capable of »controlling her stomach,« in short, is capable of *sophrosyne*.⁸² As a result she is not only called upon to manage the household and to administer the labor of the (enslaved) bees, she also knows how to preserve and use the surpluses that have been acquired.⁸³ The director of the household in Locke's sense is the beekeeper, owner, administrator, and accounts officer of the house and the estates, in England as well as in the colonies.

⁷⁹ Ibid., paragraph 208.

⁸⁰ Ibid., paragraph 205.

⁸¹ Ibid., paragraphs 204, 205, 206, 209.

⁸² On the female virtue of Sophrosyne in antiquity see Hans-Ulrich Wiemer: Die gute Ehefrau im Wandel der Zeiten: von Xenophon zu Plutarch, in: *Hermes* 133/4 (2005), pp. 424-446, and therein his reference to Helen F. North: The Mare, the Vixen, and the Bee. Sophrosyne as the Virtue of Women in Antiquity, in: *Illinois Classical Studies* II (1977), pp. 35-88: 46. According to North, Xenophon was the first to link Sophrosyne with *oikonomia* and to allot it as a virtue to women and men equally. On the division of labor in the orally administered home of Xenophon see Sabine Föllinger: Frau und Techne: Xenophons Modell einer geschlechtsspezifischen Arbeitsteilung, in: Barbara Feichtinger and Georg Wöhrle (eds.): *Gender Studies in den Altertumswissenschaften. Möglichkeiten und Grenzen*, Trier 2002, pp. 63-49.

⁸³ Xenophon was the first to transform the bee king, in antiquity regarded as male, into a bee queen, who »stays in the hive, [...] and does not suffer the bees to be idle; but those whose duty it is to work outside she sends forth to their work; and whatever each of them brings in, she knows and receives it, and keeps it till it is wanted. And when the time is come to use it, she portions out the just share to each.« The bee queen thus embodies the virtues of the good wife. The animal figure of the stealing drone also appears in the *Oikonomikos*: »What if weeds are springing up, choking the corn and robbing it of its food, much as useless drones rob bees of the food they have laid in store by their industry?« The weeds must be cut, of course, just as the drones must be removed from the hive.« Xenophon: *Economics*, translated by O. J. Todd, Cambridge, MA 1923, 7.33 and 7.14. As Peter Spahn indicates, one should recall that the »word *oikonomikos* (and its equivalent *oikouros*) [...] in the literature of the 5th and 6th centuries still consistently referred to female persons and only with authors of the 4th century did it overwhelmingly denote the male head of the household.« Peter Spahn: *Sophistik und Ökonomie*, in: Karen Piepenbrink (ed.): *Philosophie und Lebenswelt in der Antike*, Darmstadt 2003, pp. 35-57: 51.

In his *Report of the Board of Trade*, Locke devotes himself to the other marginal—in the productive sense—class, the poor: towards the end of the 16th century not only bad harvests and famines and the enormous increase in the population and in grain prices contributed to forcing millions of people into poverty. The increasing importance of wool production for the English economy also resulted in the enclosure of areas of arable land and of common land in order to provide pasture for sheep, thus making wandering beggars out of the population and commoners which until that time had lived from agriculture. With the exception of the Netherlands, England had the highest rate of working animals per inhabitant and acre in Europe. According to estimates, there were 4.5 million cattle, 12 million sheep, and 2 million pigs in England and Wales in 1696, compared with a population of 5.3 million people. For the English population of the 17th century the keeping of livestock was thus an »unavoidable part of their world«: »The beasts seemed to have been around forever.«⁸⁴ Meanwhile in John Locke's *Report of the Board of Trade* there is no mention whatsoever of »enclosure,« the enclosure of land and woodland areas previously held in common. Instead, Locke makes the »loosening of discipline and the corruption of morals« responsible for the constantly increasing »swarms of beggars,« who because of their laziness, poverty, and vileness represented a »disgrace to Christianity.«⁸⁵ In view of God's command to eat your food in the sweat of your brow, these »begging drones who live unnecessarily from the labor of others«⁸⁶ had forfeited any right to eat.⁸⁷ Since public assistance only intensifies the laziness of the poor, the central question for Locke remains how the hundreds of thousands of poor people might be compelled to work and be put to work by the wool industry and how England could thus be made a million pounds richer in the space of eight years.⁸⁸ Locke finds the answer in the establishment, first, of »houses of correction« and, second, in that of »Working Schools.«⁸⁹ Thus, those

⁸⁴ Virginia DeJohn Anderson: *Creatures of Empire* (as note 51), p. 84.

⁸⁵ John Locke: *A Report of the Board of Trade to the Lords Justices, Respecting the Relief and Employment of the Poor* (as note 35), pp. 99–126: 111.

⁸⁶ *Ibid.*, p. 103 and p. 104.

⁸⁷ »I think, everyone, according to what way providence has placed him in, is bound to labor for the public good, as far as he is able, or he has no right to eat.« Letter from John Locke to Molyneux of 19 January 1694, in: *The Correspondence of John Locke*, 8 Volumes, Vol. 4, edited by E.S. de Beer, Oxford 1979, (Letters No 124–1701), Letter No. 1693, p. 786. Quoted according to Jörg Thomas Peters: *Der Arbeitsbegriff bei John Locke* (as note 36), p. 222.

⁸⁸ John Locke: *A Report of the Board of Trade to the Lords Justices, Respecting the Relief and Employment of the Poor* (as note 35), p. 102 and p. 110 sq.

⁸⁹ As M.G. Mason explains, by the middle of the 17th century the Elizabethan laws on the poor had proven themselves completely inappropriate for dealing with the issue of the poor. The solution of the poor issue and laws regarding them were the responsibility of

»able-handed« men between the ages of 14 and 50 who have been seized without permits for begging outside their county are to be brought to the nearest seaport and on to the first available ship of His Majesty in order to carry out very heavy labor there for three years and, should they flee, be punished as deserters. All begging men who are crippled and over the age of 50 are to carry out hard labor for three years in a house of correction, while those who forge their permits are to lose both ears as punishment⁹⁰ and, in the case of a repeat offence, to be deported as hard criminals to one of the English colonies. Those who still persist in maintaining that they can find no work or who refuse any labor that is offered to them are to be made through corporal punishment to labor for a lesser wage or be compelled to work in a house of correction. Nor are begging women and children over the age of three who are capable of earning their own livelihood to be spared such measures.⁹¹ The whip and forced labor are for Locke the tried and tested means of honoring the principle of forced labor imposed by God. As far as the future of labor and that of the poor and disadvantaged children of England in particular is concerned, Locke recommends the establishment of »Working Schools« in which poor children can be trained until the age of 14 in »spinning or knitting or in another branch of wool manufacture« as well as being compelled to attend Sunday church. In Locke's view, through the sale of the goods which are thereby manufactured each school should be able to finance itself and thus no longer be a burden to the community.⁹²

In this way child labor can be made productive, the gestures and body techniques of »able hands« be made efficient, and begging drones be transformed into hardworking bees.

John Locke makes no distinction between productive and reproductive labor. In contrast to Aristotle, all labor is instead for him value adding and productive as long as it can be appropriated or purchased through force only, made into capital and reinvested for the purpose of accumulating wealth. Both of them are, to be sure, united by their interest in seeing that labor be made to mean above all having people labor in order to provide political beings as well as land-owning gentlemen

the Board of Trade founded in May 1696, whose corresponding department was headed by Locke as Commissioner; he apparently approached his work with uncommon earnestness. On this see M. G. Mason: *John Locke's Proposals on Work-house Schools*, in: *John Locke. Critical Assessments, Volume II*, edited by Richard Ashcraft, London/New York 1991, pp. 269–280: 269.

⁹⁰ John Locke: *A Report of the Board of Trade to the Lords Justices, Respecting the Relief and Employment of the Poor* (as note 35), p. 106.

⁹¹ *Ibid.*, p. 113.

⁹² Up to now they had to provide between 50 to 60 pounds for each poor child till he or she reached the age of 14. See John Locke: *A Report of the Board of Trade to the Lords Justices, Respecting the Relief and Employment of the Poor* (as note 35), p. 114.

with the opportunity to engage in political practice or bookkeeping. Adam Smith formulated it as follows: »Ownership is the command over labor,« or, to put it more effectively and in the words of Marx: »Ownership means being in command of [the unpaid] labor of others.«⁹³

The worker bee and the drone are elevated to new heights in the foundation myth of the modern age's economic zoology, Bernhard de Mandeville's *Fable of the Bees*. Mandeville was well acquainted with the labor and ownership theory of the *Second Treatise*. What Locke's »hiding hand«⁹⁴ still attempted to conceal with the mythical theory scene of the »Golden Age,« Mandeville brought into the full light of day in his *Fable of the Bees*: the »necessity« of exploiting the masses of poor people by a small number of non-working rich people who indulge in the »noble sin« of luxury and an appetite for consumption, in short, an excessive egoism.⁹⁵ This rehabilitation of the parasitic drone in the role of the rich glutton takes place for the benefit of all, especially the poor:⁹⁶ Adam Smith, as is well known, made, guided by the »hidden hand,«⁹⁷ theoretical capital out of the discovery of Locke

⁹³ Karl Marx: Kapital, in: MEW, Vol. 23, p. 556; Grundrisse, p. 148; Karl Marx and Friedrich Engels: Deutsche Ideologie, in: MEW, Vol. 3, p. 32.

⁹⁴ Here, however, employed in a completely different sense than meant by Albert O. Hirschman: Development Projects Observed, Washington 1967.

⁹⁵ That »private vices, by the dexterous management of skillful politician, can be turned into public benefits« is the best known maxim from this book, which at the same time makes clear that Mandeville did not abandon society and economy to the free play of forces, but rather put these forces under the control of skilled management and political authority. Bernhard Mandeville: Die Bienenfabel, mit einer Einleitung von Walter Euchner, 2nd edition, Frankfurt am Main 1980, p. 48.

⁹⁶ »Thus Vice nursed Ingenuity, / Which join'd with Time, and Industry / Had carry'd Life's Conveniences, / It's real Pleasures, Comforts, Ease, / To such a Height, the very Poor / Lived better than the Rich before«; Bernhard Mandeville: The Grumbling Hive: or, Knaves Turned Honest, in: The Fable of the Bees, edited by Irwin Primer, New York 1962, Lines 197–202.

⁹⁷ Scholars of culture history and media studies, as well as philosophers, have devoted much attention in recent years to Adam Smith's metaphor of the »invisible hand,« which he used in three passages: in his *History of Anatomy* (1750/posthumously published 1795), in *The Theory of Moral Sentiments* (1759), and in *The Wealth of Nations* (1776). For the theoretical origins of this metaphor see Giorgio Agamben: Herrschaft und Herrlichkeit. Zur theologischen Genealogie von Ökonomie und Regierung, translated by Andreas Hiepko, Berlin 2010, p. 338 sqq. Emma Rothschild has emphasized the Anglo-Scottish literature that Smith was familiar with, not least Macbeth, »who asks the night, with thy bloody and invisible hand', to cover up the crimes he is about to commit, (Macbeth, Act III, Scene ii).« A further »invisible hand,« which Smith would have known, is found in Ovid's *Metamorphoses*, »in which the hero, stabbing his tormentor in the back, twisted and plied his invisible hand, inflicting wound within wound.« See Emma Rothschild: Adam Smith and the Invisible Hand, in: The American Economic Review 82/2 (1994), pp. 319–322: 319 sqq. Cf. Stefan Andriopoulos: The Invisible Hand: Supernatural Agency

and Mandeville that ruthless self-interest promotes the welfare of all,⁹⁸ and in so doing distinguished for the first time from a systematic point of view between productive and reproductive labor. Assuming that the cultural contempt for reproductive work is an old European phenomenon which responds to the mythical notion of forced labor, its economic marginalization only begins with early industrialization. Adam Smith made himself into one of its most important advocates when he emphasized that »lower forms of labor and services at the moment of their execution already come to naught and rarely leave behind a trace or value.«⁹⁹ With the myth of the service economy proclaimed by Jean Fourastié and declared to be the »great hope« of the 20th century, whereby with the decline of the industrial age the »Golden Age« of »tertiary civilization« would be introduced,¹⁰⁰ reproductive labor and services at least emerge from their economic shadow existence and in the 1960s—because of a lack of industrial work—become for the first time part of the calculation of the gross national product.¹⁰¹

in *Political Economy and the Gothic Novel*, in: *ELH* 66 (1999), pp. 739–758; see also the illuminating study by Harun Maye: *Die unsichtbare Hand – zur Geschichte einer populären Metapher*, in: Hannelore Bublitz, Irina Kaldrack, Theo Röhle, and Hartmut Winkler (eds.): *Unsichtbare Hände. Automatismen in Medien-, Technik- und Diskursgeschichte*, Paderborn 2011, pp. 21–40.

⁹⁸ The recent stellar career of the term »self-interest« follows the knowledgeable study by Thomas Rommel: *Das Selbstinteresse von Mandeville bis Smith. Ökonomisches Denken in ausgewählten Schriften des 18. Jahrhunderts*, Heidelberg 2006.

⁹⁹ Adam Smith: *An Inquiry into the Nature and Causes of the Wealth of Nations*, London 1776, II: 3.1.

¹⁰⁰ Jean Fourastié: *Le grand espoir du XXe siècle. Progrès Technique – Progrès Économique – Progrès Social*, Paris 1954, p. 275 sqq.

¹⁰¹ On the history of the gross national product, which first began in the second half of the 20th century with Colin Clark's macroeconomic world atlas, see Colin Clark: *The Conditions of Economic Progress*, London 1940, p. 54; also see Daniel Speich Chassé: *Statistische Größen. Zum Zahlenraum der Makroökonomie*, in: Anna Echterhölter and Iris Därmann (eds.): *Konfigurationen. Gebrauchsweisen des Raums*, Berlin 2013, pp. 31–44.

The Infinite Cinema

A Discussion with Mr. Xu Chi on »The Limit of Cinema« *and*
The Limit of Art: A Second Discussion on the Infinite Cinema

Li Lishui

The Infinite Cinema:
A Discussion with Mr. Xu Chi on »The Limit of Cinema«¹

Cinema has no limit, cinema is infinite!

(If Mr. Xu Chi thinks cinema has its own limit, which is bound by time and space, cinema can actually lengthen, bend forward, spread out, and transcend its limit to become infinite.)

Any art must have its own limit of existence. Once the limit is exceeded, art will perish. Such death does not mean the extermination of art, but rather the life of art expands and creates such tension that it cannot but transcend this limit and develop into another newly emergent art so as to continue its existence. An art's realm of activity is surrounded by the crosses of death; if an art wants to roll out of these crosses, art must mutate to maintain its life. This is what Mr. Xu meant by the limit of art.

Those who examine the boundary of art in order to investigate the developmental history of artistic form are but looking for the crosses of death for art. From another perspective, they are also looking for the point of indirect growth for this art. Art germinates its life at such a point of transition and matures into another configuration. To see art as »discontinuous growth« is to understand that art's metamorphosis must reach a certain apex so that the embryo for a new art can emerge and inherit its excellent bloodline while overcoming its defect. Such a spiral development, however, changes when it comes to the epoch of cinema. Like the point where the moth breaks its cocoon and flies freely in the sky, cinema's discontinuous points of life, be they vertical (time) or horizontal (space), are like two parallel, symmetrical lines that can extend to the infinite such that we can no

¹ Li Lishui: Dianying wuxianda. du Xu Chi xiansheng »dianying de jixian« yiwenhou de shangque (The cinema has no limit. A discussion with Mr. Xu Chi's on »the limit of cinema«), in: Dianying jishibao (Movie chronicle) 1 (June 25, 1941), pp. 4-5.

longer define cinema's boundary by a »fixed form« (*dingxing*) or a particular »constant« (*dingshi*).

Since its invention, an art form wants to break its limit, i.e., the limits of its prior territory of activity, it naturally wants to spread more broadly and last longer. Such a conflict is entirely resolved with the birth of cinema, which also forbids any ensuing art to invade its territory. Indeed, only cinema can occupy a boundless territory.

The reason cinema differs from other arts and contains no limit is entirely due to the special »energy« (*neng*) it possesses. Let's call it cinema's »radiating energy« (*fangshe neng*). Such radiating energy is like the variable (*kebianshi*) in mathematics, it is broadcasted through the vertical (time) and horizontal (space) line growth and hence gives cinema infinite life. Since this variable forms a mathematical relationship with time and space, there is no doubt that cinema is an unbridled, leaping art that transcends and exceeds any boundary.

In chemistry, there are functions of »osmosis« (*shentou zuoyong*) and »diffusion« (*misan zuoyong*). Obviously, cinema also carries both functions. By way of osmosis, cinema breaks its stiff body at its point of indirect growth (its limit) where it cannot develop or formulate any further; by way of diffusion, cinema lengthens, bends forward, spreads out, and leaps into the infinite. Consequently, cinema possesses an immense body (in terms of its realm of activity) and thrives in the boundless universe (*wuji*). Such an enormous body merges with ether (*yitai*) as the boundless universe, moving either in the manner of a Brownian Movement [English original] or following a certain trajectory. But we can be sure that cinema is an art that starts from the earth and travels in the realm of the infinite.

Moreover, cinema assimilates the limits of all departments of art and dissolves them in the infinite realm of cinema. This is the artistic sublimation of cinema. No matter at what time and space, wherever ether exists, cinema's life is attached to it. Cinema does not allow any obstruction and will appear in front of everyone at any moment and place. Now we need to ask how cinema is able to break the limit of every department of art and dissolve them in an infinite realm. Mr. Xu made this point quite clearly:

Because cinema stays on the surface, it can only observe the human body from various angles, which makes it inferior to sculpture. But cinema can deploy multiple ways to make the audience grasp the concept of sculpture.

Any specific feature of painting, such as color, line, composition, is immediately retained by cinema. Whereas painting is static, cinema overcomes its stillness and become continuous movement.

The continuous movement of literature only captures the virtual (*biaoxiang*), not actual image (*xingxiang*). In the past, drama broke such a limit of literature to

compensate readers with actual imagery and thus evoked their emotional response; now cinema has achieved similar effects.

Cinema retains all of music's specific features and further advances them. Music in this case enhances cinema. So does dance.

But cinema does not only traverse the limits of all sorts of art but also annihilates the crosses of death surrounding its territory, thus achieving eternal and widespread life. Here we can take radiophotography (*wuxiandian chuanzhen*) as evidence that cinema is already a vibrating art in the air. No fortress can demarcate cinema's limit. The notion of limit can thus be explicated via mathematics. A constant (*dingzhi*) or value (*dingshi*) can be infinitely approximated but never reached by its variable. Yet the cinema's limit is already the infinite!²

The Limit of Art: A Second Discussion on the Infinite Cinema³

Art has its limit of existence. As the old saying has it, »fish jumps in the pool, and an eagle flies in the sky.« Everything exists within its own limit. Art can only thrive and develop within its limit of existence just as the deep pool and the sky are the limits for the fish and the eagle. They cannot develop and survive beyond their realms of existence.

We all know the kinds of arts contingent upon our sense of space, that is, these arts' limit of existence resides in space. We call them spatial arts, such as architecture and painting. Those arts based on our sense of time are called temporal arts. Music and poetry, which are also called rhythmic arts, constitute good examples. But what kind of art is cinema?

Cinema's existence is not only space but also time, it is an amphibian creature that lives in the »deep pool« and the »sky.« It can develop and thrive simultaneously in time and space. This might be why cinema has been called a synthetic art! Yet perhaps we cannot quite call space and time cinema's limits.

If one takes art's limit of existence as the point from which art can no longer stretch or develop further, art is seen as static. As a measurement of its limit, it will

² Li is applying the notion of limit and infinity from calculus. The limit is a precise value (constant) until the distance between the variable and the limit reaches close to zero, hence lifting the limit and reaching infinity, which Li applies to cinema. Mathematical study boomed in wartime Chongqing and hinterland China. See Li Zhongyan: *Sanshinian lai zhongguo de suanxue* (Mathematical study in China for the past three decades), Kexue 29/3 (1947), pp. 67-72.

³ Li Lishui: *Yishu de shengcun xiandai: zailun dianying wuxianda* (The limit of art's existence: A second discussion on the infinite cinema), *Dianying jishibao* 2 (August 10, 1941), p. 8.

freeze once it reaches a certain degree of temperature. Nevertheless, is cinema static? Will it end its life once it reaches the freezing point? No, cinema can thrive and develop simultaneously in the same time and space, but it can also exist and develop beyond this time and space. In other words, cinema can be projected at different places at the same time; further, it can perpetually and continuously move in the limitless realm. This is cinema's simultaneity and infinity. In this sense, cinema is a mobile, leaping art. Cinema has no »limit,« nor will there be any »limit« for language in cinema. Naturally our language has its spatial character—dialects vary in different places. But this should not decrease cinema's infinity. Although language is a means of expression, it is absolutely not the only means of expression. Human kind shares the same soul and similar emotions such as love and hatred, anger and sorrow. This is one of the main bases for cinema's infinity. Even though language has its »limit,« it can certainly lengthen, stretch forward, spread out, and break its boundary and turn into an infinite cinema.

As Mr. Xu Chi rightly points out in his essay *The Question of Language in Cinema*: »The task of cinema is not simply to unify written and spoken language, but further, to unify distinct dialects from various regions so as to create a national vernacular language after being repeatedly tempered.« Wouldn't it be possible for us to create an international vernacular language after repeated tempering?

Language cannot shrink the living realm of cinema; what's more, »language will accompany film to traverse time and space without obstruction and thus reaches infinity.«

Translated by Weihong Bao

Li Lishui's Medium Ontology

A Commentary

Weihong Bao

PRESENTED HERE is a two-part essay written by Li Lishui, published in the film journal *Dianying jishibao* («The Movie Chronicle») in Chongqing, China, during the Second World War. By now an obscure name, the author Li Lishui was a journalist and translator in wartime Chongqing who worked for the state operated Central Film Studio. Li participated in the cultural scene in wartime Chongqing, as evidenced in the publications that survive today. In addition to writing for major newspapers such as *Zhongyang ribao*, *Xin shubao*, and drama journals such as *Xiju gangwei*, Li authored several stage plays and translated articles from Russian and English on literature, music, and drama. After the war, Li followed the relocated Central Film Studio to Beijing and contributed to news report and film publicity for the studio. Very little is known about his life afterwards. Like the many petty intellectuals who migrated to Chongqing from the coastal cities during the Second World War, Li is now largely forgotten.

Out of the large corpus of material in Chinese that could be counted as film theory, I choose Li Lishui obviously not because he is considered a canonical figure of modern Chinese cultural history, either as a writer, a translator, a dramatist, or a film critic, although he participated in all these aspects of cultural production.¹ Having little chance to board any authoritative anthology of Chinese film theory, Li's writings are however striking and imaginative, if not hyperbolic, idiosyncratic, and eclectic. The two-part essay, despite its brevity, is reminiscent of what Borges fictionalizes as a Chinese encyclopedia anthologizing a variety of thoughts and knowledge taken from different sources and challenging categorical or sys-

¹ For Chinese anthologies of Chinese film theory, see Luo Yijun et al. (eds.): *Zhongguo dianying lilun wenxuan* (Selected Writings of Chinese Film Theory), Beijing 1992; Ding Yaping (ed.): *Bainian Zhongguo dianying lilun wenxuan. 1897-2001* (An Anthology of One Hundred Years of Chinese Film Theory, 1897-2001), Beijing 2002. For an English anthology of contemporary Chinese film theory covering the late 70s and 80s, see George Semsel et al. (eds.): *Chinese Film Theory, a Guide to the New Era*, New York, NY 1990. A new English anthology of Chinese film theory that covers the mainland, Hong Kong, and Taiwan from the 1920s to the contemporary period is forthcoming from the University of Amsterdam Press.

tematic thinking. A considerable degree of technoscience is at play when Li draws on a diverse range of scientific terms from biology, chemistry, physics, and mathematics. The author, while conducting a dialogue with the more famous writer and poet Xu Chi, also quotes him verbatim.² Any attempt to locate an authorial voice or system of thinking will meet with ready defeat, and I choose this piece in a somewhat perverse gesture to contrast the thin biographical detail with the thickness of media and cultural history the essay registers. Rather than treating the essay as »representative« of Chinese film theory, a term itself subject to much critical reflection, I am presenting it as a fragment/remnant of film and media history that reflects upon and documents, albeit obliquely, the tremendous transformation of film culture in China at a specific historical juncture and a particular geopolitical site. The essay itself also raises conceptual and methodological questions as to what we do with film theory after the challenges it faces with the sea changes in media technology and the reconstitution of the fields of film and media studies in various directions.

Film theory, previously identified with structuralist and poststructuralist approaches at the founding moment of the discipline of film studies in the 1960s, has undergone a significant transformation. The »historical turn« in film studies has problematized the universal claims of generalizing enterprises such as film theory while the resistance against the »Grand Theory« of the poststructuralist paradigm in favor of cognitive science and analytical philosophy, as David Rodowick points out, has effected a »retreat from theory« in identifying theory now with principles and methods drawn from the natural sciences. Meanwhile, the rise of digital media, coupled with the proliferation and convergence of media platforms, rekindled the perpetual identity crisis of cinema and effected a »metacritical attitude« in film theory in search of its object of study.³ While most of these discussions happen in the dominant terrain of European and American contexts, what constitutes film theory elsewhere remains a question. Does film theory exist in other countries and regions? If so, are we applying the same principles and methods as those at the dominant center of knowledge production for purpose of identification? Are we privileging those that fit within the established parameters while discrediting the others outside these parameters? Or, are we looking for some absolute otherness to established parameters to reinforce these cultures as sources of desirable others and alternative knowledge? These questions, meant to address the peripheral geo-

² Xu Chi (1914-1996) was a noted poet, writer, and translator in China. He became known for his modernist poetry in the early 1930s in Shanghai and was an active critic, writer, and journalist in Hong Kong and Chongqing during the Second World War. He was later known for his reportage literature on Chinese scientists from the 1970s to the 1990s. Xu committed suicide in 1996.

³ David N. Rodowick: *An Elegy for Theory*, in: *October* 122 (2007), pp. 91-109.

political contexts, end up returning to the center, challenging key assumptions demarcating the territory of a specific discipline or regime of knowledge.⁴ Just like modern Chinese intellectuals at the turn of the twentieth century had debated whether philosophy existed in China, to ask the question of film theory is never merely about geographical expansion of knowledge but a rethinking of the categories of knowledge themselves. Li Lishui's essay provides an interesting case for us both because of the »metacritical« quality it shares with contemporary film theory in rethinking the medium of cinema and because of its particular constellation of science, art, and philosophy, which provides a unique perspective in considering the history and future of film theory.

Li Lishui's essay was written during the Second Sino-Japanese War (1937-1945), which overlapped with World War II but with a distinct constellation. With Japan invading China and taking over the Eastern part of the country, China split into five geopolitical zones under Nationalist, Communist, Japanese, British (Hong Kong), and British-American (the International Settlement in Shanghai) regimes of power, each fostering a distinct film culture. The Chinese Nationalist government retreated from the coastal city of Nanjing to inland Chongqing, a treaty port upstream along the Yangtze River. Nestled in the mountainous region in southwest China, Chongqing quickly rose from a backwater in the hinterland to a new cultural and political center, attracting mass migration of the country's industrial, military, financial, and intellectual forces as well as increasing presence of international news agencies, military and diplomatic institutions, and religious and philanthropic organizations. One third of the country's universities relocated to Chongqing and its suburbs in the period, part of a migration of major publishing houses as well as intellectuals, students, workers, farmers—refugees speaking distinct dialects from all social strata and regions. Chongqing was an immensely dynamic cultural center where political forces clashed and public spheres flourished, facilitated by the proliferation of mass media and intensified social interactions mediated through public performance, screening, art exhibitions, sports meetings, street parades, and radio broadcasting.

During the eight years of war, when Chongqing provided a temporary retreat, the Nationalist government intensified its state building project, with the war providing an optimal catalyst for national solidarity and an excuse for consolidating material and intellectual resources, not the least of which included institutional production of knowledge. In addition to the 39 universities relocated to Chongqing, the Academia Sinica, comprising 10 institutions including physics, chemis-

⁴ For a comparative perspective on Japanese film theory, see Aaron Gerow: Introduction: The Theory Complex, in: *Review of Japanese Culture and Society* 22 (2010), special issue *Decentering Theory: Reconsidering the History of Japanese Film Theory*, pp. 1-13.

try, engineering, astronomy, geology, meteorology, biology, philology, sociology, and psychology, moved inland and expanded into 14 institutions by the end of the war. The National Translation Bureau (Guoli bianyiguan) sponsored numerous translation projects introducing Western publications in the humanities, social sciences, and natural sciences. High schools, many of which were established particularly to accommodate migrant students and teachers as well as prominent scholars and scientists, became vital centers of cultural interactions.⁵ Film studios, three of which were established in Chongqing, prioritized education over entertainment and produced numerous science and educational films aimed at the broader masses in the country, the city, and the military.

Against this context of war, mass migration, state building, and the proliferation of mass media, Li Lishui's mini-essay, with its curious ontology of cinema, makes more sense. Li wrote the essay in response to Xu Chi, a poet and essayist who penned a two-part essay questioning the limit of cinema by reflecting upon cinema's medium specificity and the universal reach of film language.⁶ Xu was an enthusiast for Esperanto, a symbolist and futurist poet, and an avid translator who introduced American poet Vachel Lindsay's works to the Chinese readers in the early 1930s. Like Lindsay, who wrote arguably the first film theory book in the United States and who conceived cinema as a modern hieroglyph, Xu was fascinated with the idea of cinema as a universal language although his interest was situated in the particular challenge cinema faced in the wartime hinterland.⁷ In his essay *The Limit of Cinema*, Xu proposes a »cinematic Esperanto,« a cinema that deploys a common mass language ranging from incorporating a wide range of dialects to using Esperanto as the ultimate solution.⁸ In addition to concerns on

⁵ Li Lishui himself taught at one such high school, Jiangjin no. 9 National High School, which accommodated 4,000 students and teachers from eastern and northeast China and trained numerous noted scientists and writers.

⁶ Xu Chi: *Dianying de jixian* (The limit of cinema), in: *Zhongguo dianying* (Chongqing) 2 (1941), pp. 32–34.

⁷ Xu's interest in cinematic Esperanto taps into both the discourse of cinema as a universal language and the various linguistic movements in China intent on internationalizing and modernizing the Chinese language, including various script reforms, Latinization, Romanization, and the BASIC Chinese Language movements. For a detailed study on these language reforms in relation to social movement, see Yurou Zhong: *Scripts of Modernity: The Transnational Making of Modern Chinese Language and Social Reform, 1916–1958*, Ph.D. dissertation, Columbia University 2013. For cinema as a universal language, see Miriam Hansen: *Mass Culture as Hieroglyphic Writing: Adorno, Derrida, Kracauer*, in: *New German Critique* 56 (1992), pp. 43–73; Vachel Lindsay: *The Art of the Moving Picture*, New York 1915.

⁸ For more detail on Xu and film exhibition in wartime Chongqing, see Weihong Bao: *In Search of a Cinematic Esperanto: Exhibiting Wartime Chongqing Cinema in Global Context*, in: *Journal of Chinese Cinemas* 3/2 (2009), pp. 135–147.

verbal communication, Xu revives the discourse of medium specificity to account for cinema's universal appeal. Evoking Gotthold Ephraim Lessing's portrayal of the limit of an art, Xu expresses his enthusiasm for a »limitless« cinema that would explode the confines of the most synthetic art form (drama) by reaching the widest audience through mechanical reproduction and cinematic techniques such as close-ups and mobile framing.⁹

Both Xu and Li wrote in a moment of crisis for cinema, when linguistic difference, material shortage, and technological difficulties curtailed film production and exhibition in the wartime hinterland and posed particular challenges regarding the intellectual and physical reach of the medium. Xu and Li also worked within the propaganda machine, serving in the two state-sponsored film studios based in Chongqing. Their concerns with the limits of cinema were inseparable from the propagandistic imperative to pursue cinema's widest reach despite linguistic and sociocultural differences. The wartime slogan for cinema, »go to the countryside, join the army, and travel abroad«, testifies to propaganda's particular ambition and the challenge it entailed.

As a response to Xu Chi's »Cinematic Esperanto,« however, Li Lishui's »infinite« cinema seems more enigmatic. Although Xu and Li are similarly interested in a »limitless« cinema, Xu sees cinema as a vehicle of universal language, in terms both of verbal communication and of film's »self-explanatory« medium specific techniques. Li, instead, evokes mathematical terms such as »constant« and »variable« and terms shared across chemistry, physics, and biology—»diffusion« and »osmosis«—in envisioning an infinite cinema that contains a »radiating energy« which could be »broadcasted« and knows no bound. What does he mean by these rather far-fetched proposals in a time of war?

Li's unusual vision seems a classic case of scientism in that he deploys, rather haphazardly, a diverse range of scientific terms with their borrowed authority. Yet to see scientism as a one-way diffusion of knowledge, as Bruno Latour observes, misses the picture when a more dynamic and mediated process of cross-fertilization between science and culture takes place. Bruce Clarke calls it technoscientism, an »epistemologically ambivalent and historically dynamic body of heuristic vehicles and visionary hunches embedded in heterogeneous yet interconnected cultural matrices.«¹⁰ Li's technoscientism, I would argue, both registers and obfuscates these interconnected cultural matrices, three of which I will briefly touch upon here: war, propaganda, and media transition.

⁹ Xu Chi: *Dianying de jixian* (as note 6), pp. 32–34.

¹⁰ Bruce Clarke: *Energy Forms: Allegory and Science in the Era of Classical Thermodynamics*, Ann Arbor, MI 2001, p. 64.

While Chongqing was away from the battlefield, the menace of the war was made an everyday reality by Japanese terror bombings from the air that lasted for five and half years between 1938 and 1943. An atmospheric war was wielded between Japanese instigation of a climate of fear—what Peter Sloterdijk would call »atmoterrorism«—and a virtual defense in the form of propaganda, both aiming to transform the environment of living.¹¹ If terror bombing represents a new paradigm of war shifting from physical combat to an expanded war zone by filling the air with a pervasive and imponderable menace, propaganda, a modern institution of mass media, provided the counterpart of such bombing in reconstructing space and time through a radical reorientation of mass media.

Propaganda was by no means a denigrated term in wartime Chongqing. The Chinese term for propaganda, *xuanchuan*, a compound made of two verbs *xuan* (to announce from an authority) and *chuan* (to disseminate) had long referred to the propagation of authoritative information and orders in its premodern usage. In the early twentieth century, the term applied more widely to the propagation of religious beliefs and the dissemination of knowledge, information, and thought for educational and commercial purposes as well as for political and military causes. These varied connotations carried over to wartime Chongqing, but propaganda became more emphatically associated with mass mobilization in the service of the war.

To achieve the broadest reach of propaganda, mass media themselves had to become increasingly mobile, moving beyond existing institutional confines and conventional spaces of exhibition. Propaganda in this sense is a theory and practice of circulation, addressing mass media's core concerns of reproducibility and mobility. A model of *broadcast media* was in practice that repositioned cinema in relation to other media in terms of simultaneous dissemination and instant transmission. Beyond theatrical exhibition in the cities, mobile projection became the more flexible and widespread mode of film presentation, often in conjunction with slide shows, live performance, music record playing, and radio broadcasting. As poetry was recited in mass rallies, drama performed on the street, paintings, cartoons, and writings put up on the wall, photographs dropped from airplanes, cinema was embedded in a media ensemble with heightened mobility, constituting a propaganda sphere like radio waves permeating the air. Wireless technology, in a literal and figural sense, provided the technological trope and master metaphor for an intense remediation between old and new media for the widest reach and vastest mobility.

The interconnected matrices of war, propaganda, and mass media in the production of a mediating environment help us understand the conceptual leap Li

¹¹ Peter Sloterdijk: *Terror from the Air*, Los Angeles, CA 2009.

makes in shifting from more organic, biological metaphors of the evolution of artistic form/medium to more abstract terms in physics, chemistry, and mathematics. Moving from the organic to the inorganic, or, redefining life in terms of the power of synchronic expansion, Li conceives cinema as an emblem of this new technology of space-time. He takes a creative leap of evolutionary thinking by rethinking the limit of an art as point of growth and breakthrough; yet he puts this spiral development in check when it comes to cinema. Defining time and space, Lessing's two axes for art, as two parallel lines extending to the infinite, Li dislocates cinema and refuses to consider it a medium as static and fixed as a mathematical constant.

Li accounts for cinema's exception to the developmental logic through its special »energy« (*neng*), which radiates in time and space and then can be »broadcasted« so as to exceed any boundary.¹² Using analogies of osmosis and diffusion, Li describes how cinema could break its rigid boundaries and expand and leap to the infinite. The cinematic body, as Li sees it, is immeasurable because it is defined in terms of its realm of activity; it moves, mutates, multiplies, and becomes indistinguishable from its space of existence. That space is the infinite ether, a mysterious world-filling substance, a hypothetical medium since antiquity but central to physics in the nineteenth century. By the time of Li's writing, it was already a familiar cultural metaphor for electromagnetic waves, often associated with radio waves and wireless technology. He suggests, »wherever ether exists, cinema's life is attached.«¹³ His claim that cinema is already, »a vibrating art in the air« was made in association with the curious term *wuxiandian chuanzhen* (radio facsimile), which refers to radiophotography soon to be used in Chongqing photojournals.¹⁴ It also registers the rise of television, a topic that emerged in China beginning in the 1920s and received increasing coverage during the war.¹⁵

More importantly, wireless technology, in Li's conception, went beyond any singular material technology and provided a new conception of exhibition practices. Critiquing any attempt to limit the growth of art and to freeze and rigidify

¹² Li Lishui: *Dianying wuxian da* (as note 1 in Li Lishui: *The Infinite Cinema*), p. 5.

¹³ Xu Chi: *Dianying de jixian* (as note 6), p. 34.

¹⁴ Li uses the notion *wuxiandian chuanzhen* which can be translated as either »radio facsimile,« »radiophotography« or its earlier name »telephotography,« which was introduced to China by Edouard Belin in 1926 during his visit to the country. Radiophotography was used in Chongqing for photo-journals after December 1941. However, since Li refers to »radio facsimile« as a case of cinema, Li could be referring to television, which was translated with multiple Chinese terms, including *wuxiandian chuanying* (wireless transmission of image), close to *wuxiandian chuanzheng*. By the 1940s, news about television was widely circulated in China.

¹⁵ On television and telephotography in China in the 1920s, see Weihong Bao, *Enflamed: Genealogy of an Affective Medium*, Minneapolis, MI 2014, Chapter 3 (forthcoming).

cinema into a static medium, Li stresses how cinema can be shown at different spaces at the same time, enjoying the privilege of simultaneity and infinity, and hence becomes »a mobile art leaping in the air«. ¹⁶ This interest in cinema as simultaneous dissemination is intimately embedded in the practices of propaganda. Li's analogy of cinema to ether refers to the broadly understood wireless technology as an intense process of remediation situated within an expansive propaganda network as an ever-expanding, moving, »infinite« medium, like the biochemical process of osmosis and diffusion.

Li's infinite cinema, nevertheless, eventually attributes cinema's global reach to affect. Commenting on Xu Chi's concern about linguistic differences that threatens cinema's wider circulation, Li points out that language is not the only means of expression, and the spatial limit of language can be overcome by the communicability of emotions: »Human kind shares the same soul and similar emotions such as love and hatred, anger and sorrow. This is one of the main bases for cinema's infinity.« ¹⁷ Through the perpetual circulation of cinema and by way of affect, the linguistic limit will be stretched such that cinema will form not only a »national vernacular language« (*quanguoxing de dazhongyu*) but also a »global vernacular language« (*quanshijixing de dazhongyu*). ¹⁸

By this time, the difference between Xu Chi and Li Lishui's »limitless« cinema is more clear: if Xu Chi's cinematic Esperanto concerns the medium specificity of film in terms of linguistic intelligence (visual/verbal communication), Li Lishui conceives his infinite cinema in terms of media presence—cinema is a medium of affect because it is a medium of simultaneous dissemination. Does Li's utopia of infinite cinema anticipate Paul Virilio's nightmare of the administration of fear—the synchronization of emotion resulting from the speed of real time communication, which kills and displaces space and time? ¹⁹ I would argue that the contiguity between media presence and affect in creating a mediating environment constitutes a non-neutral, social space that is politically ambiguous, and we might retrace its origin to ether in the transnational circulation of knowledge.

Although ether was conceived as an imponderable, neutral, space-filling medium as the source of matter since the nineteenth century, in its mediated introduction into China since the 1860s, ether was endowed with heightened ethical dimensions as a potential social and moral force. For late Qing Chinese intellectuals such as Tan Sitong, ether was a material but also philosophical foundation for social cohesion with its capacity to transmit thoughts across distances and create

¹⁶ Li Lishui: *Yishu de shengcun xiandai* (as note 3 in Li Lishui: *The Infinite Cinema*), p. 8.

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ Paul Virilio: *The Administration of Fear*, Los Angeles, CA 2012.

interconnectedness in a shared milieu.²⁰ Similarly, when Li discusses ether, he characterizes it as *wuji* (boundless universe), a concept in classical Chinese philosophy that refers to the essence (being) of things. *Wuji* has no taste, smell, sound, or color, no beginning or end, and remains non-nameable. Such an invisible entity, however, represents the highest level of Dao (the way) for which no limit can be imposed. It is this fantasy of the production of a qualitative social space by way of media presence, I would argue, that looms large in Li's dream of an infinite cinema. This dream is simultaneously the fantasy of propaganda with its characteristically imperialistic, pervasive, and aggressive manner that matches the terror bombing from the air and alerts us to the political stake of an ostensibly neutral and scientific imagination of cinema.

Writing at the moment of another crisis of cinema, what does it mean to consider a propaganda fantasy in wartime China as a case of film theory? Reflecting on the future of film theory, Rodowick has argued in favor of a philosophical inquiry against a natural scientific tendency so as to couple an epistemological pursuit with an ethical one. While reality is a little messier than any binary opposition between science and humanities, as we learn from Li's curious technoscientism, Li also reveals to us the equally difficult business of politics, one that demands more critical reflections on our side beyond the concern of ethics. We witness how propaganda theory and practice constitutes a substantial history of media theory and media practice, with its simultaneous radical conceptions and oppressive consequences. The meta-critical attitude that we cultivate today in film theory perhaps should not be limited to questioning the identity of cinema—whether in terms of an anxiety of its death or defensive search for its persistence, permutations, or relocation—but should alert us to the politics of film theory and its historical entwinement with politics tout court.

²⁰ See Tan Sitong: *Yitai shuo* (On the ether) [1898] and *Renxue* (An Exposition of Benevolence) [1897], in: *Tan Sitong quanji* (The Collected Works of Tan Sitong), Beijing: Zhonghua shuju, 1981, pp. 432–434, pp. 289–375.

The City—A Popular Assembly

Ludger Schwarte

1. Defining cities

No doubt the world would be safer, more peaceful, if there were no cities; if people dwelt on this planet in a carefully distributed manner, a reasonable distance from each other. Often the attempt has been made to define cities by means of a specific ratio, such as a set number of people per square kilometer, a specific density of institutions, or by a specific infrastructure relative to the size of the population. However, these approaches tend to neglect the design qualities characteristic of cities. For nobody would call a skyscraper a city, even if it could house 150,000 people, if all they did was live their lives in their apartments, catered to by a perfect administration, never taking any notice of each other. Nor would we call this a city if everybody were perfectly informed about everybody else by means of letters, the phone book, the radio, television and the internet, and yet they never met.

The other extreme is equally telling: if a conglomeration was populated by one gigantic family, all very familiar with each other, we would hesitate to call this a city too, because the experience of strangeness and diversity is one of its characteristics, as is the possibility of overcoming affiliations and ›primary identification.« One could therefore maintain that the contrary view—that the city is to be distinguished from a mass agglomeration if it has the characteristics of a popular assembly—is more plausible. Whether this is true will largely depend on how we, who have some experience of cities, but none of popular assemblies in the strict sense of the word, conceive these. Is a popular assembly a built structure, a stadium full of hooligans, or a homogeneous mass of human beings, neatly arranged as in an airplane?

2. Crowding / assembling

An assembly, it seems to me, should be conceived first and foremost as a movement emerging from a dispersion. The streaming, converging and assembling of people does not presuppose any notion of a shared space, a social order, or any emotional bond such a sense of togetherness or belonging; nor does it imply any common media of perception, any shared communicative infrastructure, or any common language that might allow people to understand and define themselves as a community. Instead we should conceive of the assembly as a movement towards and past each other. The dispersion it originates in can only be retrospectively recognized, as a state of isolation, absence, insufficiency, desolation, or distastiation.

Unlike crowds of people, places of assembly are historically quite rare. The possibility of such an assembly was what the Greeks called *agora*. What began as the regular meeting place of the population developed into the popular assembly as an institution, the precursor of all parliaments. Only later was there a specifically designed building for the assembly of the people, called the *prytan*. The concept of the agora was used by the Greeks from the 7th century BC to signify both the assembling of people, and the place where this assembly occurs.¹ When considering the architecture of the agora, we should therefore not think of a built space, but rather comprehend it as an arrangement of actions, as an event, a product, and an instrument. An agora is not a place to stack the crowds or to cater for a community; instead it enables public interaction (of humans, animals, things, situations).

The agora in Athens lies next to the necropolis, emerging from an array of graveyards on the Kerameikos. Its actual shape is more fuzzy and rhizomatic than square. In the beginning, long before there was any commercial use of it, the architectural prefiguration of an assembly involves nothing more than clearing a surface, on which people can appear and disappear in multiple ways, dance or look on. It then develops into an arrangement of mutual experience including confrontations, observable traces of movements, and collective patterns of perception of time (like rhythm); something like a common sense. Such sensing creates relationships between singular moving bodies, before any direct corporeal perception of each other. It presupposes neither common modalities of perception nor an enclosed and structured space, but a tension that transforms the primary dispersion. Such a tension has the immediate effect of clearing and opening a space, which makes it possible to practically or symbolically orient and gather together the dispersed.

¹ Hom. Ilias II 95. XVI 387. XVIII 274. 497. XIX 45. 50 etc.

An example of such a tension is the dancing ritual that unfolds on the Kerameikos. It develops a tension in the form of a rhythm adopted from natural cycles. Dionysos Lenaios dies in winter, descends into the underworld, and returns back to life in spring, provided that his cult, the dance, is performed. His cult on the necropolis marks the beginning of a competition (*agon*) around forms of movement and expression, towards one another, next to one other, and apart. The movement of assembly and dispersion in dance gives rise to an entire architecture of time.²

3. Cities as collective performances

If an assembly ought to be understood as a movement out of something disparate, the plurality of possible positions can only appear simultaneously with their indeterminacy. One may elicit architectonic means of arranging such tensions; a maze, for example, can do this, as can places of sports competitions. The dance floor (*choros*) is also such an arrangement of rhythmical tension. In the same vein, just as cities are not gigantic houses, nor are they functional systems, or built chains of command: they are not as peaceful as graveyards, not as steady as production lines, not as structured and commoditized as supermarkets. The laws of economy will always fail here, because the architecture of a city furnishes not only the conditions for survival, for doing, for production and exchange, but also the basis for confrontations, upheavals, spontaneous associations, and free action. In such architecture, stones function as forces of inertia, of slowness. Movements of assembly act against the petrification of the political and against the inert patterns of containment.

The architecture of the city is thus marked by the dispersion of public spaces, within which such action may occur. The public nature of these spaces originates in their tension, their openness, with which they oppose private, commercial, communal, state or otherwise policed and contained spaces. Public spaces are clearings (*Freiflächen*), open spaces, but also compressions and intensifications. A concept of the city must therefore stretch beyond built structures and include the tension, openness, and dynamics of public assemblies: a climate of probable events, political interventions and cultural manifestations, aesthetic changes and ontological contradictions. We can then understand the architecture of cities as, in essence, a collective performance.

² With the permanent retreat of presence, following the traces of the past and stretching into the future, dance embodies this rhythm just as the city embodies time. They are both instances of a common reference to becoming.

4. Being-next-to / Being-with

One may object at this point that, first and foremost, the architecture of cities provides infrastructure for thousands of people. Yet even if it seems that the primary task of this architecture is to allow the rational and concentrated administration of many people, their coexistence, their work, and their leisure, we must not overlook the fact that the fulfillment of these functions is not a sufficient condition of what makes a city. Instead all the important characteristics of urbanity enable the meeting of a multitude of people: squares, boulevards, stadiums, cathedrals, theatres, shopping complexes, and so on. Cities are among the conditions for social events, insofar as they assemble people. They offer a crucial example for understanding the architectural difference between »being-with« and »being-next-to«: »Being-with« means sharing one's presence, and »being-next-to« simply implies a spatial arrangement, collocation, juxtaposition of singulars. Cities are the places where we experience how to share one world with other people—and really very different people.³

Since the late Middle Ages, sharing a presence has been practically a matter of fixing a proper time. Synchronization started with the splendid clock towers cities began to adorn themselves with in the 13th century to publicize time. Independent now of natural cycles such as the course of the sun, the hours began to have the same length, symbolized by the exhibited cogs and dials. The clocks symbolized social autonomy, integration into a technical world, the potential for humans to govern themselves, to keep appointments and calendars independent of transcendental powers.⁴ Yet this social synchronization, of course, meant that time became a modern god and the worship of time a key to survival. This obliges us to take a careful second glance at what is meant by »being with« someone or something. Just as it does not simply mean being »next to,« it also doesn't imply any identity

³ According to Heidegger, being-with means experiencing one's existence as determined by a world inhabited by oneself and others equally: »Die Welt des Daseins gibt demnach Seiendes frei, das [...] »in« der Welt ist, in der es zugleich innerweltlich begegnet. Dieses Seiende [...] ist auch und mit da [...]. »Welt« ist auch Dasein. Die Charakteristik des Begegnens der Anderen orientiert sich so aber doch wieder am je eigenen Dasein [...]. »Die Anderen« besagt nicht soviel wie: der ganze Rest der Übrigen außer mir, aus dem sich das Ich heraushebt, die Anderen sind vielmehr die, von denen man sich selbst zumeist *nicht* unterscheidet, unter denen man auch ist [...]. Auf dem Grunde dieses *mithaften* In-der-Welt-seins ist die Welt je schon immer die, die ich mit den Anderen teile.« Martin Heidegger: *Sein und Zeit*, Gesamtausgabe Bd. 2, Frankfurt am Main 1977, p. 158.

⁴ Gerhard Dohrn-van Rossum: *Die Geschichte der Stunde. Uhren und moderne Zeitordnungen*, Munich 1992, pp.66-67., pp.108 sqq., pp.121-129, pp.150 sqq.; See also Otto Mayr: *Uhrwerk und Waage, Autorität, Freiheit und technische Systeme in der frühen Neuzeit*, Munich 1987.

or sameness. Coordinating time with someone, then, does not necessarily mean being within the same regime of time. It only makes sense to say that you are *with* someone or something if this implies an accordance of something not necessarily in tune, if it is not an obvious combination.

Withness, so to speak, does not necessarily mean being in direct contact (»in touch«), in a shared immediate presence, but in a coordination and interrelation of times (which may then imply that I am *with* somebody from the past or the future).

Consider three examples: Hotels specialize in making you forget this, but do not always succeed: Hundreds of people have slept in your bed before you. Unless you see some ash in the ashtray or worse, you will not think of this case of consecutive presence as (unwanted) being-with. But if you do see some trace, then you feel connected to strangers and hope that they were not too strange, even though they are gone. The same goes for situations, in a train, for example, where an awful-smelling person takes the seat next to you. Whereas in the first case, a temporal proximity turns into a spatial, physical being-with, in the second, this proximity immediately transforms into an unwelcome and unintended form of being-with (as in the expression: I have to live with it). A third example: Sites on the Internet imply the inverse effect; here, hundreds of people are simultaneously at the same place without noticing it. In most cases, you know this and don't mind how many and how strange they are. This only matters if you want to connect to these people. And then suddenly you can see all the wonderful things that make the Internet different from a giant computer, virtual reality or a robot.

It is evident that »being with« is based on some form of simply sharing a space or a time. But it implies a perceptual relation. One may ask whether this being-with is necessarily reciprocal, or whether I can be with people without them agreeing or noticing (like a spy or an unhappy lover), and whether the basic trait is a matter of raising consciousness, until, for example, you realize that all the other creatures on this planet are your fellows. As I understand it, the »with« in »being with« implies a coordination, as in the term »free association,« not a subordination to an identity, or an awareness, but a mutual responsibility. It stresses the persistence of some heterogeneity. Furthermore, it is never a finished addition, something else yet unknown may join. That is why the term »being-with«, in my opinion, should be kept apart from the contemporary celebration of »communities« in political philosophy.

5. Philosophy of architecture and the production of communities

The architecture of cities collects and synchronizes people and things, and therefore cannot be reduced to built structures that define a community. Rather, the built environment is an ensemble, presupposing architectures as acts and operations exposed to outside forces. Understood in this way, one may adopt Roger Scruton's definition of architecture as »the art of the ensemble.«⁵ The performative acts that make up architecture bring about ensembles, assemblies of people, things, and their environments.

In Karsten Harries' philosophy of architecture, one finds the idea that architecture differs from mere building in that, »works of architecture can be understood as public figures on the ground of comparatively private buildings.«⁶ In contrast to vernacular buildings, architecture is, from this emphatic point of view, to be seen as that which points out what is common between us, and what our values and orientations are; architecture produces »the common« just like a public figure on a private ground, as Harries sees it. It thus consists less in concrete buildings than in real or imaginary structures, which re-present building and dwelling. Representation is for Harries the ethical function of architecture: it has to draw the ideal of common/communal living to everybody's attention, making it present and real. This does not imply that architecture should invent and tyrannically impose this ideal (as Scruton tends to suggest), but rather that the latent infrastructures of sociality are made manifest and amplified. The function of architecture is to articulate the common.⁷

From Harries' point of view, the church is the best exemplification of this. It epitomizes the ideal community, the heavenly city of Jerusalem. Because the church is nothing but the community (of believers), the body congregating to celebrate the sacrament, the church building can at best only re-present this, and invite people to such celebrations. Architectures are therefore not buildings, but repetitions of an event and, at the same time, utopian anticipations; they are, as Harries expresses it: »precarious conjectures about an ideal dwelling.«⁸ Architecture succeeds, from this point of view, if it provides a place where people can come together and get involved as members of a community. Architecture has to invite

⁵ Roger Scruton: *The Aesthetics of Architecture*, Princeton, NJ 1979, p. 11.

⁶ Karsten Harries: *The ethical function of architecture*, Cambridge, MA 1997, p. 365.

⁷ »The ethical function of architecture is inevitably also a public function. Sacred and public architecture provides the community with a center or centers. Individuals gain their sense of place in a history, in a community, by relating their dwelling to the center.« *Ibid.*, p. 287.

⁸ *Ibid.*, p. 264.

people to celebrations as formations of community,⁹ it has to offer opportunities for unification and scenes for the presentation of as an ideal community.

6. Ek-klesia

The Greek word for a popular assembly is *ekklesia*, literally a call-up, a convocation. The related building was called the *ekklesiasterion*. The word church derives from this term, *ekklesia*, the popular assembly. The more general term for assembly in Greek was *sylogos*, based on *legein* (collecting). So we should change the perspective. Rather than, with Harries, considering the church as a paradigm for the assembly, and rather than giving architecture the task of representing ideals, such as the Heavenly Jerusalem (City of God), we should look at the actual ways in which cities enable popular assembly. Assemblies, then, are not preexisting places that determine the functions people who meet in them must adopt, nor communities requiring initiation and identification; instead they construct networks of interaction, of temporal coordination and environmental responses. They do not presuppose the existence of »the people« but rather emerge as soon as people, any people, meet and start to act in front of each other in public. It is a collective performance of this kind that brings about the sensation of togetherness, the perception of a set of singulars that could be transformed into some sort of social order.

Clear examples of such collective performances can be found in processions, parades and demonstrations. In Ancient Greece, processions were (re-enactments of) the founding of cities. The dynamism of the procession traces a route, which anticipates a collective routine, a habit. This festive or habitual way of perambulating bears different names (*pompé*, *prósodos*, *agogé*, *ekphorá*, *ékdosis*) and adopts different shapes; but all elements of proceeding, of striding, of walking about, of strolling, of *dérive* and *exodus* originate in such interactions between urban agents and their public, and they solidify as bodily habits, symbols and assemblages of objects. This processing builds the frame for further collective events, since it is only on the basis of such an order of procedure that decisions can be made, that man-made events can manifest themselves in a social ontology. In this way, processions not only built the framing action for the Ekklesia (the assembly of the people) which gathered in the Agora and later in the Pnyx. They also framed theater

⁹ »There is a continuing need for the creation of festal places on the ground of everyday dwellings, places where individuals come together and affirm themselves as members of the community, as they join in public reenactments of the essential: celebrations of those central aspects of our life that maintain and give meaning to existence. The highest function of architecture remains what it has always been: to invite such festivals.« Ibid., p. 365.

performances and trials.¹⁰ Thus the procedural pattern of action sets up a relation between the spatial coordinates of collective life. These coordinates influence how individual, group, or collective action can be experienced, and how the executing body is defined. Simultaneously, processions demarcate insignificant spaces, project and perceive a dynamic self-image, develop an often-conflictual cohesion, and appropriate spatial and temporal symbols. The procedural collective thus originates in an environmental relation, as it translates a spatial tension into a movement, within view of a public. It organizes itself through the arrangement of such movement against an outside, but within a field of experience, thus enabling a negotiation, manipulation, and densification of forces, perceptions, and symbols.

It is important to note that they are not necessarily staged or commanded. Every flicker, every tiny step, every gesture is an element in the execution of such a procession and relates the procedural space to the patterns of orientation. As the implication of each individual in such an execution is decisive for its success, in the final account, no hegemony can be sure of its ability to manipulate the masses, even though, of course, mass processes and rituals will always be effective means of articulating political power. Like any movement within it, each procession can change the basic coordinates of communal life.¹¹ The famous Panathenaia procession was a way for the city to celebrate itself, in a procession, leading from the Dipylon Gate at the periphery through the busy Kerameikos and the Agora before arriving at the Acropolis. This procession laid down the main axes through the city and practically assembled all parts of the city; at the same time, moving from east to west, it embodied the route of the sun through the city, and later re-enacted this general orientation. The inscription of the procession as an axis of orientation into the foundations of the city started to introduce the checkerboard pattern to urban planning. The Romans adopted this, in a ritual comprising inauguration, limitation, orientation, and consecration, thereby inscribing the procession into the foundations of each city and adjusting the rectangular street networks to the course of the planets and to the passing of time, thus making it possible to calculate movements. The measurement of temporal relations then gains the upper hand over the spatializing, collective interaction.

¹⁰ The theater performance in the Dionysos Theater in Athens began with the assembly of the public, which in turn announced the entrance of the choir. The choir marched along the *párodos* until it reached a *stásis*, where it performed ritual singing and dancing to honor the god of the theater (*stasimon*), then exited again (*exodos*). The basic structure of the drama parallels this procedure, the unity of the theater play corresponds to this pattern of action, culminating in the final satyric feast.

¹¹ Cf. François de Polignac: *La naissance de la cité grecque. Cultes, Espaces et Société*, Paris 1984.

However, before it became a hierarchical march, the assembling procession brought random parts of the population into some spectacular formation and enacted a decampment. These original »pompeis« were organized on an egalitarian basis. Those who did not participate could still watch, dance, and eat at the final public meal, because the meat sacrificed to the goddess at the peripety of the procession was distributed to the population as a concluding act. A number of plays reflect this processional structure. Aristophanes' *Birds* ends with an invitation to all spectators to a ceremonial wedding procession, concluding with a public meal. Furthermore, the entire drama competition would terminate with the exodus of the audience to an official banquet. Processions thus exemplify a divine form of carelessness, presence and abundance.

In each case, processions weave a demonstration of power and an aesthetic game into one another. Thus processions can easily turn into sites of political fermentation or arenas of political contestation:¹² a well-known example is the restoration of democracy after the Tyranny of the Thirty, by means of a procession starting from the city gates at the Piraeus, leading towards the re-opening of the popular assembly (*ekklesia*).¹³

7. Architectural requirements of demonstrations

Are processions not just boring rituals? It is important to observe that they often draw on established patterns, but then may suddenly bring up something completely new. Such was the case at the birth of the demonstration. The royal *entrées*, the *marches* through the parks and streets of the Faubourg St Antoine, the demonstrating masses, who opposed the dominion of the walls, as in the case of the storming of the Bastille, formed a cultural background to the unification of women in their march from the Palais Royal and the Place de Grève towards the Château de Versailles on October 5, 1789. This was still a popular march protesting to the authorities the poor supply of bread. Upon their return, the following day, waving revolutionary banners, and with the King practically in their hands, these several thousand women addressed a political audience. This event may be counted as the first political demonstration, a pattern now followed somewhere in the world practically every day.

¹² Cf. Athena Kavoulaki: Processional performance and the polis, in: Simon Goldhill and Robin Osborne (ed.): Performance culture and Athenian democracy, Cambridge, MA 1999, pp. 298 sqq.

¹³ Cf. Kavoulaki, *ibid.*, p. 305.

The government under Robespierre invented all kinds of new occupations of public space, with distractions, fake cult parades, and ritualistic interplays, in order to make such processing masses governable and prevent spontaneous and unruly demonstrations. Thus he invented the »Fête de la Fédération«, built gigantic circus structures, and tried all kinds of techniques for mass assembly in a new kind of bread and circuses policy.¹⁴ Since then it seems that modern urban planning has concentrated on aggregates of solitary cells and on »collectivization attractors«, in which the consensus to being governed is being »hollered out.«¹⁵ It could certainly be said that cities today are machines of »forcible coordination.« Is it not the case that today, the only chance to escape the permanent control and administration of life is to become invisible, to decamp from the cities, back into diffusion, obscurity, dispersion?

The political performance of architectonic spaces, however, is not restricted to functioning as a mere technology of power, nor to reflecting a heterotopic image. Rather, it should be analyzed as an enablement (*Ermöglichung*) of concrete modes of perception and experience. Architecture is not restricted to the plans of professional architects; instead it is, as I have argued, a collective act.

People will always have the option of acting against the intention of the master builders, and of using and redeveloping architectures as resources, spontaneously or according to a plan. Architectures can only guide every step we take, and put every decision determining our everyday life into a black box, if we immerse ourselves in them, integrating their dominant program, in order to acquire agency, only if, in other words, we adopt them as our fundamental laws. Architectures structure our life-world. They affect our perception, our experience, our cognition to the point where we have the impression that our autonomy is fulfilled when we conform to these buildings as our fundamental laws and their constraints, which we take to be necessities. Yet we have only to turn our attention to the controversial dynamics between the purely physical and the symbolic levels of such spaces in order to apprehend the porosity of social orders, the plasticity (modifiability) and the transgressability of architectonic markings and positings. For these very same architectures also play a central role in movements of liberation. Collocation then becomes assembly; »being-next-to« turns into »being-with.« Despite all kinds of security devices, political unrest requires physical presence, and immediate contact.

The revolutions in France in 1789, in Germany in 1989, in Tunisia and Egypt in 2011 did not take place in the mass media. Journals, pamphlets, radio, television, Internet, all played an important role in the dissemination of opinions and news

¹⁴ Cf. Mona Ozouf: *La fête révolutionnaire 1789-1799*, Paris 1976, pp. 220-221.

¹⁵ Cf. Peter Sloterdijk: *Schäume, Sphären*, Vol. 3, Frankfurt am Main 2004, p. 620.

before and during revolutionary events. Yet the revolutionary masses took to the streets and the squares to make their voices heard. As long as oligarchical powers are secured architectonically, by walls and barbed wire, by panoptical asymmetries of observation and dispositives of control, as long as the concept of ›the people‹ is invented by techniques of representation, there will be representative violence in the streets as a means of forming popular sovereignty. In order for a revolution to take place, someone has to occupy a square and kick in some doors. The better argument does not change the world.

The Rules of Attraction

Urban Design, City Films, and Movement Studies

Laura Frahm

WILLIAM H. WHYTE'S URBAN RESEARCH PROJECT *The Social Life of Small Urban Spaces*—one of the most influential projects in urban design and spatial analysis in New York City in the 1970s—started out with a paradox: In spite of the fact that the number of public spaces in New York City had constantly increased since the early 1960s—not least due to incentive bonuses that were given to builders who integrated small plazas for public use in front of corporate buildings¹—, the reality that Whyte and his team faced in their studies was that most of these newly created public spaces were, in fact, empty and underused. The zoning laws that had been envisioned as a tool to revitalize inner city life in New York in the 1960s soon revealed their inherent failures and misconceptions: The mere fact of providing empty spaces did not fulfill the need to reinvigorate life in New York City—a city that was struggling, according to William K. Reilly, »with dirt, decay, crime, and fiscal crisis.«² It was this insight into the limits and inadequacies of an urban planning that acted top-down that paved the way for Whyte's influential study of street life and spatial practices, which would significantly change the principles of urban planning and spatial analysis in the 1970s and 1980s.

Whyte's decade-long study, which resulted in his influential book *The Social Life of Small Urban Spaces* (1980) and a widely overlooked instructional film of the same title, is not only significant for the history of urban planning and urban design, but it also, and more importantly, offers us insights into a new kind of spatial analysis that conceives of space as a *process space*, thereby prefiguring some of the most advanced approaches to spatial research in the past decades. By analyzing any urban space first and foremost through the range of spatial practices that it facilitates, Whyte shifts the perspective from a given and predefined spatial entity to the open processes of what I will call »becoming place«. In this context, the con-

¹ In his study *The Social Life of Small Urban Spaces*, published in 1980, William H. Whyte points out that due to these incentives, which were implemented in 1961, the number of public spaces in New York had increased in 1972 to »20 acres of the world's most expensive open space.« See William H. Whyte: *The Social Life of Small Urban Spaces*, Washington, DC 1980, p. 14.

² William K. Reilly: Foreword, in: *Ibid.*, pp. 6-7: 7.

ditions and formations of »being with« that Whyte outlines in his studies can be described as complex topologies of *affinities*, *attachments*, and *assemblages* between human and non-human actors, whereas his instructional film, which occupies a niche between urban design, city films, and movement studies, further advances and complicates his pioneering visual urban research.

1. Being Individual: Organizational Studies and City Planning in the 1960s

When William H. Whyte began his work as an urban analyst and a chronicler of the streets of New York City in the 1970s, he had already had a long career as one of the editors of *Fortune Magazine* and was an important figure in the emerging field of organizational studies. His book *The Organization Man* (1956) was a seminal study of the rise of corporations and suburban life in the 1950s and, moreover, a vibrant proclamation against the conformity imposed by the new »corporate dream.«³ It is this constant quest for individualism, which Whyte develops against an increasingly uniform corporate and suburban culture that he sees emerging in the 1950s, which also drives, as I will argue, his subsequent work in urban planning. His main publications in this field—ranging from *The Exploding Metropolis* (1958) to *The Last Landscape* (1968) to *The Social Life of Small Urban Spaces* (1980), and *The City: Rediscovering the Center* (1988)—are distinct articulations of Whyte's relentless fight for open space, or more precisely, for the preservation of those spaces that withstand the increasing tendency for uniformity; spaces, in other words, that facilitate and foster his quest for individualism.

In order to understand how individuals use small urban spaces and to collect data on an unprecedented scale, Whyte founded the research group *The Street Life Project* in 1970, which set out to conduct a series of detailed studies in the streets, parks, and plazas of New York City by employing the method of direct observation—a method that, as Whyte points out, had »long been used for the study of people in far-off lands. It had not been used to any great extent in the U.S. city.«⁴ Apart from some »notable studies [...] of crowded animals, or of students and

³ Among the first articles, originally published in *Fortune Magazine*, which were included in his book *The Organization Man* and addressed Whyte's critique of corporate culture and suburban lifestyle were: *The Class of '49* (*Fortune Magazine*, June 1949), *The Transients* (*Fortune Magazine*, June 1949), and *How the New Suburbia Socializes* (*Fortune Magazine*, August 1953); reprinted in: Albert LaFarge (ed.): *The Essential William H. Whyte*, New York 1999, pp. 3–42.

⁴ William H. Whyte: *The Social Life of Small Urban Spaces* (as note 1), p. 10.

members of institutions responding to experimental situations,⁵ the implementation of this method within the field of urban planning was a radical step towards replacing the common principles of the ›top-down‹ approach that had been in use for decades. Instead, Whyte was convinced that by studying the behavior of people in urban spaces ›from the bottom-up‹, he would produce new insights that, ultimately, aimed at changing the existing zoning laws and fostering a revitalization of urban life in New York City.

There seems to be a moment of renewed utopianism in urban planning and urban politics in the 1960s and 1970s—a hope of reinvigorating inner-city life that was informed by century-long ideals of the ›livable city‹, which privileged vital street life over a traffic-oriented city, small, close-knit communities over large-scale housing projects, and the architectural and social diversity of inner-city neighborhoods over the uniformity of suburban life that Whyte saw as a direct result of the rise of corporate culture in the 1950s. This renewed utopianism in urban planning was not least spurred by the enduring fight over downtown Manhattan one decade earlier between two of the most influential figures in urban planning in New York in the 20th century: Robert Moses and Jane Jacobs. In this battle, Robert Moses, »New York’s master builder,«⁶ who had initiated a series of large-scale projects during his long career as urban planner, and most notably the Triborough Bridge Project, which inevitably shaped the face of New York in the mid-20th century as a modernist and traffic-oriented city, was ultimately defeated in his plans for a new super-highway that would run all across downtown Manhattan by a group of urban activists led by Jane Jacobs, whose seminal book *The Death and Life of Great American Cities* became a manifesto for a new bottom-up approach to urban planning when it was published in 1961.

William H. Whyte, who was closely associated with the work of Jane Jacobs—in fact, he published some of her first articles during his time as editor for *Fortune Magazine*—was hired by the New York City Planning Commission in 1969 in order to develop a new vision for urban space in New York City. In clear opposition to Robert Moses’ top-down, grand-scale, and utterly rationalist approach to urban planning, which Whyte saw as an ill-fated extension of the corporate culture that he had attacked in the 1950s, Whyte advocated a new method of direct observation and small-scale studies that took place ›on the street-level.‹ As Nathan Glazer writes in his obituary for Whyte, entitled *The Man Who Loved Cities*, his distinctive contribution to urban planning, »lay in his avoidance of anything so

⁵ Ibid.

⁶ Paul Goldberger: Robert Moses, Master Builder, is Dead at 92, in: *The New York Times* (July 30, 1981), p. A1.

grandiose as a vision,⁷ for it was »the eye-level view, [...] not the bird's-eye view of grand planners⁸ that informed Whyte's practices of urban research.

Whyte's *The Social Life of Small Urban Spaces*, as I will point out in the following, allows us to identify a crucial shift in urban planning in the 1970s—the shift from a totalizing concept of space shaped from above to a new, process-based concept of space that is conceived from below, or more precisely, from the very practices of standing, sitting, walking, watching, talking, and strolling that Whyte observed in his studies. Moreover, by consistently employing a vocabulary of attraction and attachment, of drawing people into spaces and of keeping them »in place,« Whyte's study not only offers a precise analysis of the changing degrees of affinities, attachments, and assemblages between people, objects, and spaces, but he also delineates a new way of conceptualizing space—as an open process of »placemaking« or »becoming place« that calls for a constant adaptability of urban planning principles.

2. The Rules of Attraction: Affinities, Attachments, Assemblages

Parting from the assumption that all urban planning had to develop from »real life questions,« Whyte's studies with the Street Life Project, which were commissioned by the New York City Council in order to obtain recommendations for new zoning laws for public spaces in New York City, were explicitly directed against what Whyte called the urban planners, »holy war against the street.«⁹ For urban planners, as Whyte argues, had gone too far in attacking the density of the city as a source for chaos and disorder. Instead, Whyte's close observations revealed that people were genuinely attracted by crowds: they were literally drawn to busy street corners, bustling plazas, and populated parks. Already in his article *The Case for Crowding*, Whyte claimed that higher density constitutes a better city, and even more pointedly, that »concentration is the genius of the city, its reason for being.«¹⁰ Thus, »being with others,« the very fact of a »togetherness« of people in small urban spaces was *the* precondition for Whyte's observations in the first place, or, in Paul Goldberger's words, »Holly's mind had every place filled with people. He only began to see things when the people were in them.«¹¹

Convinced by his initial observations of the bustling life of Seagram Plaza—the

7 Nathan Glazer: *The Man Who Loved Cities*. Obituary for William H. Whyte, in: *The Wilson Quarterly* (Spring 1999), pp. 27–33: 29.

8 *Ibid.*, p. 32.

9 Paul Goldberger: Foreword, in: Albert LaFarge (ed.): *The Essential William H. Whyte* (as note 3), pp. vi–ix: p. viii.

10 William H. Whyte: *The Case for Crowding*, in: *Ibid.*, pp. 217–224: 224.

11 Paul Goldberger: Foreword (as note 9), p. ix.

first case study with the Street Life Project—that it should be, »difficult to design a space that will not attract people,« Whyte drily adds: »What is remarkable is how often this has been accomplished.«¹² In order to counteract the increasing number of empty plazas in front of corporate buildings and office towers that spread across New York City—the paradox that had initiated his studies in the first place—, Whyte started to observe activity not only in corporate plazas, but in all types of small urban spaces that allowed for an encounter and thus fostered, as I will point out, different degrees and intensities of »being with«: small plazas, mini-parks, street corners, sidewalks, and even children’s playgrounds. Whyte and his team spent months and years collecting data and analyzing the patterns of people’s behavior, assembling thousands of files, transcripts of interviews with pedestrians, maps of the shifting population of plazas, and graphs detailing the amount of sit-table space. Moreover, he employed a complex set-up of several Super-8 cameras, discretely positioned in the windows of adjacent buildings or secretly hidden in bags or other tourist utensils, seemingly pointing at something else, while spending »over 100 man-hours,«¹³ as he recalls in the appendix of his book, evaluating the data of only one day in the life of a small urban space. It might come as no surprise, then, that when Whyte finally published his study in 1980, nine years after he had begun his work with the Street Life Project, he still introduced it as a »pre-book« and moreover, as a mere »by-product of first-hand observation.«¹⁴

By turning the lens on all kinds of small urban spaces, Whyte’s study offers a precise and pioneering spatial analysis of the ephemeral groupings of office workers, girl-watchers, schmoozers, strollers, and passers-by. Driven by his vision to change and to improve the existing conditions of urban life in New York in the 1970s, Whyte’s study, above all, aimed at detecting and unveiling those hidden »rules of attraction« that make small spaces work. Convinced that it is the specific *use* of spaces that should define the way in which these spaces are designed, he called for the implementation of new urban planning principles that reflected those »rules of attraction« that began to surface in his studies and that I will discuss in the following as different degrees or intensities of »being with«—ranging from loosely defined *affinities* with the most populated spots to stronger degrees of *attachments* to specific objects and spatial amenities to the force fields of attraction that create complex *assemblages*, if only for a moment, of people, objects, and spaces. By deriving his findings from direct observation, that is, from the very practices that people employ in small urban spaces, Whyte advocates a quintessentially process-oriented approach that defines space from bottom-up, and more-

¹² William H. Whyte: *City*. Rediscovering the Center, New York 1988, p. 109.

¹³ William H. Whyte: *The Social Life of Small Urban Spaces* (as note 1), p. 110.

¹⁴ *Ibid.*, p. 10.

over, that conceives of space as an *open process* that is shaped and reshaped by the practices on the street.

Parting from the assumption that »what attracts people most [...] are other people,«¹⁵ Whyte's study shows that most people have a distinct *affinity* with populated spots and, moreover, a decided tendency to position themselves in the middle of the so-called »100 percent location,«¹⁶ located right at the center of the pedestrian flow. Rather than finding their own secluded spots and niches within a crowded place, people tend to be attracted, as Whyte never ceases to underline, to the most impossible areas: busy street corners serve for an impromptu conference, the girl-watchers and schmoozers are observing the hustle and bustle right from the center, picnics are held on the steps in the middle of the pedestrian flow, and even lovers, instead of searching for the more secluded areas, are often found right in front, openly displaying their affection on what Whyte calls »the theater of the street.«¹⁷

While Whyte's precise analysis of the ephemeral groupings of people in small urban spaces, or what we could call the changing »topologies of affinities« between the office workers, girl-watchers, schmoozers, strollers, and passers-by, forms a crucial part of his studies, the most substantial chapters are focused on the implementation and use of objects and spatial amenities within these small urban spaces. Here, his observations shift from a mere »affinity« with the most populated spots and crowded areas to a higher degree of *attachment with specific objects and amenities* that make an urban space unique. In his detailed chapters on the ideal amount of sittable space, the vital relation to the street, ample supplies of sun, the general availability of food and food carts, the best distribution of trees, as well as the integration of water in all possible forms—as »waterfalls, waterwalls, rapids, sluiceways, tranquil pools, water tunnels, meandering brooks, fountains of all kinds«¹⁸—, Whyte constantly highlights the binding forces, or rather, the force fields of attraction around these objects and spatial amenities that virtually draw people into these small urban spaces and keep them »attached.«

Moreover, Whyte's constant quest for individualism, which had already shaped his organizational studies and his critique of corporate culture in the 1950s, markedly resurfaces in *The Social Life of Small Urban Spaces* in the form of his repeated claim to allow for an open, creative, and, above all, individual use: The entrance to the street should be open in order to draw people in, water should be actively used and not put behind fences, food should be offered in great varieties, and

¹⁵ Ibid., p. 19.

¹⁶ Ibid., p. 21.

¹⁷ Ibid., p. 32.

¹⁸ Ibid., p. 47.

chairs, above all, should be movable, thereby giving the people at least the impression of being able to create and shape their own space.¹⁹ In this process, Whyte's meticulous study of spatial practices and the often unconventional methods of spatial appropriation—like for example his close examination of the most impossible seating spots on fences, sculptures, and other uninviting objects—evolve into a matrix of objects and amenities that do not only allow for a range of open spatial practices, but that also foster a high potential for attachment, with probably the most successful example being Paley Park, with its openness to the street, its distribution of seating space, its trees, and its sounding waterwall. It is in this space where Whyte observes some of the most nuanced spatial practices, including what he calls »reciprocal gestures,«²⁰ which are based on a choreography of slightly delayed repetitions.

The strongest form of »being with« that Whyte outlines in his study, however, is the process of triangulation, which he defines as a »process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not.«²¹ Street entertainers, jugglers, acrobats, mimes, and magicians have, according to Whyte, a strong binding effect that creates, if only for a moment, complex *assemblages of people, objects, and spaces*. Yet this specific »triangulation effect« cannot only be attributed to street entertainers and magicians, but also to public art and sculptures, like for example Jean Dubuffet's *Four Trees* on Chase Plaza, to and through which people are literally drawn: »They stand under it, beside it; they touch it; they talk about it.«²² Even an open window to a church on Lexington Avenue has the potential to draw people, because »there is a communal sense to these gatherings and though it may be fleeting, it is the city at its best.«²³

In the final chapter of his book, entitled *Triangulation*, Whyte employs the strongest vocabulary of attraction, pointing out how seemingly insignificant small urban spaces—a simple bank with two window ledges, a glass-covered bus stop, a populated sidewalk—can nevertheless elicit strong binding forces that, in many cases, involve all the senses: looking, hearing, touching, tasting, and smelling.²⁴ In

¹⁹ In one of the most remarkable sequences of Whyte's film, he chronicles the constant rearranging of chairs by different users, only to end with the ironic conclusion: »The interesting thing, though, is that about four minutes after the beginning of this, all chairs were back where they started from.« THE SOCIAL LIFE OF SMALL URBAN SPACES (USA 1980, William H. Whyte), Timecode: 0:20:33–0:21:55.

²⁰ William H. Whyte: *The Social Life of Small Urban Spaces* (as note 1), p. 22.

²¹ *Ibid.*, p. 94.

²² *Ibid.*, p. 96.

²³ THE SOCIAL LIFE OF SMALL URBAN SPACES (USA 1980, William H. Whyte).

²⁴ In his book *City: Rediscovering the Center*, Whyte further develops this perspective on the multisensory attachments in urban space in view of his analysis of Lexington Avenue.

this process, he suggests an alternative geography of the city, which is composed of all kinds of ›spatial leftovers‹ that he highlights in his final remarks, *In Praise of Odds and Ends*, where he writes: »Some of the most felicitous spaces [...] are leftovers, niches, odds and ends of space that by happy accident work very well for people.«²⁵ Whyte's decided focus on chronicling the spatial practices in the city ›from below‹ thus corresponds with a perspective on the city ›from below‹ that assembles a network of overlooked places, which altogether create a new kind of microgeography of the city.

3. Urban Design, City Films, and Movement Studies

If Whyte's long-term studies of the life of small urban spaces can be seen both as a symptom and as a motor of a new bottom-up approach to urban planning that emerges in the 1970s, leading to a new concept of ›placemaking,‹ or ›becoming place,‹ his film of the same title, which Whyte directed as a mere ›visual companion‹ to his studies, seems to be much more difficult to position. In spite of Whyte's constant assertion that he uses the camera as a strict ›research tool‹ that allows him to ›multiply [himself] as an observer, [to] study many areas simultaneously, and [to] do it with an accuracy and stamina few humans could match,«²⁶ his film, which operates at the boundaries of urban design, city films, and movement studies, delineating a new field that we could describe as ›urban instructional films,‹ involves a constant reflection on the impact of movement and moving images on his spatial analysis.

Deeply fascinated by the fact that his small super-8 camera was able to record ›the hundredth of a second,‹ Whyte was convinced that there are ›many tales in all those little pictures and the finding of them can be rewarding.«²⁷ His passion for and belief in the effectiveness of time-lapse photography even went so far that he allegedly entrapped Donald Elliott, the chairman of the City Planning Commission, ›into spending a weekend looking at time-lapse films of plaza use and nonuse,‹ resulting in the fact that Elliot finally ›felt that tougher zoning was in order.«²⁸ In order to advance time-lapse photography as a veritable tool for visual research, his *Appendix A: Time-Lapse Filming* is filled with detailed instructions on the equipment, the technical set-up, as well as discussions of the advantages and

See William H. Whyte: *The Sensory Street*, in: Albert LaFarge (ed.): *The Essential William H. Whyte* (as note 3), pp. 296–310.

²⁵ William H. Whyte: *The Social Life of Small Urban Spaces* (as note 1), p. 99.

²⁶ *Ibid.*, p. 102.

²⁷ *Ibid.*, p. 103.

²⁸ *Ibid.*, p. 15.

disadvantages of different camera models. Yet even more importantly, it is in this part that the seemingly »smooth« process of Whyte's research on the gatherings and encounters of people in small urban spaces reveals its complications and obstacles: the difficulties, for example, of getting permission to film in an adjacent building that overlooks the plaza, the annoyance of the beeping sound of the cameras for the office workers that often interrupted his studies, the impossibility of finding clean and clear windows in the city of New York, and, not least, the risk of positioning the camera on a rooftop, with the »very real hazard that the camera will fall or be blown over and land in the street with serious consequences«²⁹—factors that, taken together, render the process of gaining usable visual data almost impossible.

If the technical set-up of the camera reveals the complications and breaks within the process of Whyte's research, his instructional film likewise comments, at specific moments, on the misconceptions and fallacies of his first assumptions. The very first minutes of his film playfully intertwine Whyte's remarks on the complex technical set-up for his visual research of Seagram Plaza with the soundtrack of an early slapstick comedy, immediately evoking the light and joyful sounds of films by Charlie Chaplin, Buster Keaton, and maybe most precisely, Harold Lloyd, whose film *SAFETY LAST!* (USA 1923) similarly centers on a giant clock hovering over the city. Moreover, in its constant chronicling of the passing of time, Whyte's film playfully evokes the city symphonies of the 1920s and their focus on the daily »life cycle« of a city with its changing rhythms, circulating masses, and movement patterns. Yet the predictability of movement patterns and the specific use of small urban spaces that shaped, as Whyte concedes, the first assumptions with which they began their study of Seagram Plaza, soon turned out to be, at least to a certain degree, misconceptions. Thus, by evoking the sounds and images of early slapstick comedies and city symphonies only to break with this tradition in the next moment—a process, which Whyte repeats several times throughout his film—, these images become visual markers of a self-ironic commentary, or more precisely, they become visual question marks through which Whyte queries and challenges his own initial conceptions while at the same time pointing to the complex relationship between the visual language of his film and the visual tropes of the city film movement.

Whyte's instructional film seems to be simultaneously rooted within and beyond three different histories: On the one hand, it is closely connected to the history of city films, which Whyte playfully alludes to at specific moments in his film and which become a marker of the potential fallacies of his own visual research. On the other hand, Whyte's film also bears the traces of early educational films, and more specifically, of the aesthetics of time-lapse photography, which are

²⁹ Ibid., p. 104.

deeply rooted in the early history of educational films and the cinematic experiments of Percy Smith around 1910.³⁰ Yet beyond these references to earlier cinematic traditions—and according to Whyte’s constant quest to employ the techniques of his own time—his film is also, to a certain extent, linked with the experimental film scene in the 1970s, which saw a similar conflation of city films and time-lapse photography—as in the case of Hilary Harris’ *ORGANISM* (USA 1975) or, most prominently, Godfrey Reggio’s *KOYAANISQATSI* (USA 1982)—, films that can be read as symptoms of an increasing ›contamination‹ of the city film movement with a new, analytic mode of spatial analysis.

In a time where time-lapse photography increasingly enters into and affects the aesthetics of city films, revealing, as Scott MacDonald points out in light of Hilary Harris’ *ORGANISM*, »the systematic structures of urban life.«³¹ Whyte employs a complex set-up of Super-8 cameras for regular, slow motion, and time-lapse studies in order to capture and chronicle the ebbs and flows, the drifts and vortices in what he calls the »river of life.«³² As Hillary Harris and Godfrey Reggio connect their time-lapse studies to the microscopic view of the human body and the macroscopic view of the entire history of civilization, capturing the city as a living organism by means of new image technologies—a tendency that we could also trace in Michael Klier’s *THE GIANT* (D 1983) and Harun Farocki’s *COUNTER MUSIC* (D 2004), which capture urban space through the imagery of surveillance—, Whyte sets out to study the ›inner life‹ of small urban spaces in a long-term perspective, tracing their life spans over a decade in order to prevent, in Jane Jacobs’ words, the ›death of a great American city.‹

There exists, or so it seems, a new fascination with movement studies that equally affects the fields of city films and urban design in the 1970s. In its strongest moments, Whyte’s film reveals a unique sensibility to the shifting movement patterns within small urban spaces that sounds out the potential of movement studies for urban planning and urban design. Already in his initial study of Seagram Plaza, Whyte highlights »the movement of people across it: choreography is wonderful, and choreography really is the right word; the way people move, circle,

³⁰ In the past years there has been an increasing number of new studies in the field of educational film, especially in view of the history of educational film in the early 20th century; see Devin Orgeron, Marsha Orgeron, Dan Streible (eds.): *Learning with the Lights Off. Educational Film in the United States*, New York 2012; Charles R. Acland, Haidee Wasson (eds.): *Useful Cinema*, Durham/London 2011; Jennifer Lynn Peterson: *Education in the School of Dreams. Travelogues and Early Nonfiction Film*, Durham/London 2013.

³¹ Scott MacDonald: *The Garden in the Machine. A Field Guide to Independent Films About Place*, Berkeley 2001, p. 167.

³² *THE SOCIAL LIFE OF SMALL URBAN SPACES* (USA 1980, William H. Whyte), Timecode: 0:57:24.

stop, speed up, the colors they wear; there is a beauty that they must often have sensed themselves, you see none of this in architectural photographs, they are usually quite empty of people; but visually, this movement is the ultimate test of a design.³³ The sensibility towards movement is not least reflected in Whyte's remarks on his own graphs and maps of movement patterns at Seagram Plaza, which he discusses in terms of a musical notation, envisioning that »the roll could be orchestrated and it would be music. I hope one day it will be *A Day in the Life of the North Front Ledge at Seagram's, Adagio*.«³⁴ It is in these moments, in which Whyte comments on the visual nuances and the inherent musicality of the »ebbs and flows« of urban movement and in which he reflects on the potential of film to generate new *process-oriented* findings, where film becomes more than a mere research tool; film becomes a conspiring agent in the emergence of a new kind of space—a flowing, transformable *process space* that constitutes the core of Whyte's quintessentially process-oriented spatial analysis.

Whyte's visually complex movement studies—which, at least partially, entered into new zoning laws for public spaces in New York in 1975³⁵—also seem to prefigure the work of Space Syntax, a London-based firm that specializes in conducting movement studies to increase the efficiency of urban design while at the same time highlighting the social effects and benefits of efficient and »smart« urban spaces. Founded by Bill Hillier and Julienne Hanson in the early 1980s, Space Syntax today employs complex technologies and movement analysis for high-profile projects in larger cities. Yet in contrast to Space Syntax's vision of quintessentially *streamlining* the movements and interactions of people and goods, and in contrast to their impetus to design spaces that allow for an optimal use and thus are, ultimately, geared towards securing the overall »flow« of social and economic trade, Whyte's studies did not aim at a rationalization of space; his work was not about optimizing the spatial flow in crowded areas, but on the contrary, his findings were full of recommendations on how to stop the urban flow, how to make people halt, and how to attract and to lure them into small urban spaces. Thus, the different forms of »being with« that I have analyzed in terms of the changing degrees of affinities, attachments, and assemblages between human and non-human actors, which form the central part of Whyte's study, can be understood—rather than through the trope of the »urban flow«—as drifts, vortices, and turbulences in the river of life, creating force fields of attraction, if only for a moment, that foster a new sense of being with the city.

³³ THE SOCIAL LIFE OF SMALL URBAN SPACES (USA 1980, William H. Whyte), Timecode: 0:09:59–0:10:21.

³⁴ William H. Whyte: The Social Life of Small Urban Spaces (as note 1), p. 69.

³⁵ The full version of the Digest of Open-Space Zoning: Provisions New York City (1975) is printed in: *Ibid.*, pp. 112–119.

4. Becoming Place: Urban Design and the Legacy of Whyte

When William H. »Holly« Whyte was asked in a television interview in the early 1990s by Adam Smith to name his three favorite American cities, he simply answered with a chuckle: »New York, New York, New York.«³⁶ This statement, which might seem nothing more than a small, entertaining anecdote illustrating Whyte's rather opinionated nature and outspoken personal preference for ›his city,‹ New York, nevertheless reveals a crucial point in view of his approach to urban design. In his decided bias towards and affection for a specific city, we can detect, as I will point out in my final remarks, a tendency that also drives Whyte's urban research in *The Social Life of Small Urban Spaces*. For Whyte's utterly unambiguous answer to Smith's question not only reveal his open affection for New York, it also allows us to critically evaluate his research methods: On the one hand, Whyte's bias for New York clearly predefines the prominent sites for this study—in fact, other American cities are rarely mentioned in *The Social Life of Small Urban Spaces*, and if so, they often serve as examples of the gradual eradication of street life, fostered by the growing presence of malls, concourses, and megastructures in inner-city areas.³⁷ On the other hand, his affection for a specific city also markedly inspires his general concept of urban design: Whyte's studies delineate a new vision for city planning that is driven by the ›unclassifiable‹ categories of attraction and attachment, of likability and happiness—quintessentially subjective and fleeting categories that Whyte nevertheless tried to capture and to quantify in his graphs, maps, charts, and instructional film.

Whyte's study is filled with precise calculations and meticulous recommendations, defining, for example, the ideal number and height of trees in a given public plaza, as well as the correct amount of seating space for a certain number of square meters. Yet at the same time, his detailed lists are always intertwined with long descriptions of the ›lovability‹ and ›pleasures‹ of small urban plazas, detailing, for example, the right amount of sunlight and southern exposure, the joys of water sound and ample supplies of movable chairs, as well as recommendations for an overall ›friendliness‹ of these small urban spaces. According to William K. Reilly, one of the leading figures in urban preservation in the late 1970s, the uniqueness of Whyte's work lies in the fact that he not only meticulously studied the inner

³⁶ Albert LaFarge: Introduction, in: *The Essential William H. Whyte* (as note 3), pp. xiii–xv: xv.

³⁷ In one chapter, entitled *Concourses and Megastructures*, Whyte discusses the uniform and corporate architecture of malls, concourses, and megastructures in cities like Los Angeles, Detroit, and Atlanta in order to distinguish ›his‹ city New York with its manifold small urban spaces as »the most sittable city in the country.« William H. Whyte: *The Social Life of Small Urban Spaces* (as note 1), p. 75.

workings of urban places, »that is, what gives them life or kills them. What draws people. What keeps them out,« but Whyte also had the strong sense that his findings would ultimately lead to the creation of a new type of places—of »places that people like in cities, places that contribute to happiness, places that can bring out a smile.«³⁸ In this process, Whyte's unconventional and almost unclassifiable mode of urban analysis that is stimulated by categories like attraction and likability, by happiness and smiles, thus, seems to resonate to a certain extent with Nietzsche's »gay science,« describing and reacting to a condition in which New York, in spite of being classified as run-down and unhealthy, caught in the middle of a fundamental crisis, is »sudden[ly] attacked by hope, by hope for health, by the *intoxication* of recovery.«³⁹

Paul Goldberger, who once described Whyte as a »prophet of the public realm«,⁴⁰ pointed out how his work shows a constant fight against the privatization of public space and, by extension, against the increasing emergence of »malls and atriums and gated communities,«⁴¹ which Whyte perceived as signs of the eradication of street life, because they threatened the idea of a city that is both livable and, in Whyte's terms, »alive.«⁴² Yet the public spaces that Whyte tried to preserve and reactivate, as I would argue, are not the public spaces of large demonstrations, political upheavals, or urban riots; the spaces that feature most in his studies are not the spaces that would allow for large-scale assemblies and political actions. Rather, Whyte's public space is composed of small entities, of odds and ends and all kinds of spatial leftovers, which work, according to his main credo, from »the bottom-up,« thereby advocating a new form of micropolitics of small urban spaces that operate on the margins of what is mainly and prominently addressed in urban discourse and political theory as the public sphere.

William H. Whyte, this »Thoreau of the streets,«⁴³ as *The New Yorker* once called him, might not have changed the principles of urban planning completely. Yet his innovative vision of designing urban space only and exclusively from practices on the street-level certainly had an impact and is still present in the ongoing work of the Project for Public Spaces, which adopted and further advanced Whyte's con-

³⁸ William K. Reilly: Foreword (as note 2), p. 7.

³⁹ Friedrich Nietzsche: Preface to the Second Edition (1886), in: Id.: *The Gay Science*, edited by Bernard Williams, Cambridge 2001, pp. 3–9: p. 3.

⁴⁰ Paul Goldberger: Foreword (as note 8), p. viii.

⁴¹ Ibid.

⁴² It is specifically William K. Reilly, who underlines Whyte's notion of the city as a »living entity,« for example when he writes in his foreword on the legacy of Whyte: »But if we learn to take advantage of our small urban spaces, if we design new ones well, and fix up the old ones, we will keep the streets alive. We may even encourage more people to use them—and to smile about it.« William K. Reilly: Foreword (as note 2), p. 7.

⁴³ Albert LaFarge: Introduction (as note 36), p. xv.

cept of ›placemaking.‹ Parting from the assumption that placemaking is »both a process and a philosophy,« one of the main principles that the Project for Public Spaces introduced into the field of urban planning is the principle of the so-called »Power of 10,«⁴⁴ which is based on the idea that every place should feature at least ten attractions in order to draw people—attractions that could range from »a place to sit, playgrounds to enjoy, art to touch, music to hear, food to eat, history to experience, and people to meet,«⁴⁵ thereby highlighting that space is, above all, a complex network of human and non-human actors, and moreover, that the very idea of urban design conceives of space as an *open process* of constant revisions, adjustments, and modifications.

The lesson that we can learn from Whyte, then, is that »being with« is not only a question of being with other people; it is not only a question of self-congestion or a desire for the most crowded spaces; »being with« is not simply the condition of possibility of an urban encounter and exchange—as many urban theorists before Whyte would have argued. Rather, Whyte's studies show us something different; they show us something more complex for our conception of urban space—or any space for that matter: »Being with,« in Whyte's terms, is always a »being with space,« which is informed by a new spatial sensibility that has been addressed in recent years in the context of non-representational theory. In his programmatic article *Space*, Nigel Thrift outlines the program of what he calls a »new a-where-ness,«⁴⁶ which defines the conditions of a spatial sensibility that conceives of space, as Thrift formulates, as an »open, consistent and intensive multiplicity,« and moreover, as something »both caring and in the need for care.«⁴⁷ It is this vision of an overall ›care for space‹ that also seems to drive Whyte's urban research and that incites him to inject ›his city‹ New York with a new hope for health, with an *intoxication* of recovery. Moreover, Whyte's approach to urban design prefigures Thrift's study of the politics of everyday life, or what he calls »*the geography of what happens*,«⁴⁸ by conceiving of space as a topology of affinities, attachments, and as-

⁴⁴ This term, as the group announces on the website, is borrowed from Charles and Ray Eames' seminal film *POWERS OF TEN* (USA 1977); see Project for Public Spaces: The Origin of the Power of 10, under: <http://www.pps.org/reference/powerof10/> (04.01.2014).

⁴⁵ Project for Public Spaces: The Power of 10, under: <http://www.pps.org/reference/the-power-of-10/> (04.01.2014).

⁴⁶ Nigel Thrift: *Space*, in: *Theory, Culture, and Society*, Vol. 23/2-3 (2006), pp. 139-155: 140.

⁴⁷ *Ibid.*, p. 145.

⁴⁸ Nigel Thrift: *Non-Representational Theory. Space, Politics, Affect*, London/New York 2008, p. 2. In this context, Thrift describes his project as the »outline of the art of producing a permanent supplement to the ordinary, a sacrament for the everyday, a hymn to the superfluous« (*Ibid.*).

semblages that closely resonates with Thrift's ›three vignettes‹ of *being with others*, *affecting others*, and *organizing others*.⁴⁹

To end with, what had started with a paradox—the discrepancy between the constant quest for more public spaces and the growing number of empty plazas in front of corporate buildings in New York City—eventually turned into a study of the unexpected pleasures and binding forces of small urban spaces, thereby advocating a new practice-based and bottom-up approach to urban design, and moreover, a new microgeography of small urban spaces. By implementing new methods of visual research and direct observation, which transferred the study of ›crowded animals‹ and ›people in far-off lands‹ to the inner workings and spatial practices of life in the city, Whyte's urban research project opens up a field that integrates visual research into the realm of urban design while at the same time highlighting the potential of film to generate genuinely process-oriented findings. Against this background, Whyte's seminal study of street life in New York City in the 1970s is not only a testament to a crucial transformation within the field of urban design, but his strong belief in the transformability of urban life through the implementation of specific planning principles also fosters a novel, visually nuanced conception of *spatial design* in the strongest sense: For space, in Whyte's terms, is always something that is worked upon—and always in the process of becoming place.

⁴⁹ See Nigel Thrift: *Space* (as note 46), pp. 142–155.

Places Proper and Attached *or* the Agency of the Ground and the Collectives of Domestication

Michael Cuntz

1. Spatiotemporal latitude: the dead among us

Some years ago, I detected certain affinities between a novel by the rather famous French author Jean Echenoz, *Au piano*, and a film by a not so famous French director, Robin Campillo, *LES REVENANTS*, that intrigued me.¹ Both of them deal with what I called a mixed zone where the living and the dead—no longer segregated into two different spheres, their respective proper places, one of earthly existence and one the hereafter—interfere in complicated and problematic ways because the spaces they move in superpose, producing novel spaces and places. Both works of fiction raise questions concerning the way the reconfiguration of space and the constitution or re-constitution of a collective, the conditions of its re-assemblage, official or actual, through its extension beyond living humans to other entities with a presumably different mode of existence, are intertwined. By doing so, both of them also raise fundamental questions concerning current strategies and procedures of governmentality and bio-politics.

Whereas in the case of *LES REVENANTS*, the sudden return of the dead from their graves as a mass phenomenon is an undeniable reality that is visible to everyone and demands reactions from the living on both an institutional and a personal level, in *Au piano* the fact that the dead dwell among the living remains hidden. The revenants in Echenoz' novel cannot be identified as such and nobody knows how long they have already been there and mingled unnoticed.

¹ Jean Echenoz: *Au piano*, Paris 2003; *LES REVENANTS* (F, 2004, Robin Campillo); Cf. Michael Cuntz: *The Gentle Irruption of the Hereafter into this Life*, in: María del Pilar Blanco, Esther Peeren (eds.): *Popular Ghosts. The Haunted Spaces of Everyday Culture*, New York 2010, pp. 118–132; Michael Cuntz: *Mixed zone. Wie man den Toten begegnet*, in: Ilka Becker et al. (eds.): *Unmenge – Wie verteilt sich Handlungsmacht?*, Munich 2008, pp. 191–226. Recently, *LES REVENANTS* has drawn some indirect attention through the eponymous TV series that is based upon it, *LES REVENANTS* (F, 2012–, Fabrice Gobert).

What also remains hidden is the reason for the reconfiguration of the here-after—it is simply there, managed and maintained by a rather cynical bureaucracy. In the case of *LES REVENANTS*, on the other hand, it is the mass return of the dead that transforms space. They thus behave like particles entering into an electromagnetic field and thereby radically transform this field as well as themselves and the elements present in the field during its preceding state. This corresponds to one of the descriptions Gilbert Simondon gives for what he calls processes of transduction and transindividuation.² Yet, eventually, transindividuation fails to take place in *LES REVENANTS*. Why so, if the dead and the living seem to share the same space, the same places? The obstacle lies in the very insistence of the living to fully reinsert the revenants into their spatiality and temporality in order to fully regain possession of those they lost and to act upon them in order to interact fully with them—according to their notions of interaction.

So what does »the same place« and »the same time« mean? Is it actually the same place and the same time and does sharing the »same place,« being assembled in the »same place« automatically mean »being with«? Both fictions, in different ways, problematize what being with, coexistence as cohabitation and assemblage mean. If the dead do not exist in the same mode the living do, they go either unrecognized or there is no place for them. Putting it that way, I point to Bruno Latour's repeated statement in his *Enquête sur les modes d'existence* that the Moderns do not find any room for certain beings, e.g. those he calls »beings of metamorphosis«, exactly because they cannot account for their mode of existence which differs from that of those beings the Moderns are able to conceive of as existent.³

Latour himself declares Euclidian space to be unfit to contain all those different entities with different ontologies. So should one not conclude from this that the different modes of existence cannot be synchronized, cannot share the same frame of space and time, and that the persistence of a certain lag, a certain interval, displacement, a certain detachment add some latitude that could help to attach them to a more inclusive and comprehensive collective? In *LES REVENANTS*, what comes to naught is precisely the livings' urge to repair this asynchrony, to synchronize the dead and to include them fully into their proper spaces. It even provokes or at least precipitates their retreat.

Skepticism about the notion of a collective that assembles in one place at the same time (and even concerning the possibility of constructing perfect synchronization between different places in long networks) can be fueled by concepts such

² Cf. Gilbert Simondon: *Forme, information, potentiels*, in: Id.: *L'individuation à la lumière des notions de forme et d'information*, Grenoble 2005, pp. 531–551.

³ Cf. Bruno Latour: *Enquête sur les modes d'existence*, Paris 2012, chapter four: *Apprendre à faire de l'espace*, pp. 105–130.

as Derrida's *différance*⁴ and Rancière's *mésentente*,⁵ but also by Maurice Blanchot's delineation of communities that only exist in radical spatiotemporal dispersion.⁶ But further arguments for reluctance against the productiveness of assemblages without lags, intervals, or displacements could also be gathered from theories that lie close to the center of our debates: One could think about Gabriel Tarde's clear preference for the spatiotemporally dispersed public over the crowd.⁷ Or one could think of the crucial role that Gilbert Simondon ascribes to the technical object in the facilitation of transductive and transindividual processes: Not only because a genuine technical object contains considerable non-human agency, but also because it works as a medium connecting points situated in different spatiotemporal positions.⁸ It seems that, to him, this twofold breaking up of a continuum of *similarity* works as the best remedy against the reproduction of sameness that characterizes the routine of inter-individual interaction.

But, reflecting upon places of assembly and, more generally, on producing places, another concern arises: It is difficult to find examples in which those assembled and the place of assembly actually *constitute* each other *at the same time*. Instead, I came across scenes that fall into one of two different categories of *transformations*:

On the one hand, descriptions of assemblages of collectives that (at least officially) take place by taking over a place, regardless of what the place involved is like and what it offers; a sort of appropriation or *prise de possession*; an act of production that treats the place as the substance or matter a form is imposed on. And, on the other hand, those in which the place is understood as something that contains beforehand a certain potential, that very potential allowing it to establish an affinity with those assembling into collectives or networks. In this second category, the distribution of agency is more symmetrical, since agency is granted to the places themselves. A place, a ground, is considered as an agent in its own right, as a producing, productive place.⁹

⁴ Cf. Jacques Derrida: *La différence*, in: Id.: *Marges de la philosophie*, Paris 1972, pp. 1-29.

⁵ Cf. Jacques Rancière: *La mésentente*, Paris 1995.

⁶ Maurice Blanchot: *La communauté inavouable*, Paris 1983.

⁷ Cf. Gabriel Tarde: *L'opinion et la foule* [1901], Paris 2009.

⁸ Cf. Gilbert Simondon: *Du mode d'existence des objets techniques*, Paris 1958, pp. 70-82.

⁹ For a theorization of such productive potential of places cf. Simondon's notion of key-points (*points-clé*) cf. *ibid.*, pp. 164 sqq. For the Chinese, »vitalist« appreciation of privileged places where the energy pervading the landscape concentrates cf. François Jullien: *La propension des choses. Pour une histoire de l'efficacité en Chine* [1992], Paris 2003, p. 90.

2. Foundations and feuds: the dead and the ground underneath

Departing from these observations and premises, one encounters more skepticism concerning co-present and synchronized assemblies in Michel Serres, who has intensely explored various relations between collectives and places, ranging from the appropriation of a place to the complete disregard for a place: What is probably the most striking scene of presence and synchronization one can find in his writings is described extensively in *Rome: Le livre des fondations*.¹⁰ It is the gathering of the collective that first constitutes itself in a founding act of violence, then corroborates its existence in serial repetition of this act. His book revolves in circles or spirals around the ritual lapidation and the *diasparagmos*, the dismembering of a scapegoat, often identical with the king himself, by the crowd that gathers to circle him. Serres describes the assembled crowd as a pulsating corona moving back and forth around the crowned victim, or as the circumstance creating the substance that lies beneath, stable and hidden, through collective murder.

That the dead should return among the living is not that surprising at all if we follow Serres' analysis of how the foundation of human collectives works through acts of appropriation of places: The dead actually never dwelled so much in a hereafter beyond, but rather underneath the stones of the very *polis* that was founded upon corpses: The corpses not only of the victims of sacrificial rites but also of heroes of wars fought against other poleis, or martyrs killed for their beliefs in local or universal Gods—and it is precisely to the underground underneath the city and not to the cemetery where the revenants in Campillo's aforementioned film return.

What arises with this founding act of political and social order and with the founding of cities as (necro-)poleis, as the blood- and flesh-stained proper places of the (exclusively) human collective, is also the foundation of philosophy and epistemology, a line of thought that Serres pursues in *Statues. Le second livre des fondations*.¹¹ Practices, in his understanding, create conceptual frameworks—they are also the foundation of the concepts of subject and object as discrete and separate entities: separated from each other and from the world that surrounds them. This produces a specific understanding of spatiality Serres himself, e.g. in his reading of Guy de Maupassant's *Le Horla*,¹² but also Bruno Latour¹³ criticize as reductionist: a binary logic of the inside and the outside, interiority and exteriority, spirit and

¹⁰ Michel Serres: *Rome. Le livre des fondations* [1983], Paris 1999.

¹¹ Michel Serres: *Statues. Le second livre des fondations*, Paris 1989.

¹² Cf. Michel Serres: *Etre hors là*, in: Id.: *Atlas*, Paris 1996, pp. 61–85.

¹³ Cf. Bruno Latour: *Petite réflexion sur le culte moderne des dieux faitiches*, *Le Plessis-Robinson* 1996, Latour: *Enquête* (as note 3), pp. 187–210.

matter that fails to leave room for a more complex (and more realistic) topology thwarting this split that breaks the genuine symbol into pieces.¹⁴

In these processes of foundation, the place itself, the soil and ground, does not seem to be granted or to unfold any agency. It is merely receptive to sacrificial corpses, crypts, foundation walls, stones, and statues, another object hosting the primordial object, the corpse. What Serres discovers in some of the foundation myths is not respect for the potential of the ground itself, but only a fatal reduction of a potential of metastability to the stability of subject and object positions and definitions: Such is the symbolic marking of the soil by the inscription of a first writing.¹⁵

Several years later, Serres took a different or rather a complementary approach to the relation between human gathering, violence, and a place as concrete ground or soil. In *Le contrat naturel*, it is our common perception of a fight between two human opponents or parties he calls into question: Usually, the ground they stand upon is only perceived as scenery; it is reduced to a ground or background (*fond*) made of cardboard¹⁶ and even to »an abstract space.«¹⁷ Serres urges us to change our perspective and to recognize the ground, the concrete terrain itself, as a concrete actor involved in and affected by human aggression, as a third warring party against its will: Only from a global perspective, this local ground eventually becomes visible as an enemy and an actor with the ability to contract, since the menace of human artifacts with their impact on a global scale urges us to go beyond our binary logic, opposing humans only.¹⁸

And yet, if we consider Serres' analysis of what comes to lie in the ground in the acts of foundation he describes with outright repugnance, should we not think about how collectives are constructed on very concrete, local ground and why they are constructed this way? In doing so, we should also be aware of a blind spot in his narration of foundations. Serres is very concretely demarcating the large geographical area he is referring to in his reconstruction of political, religious, and epistemological foundations: It is an area that comprises Europe, the Mediterranean, and the Near East, that is the cradle of all traditions that have played their part in the formation of the Occident, but also of all three monotheisms: Egyptian

¹⁴ This refers to the concept of the symbol in Plato taken up by Serres as well as by Simon-don: The symbol is an entity broken in two (here into subject and object). We only focus on the extremes and not on what lies in the middle and what *links* what we conceive of as separate unities, cf. e.g. Serres: Rome (as note 10), pp. 177-178.

¹⁵ Which is also the transition from the pluri-positionality of (oral) myth to scripture, cf. *ibid.*, pp. 21-53.

¹⁶ Cf. Michel Serres: *Le contrat naturel*, Paris 1992, p. 27.

¹⁷ *Ibid.*, p. 16.

¹⁸ *Ibid.*, pp. 28-29.

and Babylonian, Judeo-Christian, and Greek and Roman. Nonetheless, he does not hesitate a second to extend his observations beyond this area, to generalize them in order to make an overall anthropological argument. But could one find something else, something different, looking elsewhere? It could be that actions, gestures, techniques at first sight more banal and more innocent might be involved in this foundation of politics, epistemology, and ontology. And they could involve still more non-human agents.

3. Distant resources: the dead nearby

Looking for such resources, one comes across those who, in order to relativize, call into question or simply to better understand Western or Modern attitudes and practices, turned to non-Western collectives. Some, like Philippe Descola, have turned virtually everywhere in order to give an exhaustive tableau of the construction of ontologies and collectives.¹⁹ Some have turned—or rather have always been located—more specifically southwest, like Eduardo Viveiros de Castro with Amazonian multi-naturalism or perspectivism, which became widely known through his *Métaphysiques cannibales*.²⁰

But already in one of his early texts, Viveiros de Castro describes customs that vary significantly from the foundations in the »Old World«: As his informants report, in former times, when an adult died, the Amazonian Arawete quit their village and constructed a new one *nearby*: The name of the dead came to serve as a toponym, but for the former settlement. At the time the article was written, the Arawete still abandoned their village for several weeks when an adult died, dispersing into the forest, before returning to it. The dead were buried at quite a distance, »a boa distância,« along a path established before—which was abandoned henceforth. Their slight dislocations somehow thwart the dichotomy between sedentariness and nomadism. Rather incidentally, Viveiros de Castro also mentions what seemed to keep the Arawete nearby: their *roças*, or clearings transformed into fields.²¹ What is thus produced is a tri-partite space involving not only the dead and the living, but also domesticated plants, and thus a collective existing on three adjacent and thus affine grounds, a repartition forming a pattern that thwarts

¹⁹ Cf. especially Philippe Descola: *Par-delà nature et culture*, Paris 2005.

²⁰ Eduardo Viveiros de Castro: *Métaphysiques cannibales*. Lignes d'anthropologie post-structurale, Paris 2009.

²¹ Cf. Eduardo Viveiros de Castro: *Os deuses canibais. A morte e o destino da alma entre os Arawetê*, *Revista de Antropologia* 27/28 (1984/1985), pp. 55–90: 67 sqq.

any clear nature/culture dichotomy.²² Not only are the fields nature and culture at the same time, but the places of the dead consist of abandoned settlements on the one hand, and of their graves in the forest on the other.²³

4. Eastern dislocation: domestication as a practice that disposes being

Some have turned to the East either to imagine alternatives in a ludic way or to look for them more seriously (ranging from Latour's Korean fiction in *Petite réflexion*,²⁴ to Andrew Pickering's recent references to Chinese concepts of agency²⁵ and to François Jullien's opposition between Western concepts of creation and Eastern concepts of processuality).²⁶ To quote another, very well-known example, in their introduction to *Mille plateaux*, Deleuze and Guattari developed the concept of the rhizome in order to oppose it, as an Oriental model, to the Western model based on the forest.²⁷ I do not intend to grapple with the rhizome and not even with *Mille plateaux* here, although Viveiros de Castro would invite us to do so. I mention this text because it is also the likeliest place by far to come across the name of André-Georges Haudricourt on whose remarks on domestication in general and the cultivation of yam clones in South-East Asia

²² As perceived according to *our* notions and standards. That the forest is a space of nature for the Arawete is far from obvious.

²³ For a systematic exploration of such topographic and topological entanglements of nature/culture with an entire section on sites such as »Fields,« »Suburbs,« or »Floodplains« cf. Stephan Harrison, Steve Pile and Nigel Thrift (eds.): *Patterned Grounds. Entanglements of Nature and Culture*, London 2004. Interestingly and oddly enough, although churches are included, cemeteries are missing from the volume.

²⁴ Latour: *Petite réflexion* (as note 13), pp. 11–12.

²⁵ Andrew Pickering: Art & Agency, IKKM Lecture held on January 30th, Weimar, <http://ikkm-weimar.blogspot.de/2013/02/ikkm-lectures-20122013-andrew-pickering.html> (20 February 2014).

²⁶ François Jullien: *Procès et création*, Paris 1989; Jullien: *Propension des choses* (as note 9); François Jullien: *Traité de l'efficacité* [1996], Paris 2002. Jullien also provides explicit refutation of the accusation of Eastern »exotism«: Differences should not be overstated, China is not »the other« of the West, does not offer the unknown, but other »resources of intelligibility.« Jullien: *Traité*, pp. 177–178. Nor does he idealize Chinese thought, a point I will come back to at the end of this paper. Or as Viveiros de Castro puts it, referring to Jullien: »It is about actualizing the innumerable becoming-others that exist in our thought as virtualities [...] Each experience of another mode of thought is an experiment on our modes of thinking.« [translation MC] Viveiros de Castro: *Métaphysiques cannibales* (as note 20), p. 61.

²⁷ Gilles Deleuze/Félix Guattari: *Mille plateaux. Capitalisme et schizophrénie 2*, Paris 1980, pp. 9–37.

in particular Deleuze and Guattari draw upon for the elaboration of their concept.²⁸

Unlike Descola and Viveiros de Castro, Haudricourt does not come from a Lévi-Straussian, structuralist background. Like André Leroi-Gourhan, Haudricourt was a disciple of Marcel Mauss and, like both of them, he was interested in the relation between gestures, techniques, and technology and their coevolution. But his contribution to the exploration of cultural techniques goes even further. Besides also being an expert on Southeast-Asian languages, Haudricourt, originating (like Serres) from a rural milieu, was one of the founders of ethno-zoology and ethno-botany and was interested in the comparative or translative histories of domestication of animals and plants.²⁹

Writing his seminal texts on the subject in the 1950s and 60s, Haudricourt had made out at least two different »dispositions of being«³⁰ long before Descola established his differentiation between modern naturalism and the three alternative ontologies of totemism, analogism, and animism. Though less explicitly, extensively, and comprehensively, he nonetheless outlines some fundamental characteristics of a Western versus an Eastern disposition, »Eastern« mainly referring to Melanesia and traditional China, and explicitly excluding Japan. To this, one might add a third model, depending on whether one considers India as an autonomous case or rather as a zone of intersection combining the Eastern with the Western.³¹

I can only interpolate a brief and superficial hint regarding methodological considerations, but I think that Haudricourt's project is close to what Viveiros de Castro is describing in categories such as *dislocation*—certainly an alternative concept with regard to deterritorialization—translation, and misunderstanding (*équivoque*), all of which are both ineluctable and productive.³² This means that there is no safe pre-established ground and position the anthropologist could work from, but that the concepts (and practices) of the observed collectives rewrite the conceptual (and practical) framework of the observer: »The most interesting use consists not so much in classifying cosmologies that appear to be exotic, but in counter-analyzing the anthropologies that are only too familiar to us,« as Viveiro de Castro

²⁸ Cf. *ibid.*, p. 28.

²⁹ Cf. e.g. André-Georges Haudricourt and Louis Hédin: *L'homme et les plantes cultivées* [1943], Paris 1987.

³⁰ Cf. Descola: *Par-delà nature et culture* (as note 19), pp. 181 sqq.

³¹ Except if one includes it, via language and metaphysics, within the same frame of thought and action as the Western tradition, as does Jullien: *Propension des choses* (as note 9), p. 111; *Id.*: *Traité de l'efficacité* (as note 26), pp. 137–138.

³² Viveiros de Castro: *Métaphysiques cannibales* (as note 20), pp. 43–61. One could associate especially the *équivoque* with Rancière's *mésentente*.

puts it.³³ Thus, dislocation remains permanent, insofar as there is no underlying true or common ground one could uncover underneath »intercultural differences.«

Is there an explanation for these different »dispositions of being«, or modes of thinking? According to Haudricourt, who speculates on the basis of very concrete observations, the practices of domestication of animals and plants (and therefore, of the *de facto* integration of non-human actors into their collective) affect and influence in a very decisive way what he calls the *mentalité*, the fundamental overall mentality or attitude of different cultures.³⁴ We could follow Latour's re-assembling of the broken symbol, filling up the lost continuum between sign and referent, but also Viveiro de Castro's claim that the distinction between epistemology and ontology has become obsolete, a claim in turn inspired by Amerindian perspectival multi-naturalism, and call this »practical ontologies« that dispose being.³⁵

This seems highly justified in Haudricourt's case. Not only does his description account for the *quantity* of all the respective entities assembled into collectives, but also for the *quality* of these relations.³⁶ Moreover, it offers what I consider an advantage compared to Descola's model: Whereas the latter remains a genuine structuralist in supposing invisible, underlying structures of thought, abstract formations that model concrete practice; for Haudricourt, as a disciple of Mauss, it is clearly the collective practices and operative chains, that precede and inform thought and the representation of the world.³⁷ As a result, Haudricourt also takes a close look at the very concrete ground these collectives are built upon. In other words: It is the seemingly banal practices, the little things that tend to be overlooked, that shape our systems of thinking and reflecting upon the world. And since this is the case for every collective of humans and non-humans, this also helps to avoid any classical a-symmetry between allegedly reflexive Moderns or Westerners and allegedly non-reflexive »non-modern societies.« Last, but not least, this involves collectives that assemble more than exclusively human actors.

³³ Ibid., p. 44.

³⁴ Cf. André-Georges Haudricourt: Recherches de bases d'une étude comparative des mentalités extrême-orientale et occidentale [1949], in: Id.: Des gestes aux techniques. Essai sur le techniques dans les sociétés pré-machinistes, ed. by Jean-François Bert, Paris 2011, pp. 167-176; Id.: Une lecture commentée de l'Essai sur l'origine des différences de mentalité entre Occident et Extrême-Orient, in: Bernadette Lizet and Georges Ravis-Giordani: Des bêtes et des hommes: Le rapport à l'animal, un jeu sur la distance, Paris 1995, pp. 30-53.

³⁵ A concept derived from Post-ANT itself, cf. Casper B. Jensen: A Nonhumanist Disposition: On Performativity, Practical Ontology, and Intervention, in: Configurations 12 (2004), pp. 229-261, quoted *ibid.*, p. 74.

³⁶ This is precisely the claim of Latour's EME project, cf. Latour: Enquête (as note 3).

³⁷ »Man is not a religious, but a culinary species. It is cooking and the domestication of fire that is at the origin of the initial religions,« Haudricourt: Lecture commentée (as note 34), p. 33. All translations of Haudricourt by MC.

5. Direct positive action vs. indirect negative action

As Haudricourt points out, the process of domestication produces »inter-species« co-existence in a very strong sense. Thus, for him, human collectives never appear as exclusively human and most human collectives do not consider themselves as such. As he states, the radical differentiation between man and animal placing the animal below the human is specific to the Western tradition. Already in India, which he considers, for the best and for the worst, as an intermediary space between West and East, things are different:

»Animals are not separated from human beings and each animal species forms a caste itself. It is well known that cows are infinitely more respectable than humans of certain castes. They enter into the houses where they eat what they want; to beat them is sacrilege. Whereas there are human beings that the priests cannot touch, and, worse, not even look at.«³⁸

In his view, the relationship of human societies to plants and animals is a fundamental part of their natural-cultural existence. What is at stake is not simply the very material basis of their subsistence, but specific ways of assembling-with and being-with these non-human entities in mixed collectives. Like Serres, he states that these collectives of domestication precede exclusively human collectives, that they are constructed by man and beast alike and that the adaptive effects of domestication are reciprocal.³⁹ But, as we shall see, he is more circumspect in stating, as does Serres, that this process always creates a common place (*lieu commun*), the »same human-animal space«⁴⁰—obviously, *plants* do not attract Serres' attention.

In any event, the association of humans with plants and animals that marks the transition from hunting and gathering to domestication creates amicable relations⁴¹ and thus genuine *attachments*, to take up Antoine Hennion's concept,⁴² between human and non-human beings.⁴³ Yet, when animals are slaughtered and plants are

³⁸ Ibid., p. 40, »Les bovins forment une caste infiniment plus respectable que bien des castes humains,« André-Georges Haudricourt: *Domestication des animaux, culture des plantes et traitement d'autrui* [1962], in: Id.: *La technologie science humaine. Recherches d'histoire et d'ethnologie des techniques*, Paris 1987, pp. 277-285.

³⁹ Cf. Michel Serres: *Hominescence*, Paris 2003, pp. 127-136.

⁴⁰ Ibid., pp. 131, 133.

⁴¹ Cf. Haudricourt: *Domestication* (as note 38), p. 277.

⁴² Cf. Antoine Hennion: *Those Things that Hold Us Together. Taste and Sociology*, in: *Cultural Sociology* 1 (2007), pp. 97-114.

⁴³ For the importance of milk, of lactating and »inter-species« adoption rites cf. André-Georges Haudricourt: *Note sur le statut familial des animaux*, in: *L'Homme* XXVI/3 (1986), pp. 119-120. To use the term »inter-species« already grants a distinction that does

cropped, these attachments must be untied. From Haudricourt's remarks, we can infer that in Western societies the untying of the attachments with domesticated species has become permanent. The conflict between two contradictory states is ›resolved‹ by completely forgetting these attachments.⁴⁴ This has a twofold consequence: Non-human beings are officially excluded from the collective and the relation towards them becomes merely instrumental—as does the relation to certain human beings. Haudricourt quotes the famous passage from Aristotle's *Nichomachean Ethics* that poignantly sums up this transformation of the continuous chain of being into a discontinuous chain of command:

»For where there is nothing common to ruler and ruled, there is not friendship either, since there is not justice; e.g. between craftsman and tool, soul and body, master and slave; the latter in each case is benefited by that which uses it, but there is no friendship nor justice towards lifeless things. But neither is there friendship towards a horse or an ox, nor to a slave *qua* slave. For there is nothing common to the two parties; the slave is a living tool and the tool a lifeless slave. *Qua* slave then, one cannot be friends with him.«⁴⁵

Despite the exclusion of non-humans from the collective, their treatment characterized by domination and possession proves to be contagious to inter-human relations: The deepening of the divide between humans and non-humans only exacerbates the logic of domination and possession,⁴⁶ which is also grounded in a logic of similarity and imitation (not only in Aristotle or Plato, but also in the Christian notion of man as an *imago Dei* as opposed to the rest of creation), ever narrowing down who is to be considered similar enough to be taken into account and treated as an equal.⁴⁷

not exist as such in other cultures: In New Guinea or Siberia, pigs and bears become family members through lactation. Their eventual butchering is characterized by Haudricourt as a »kind of anthropophagy within the family,« *ibid.*, p. 119. Of course, one would have to add that hunters and gatherers often have at least respectful relations to those they hunt and gather. Cf. on predation Viveiros de Castro: *Métaphysiques cannibales* (as note 20), *passim*.

⁴⁴ Although in a rural context, as e.g. Serres reminds us, this is never entirely the case, cf. Serres: *Hominescence* (as note 39), p. 127.

⁴⁵ Aristotle: *Nichomachean Ethics*, translated by David Ross, Oxford et al., 2009, VIII, 11, pp. 156–157 (1161a–b). Quoted in French in Haudricourt: *Domestication* (as note 38), p. 282.

⁴⁶ Cf. Haudricourt: *Lecture commentée* (as note 34), p. 42.

⁴⁷ Cf. on the contrary the Amazonian model of personhood according to Viveiros de Castro: personhood precedes humanity and thus: »La ressemblance ou la congénérarité surgissent par suspension délibérée, socialement produite, d'une différence prédatrice donnée; elle ne la précède pas,« Viveiros de Castro: *Métaphysiques cannibales* (as note 20), p. 24.

According to Haudricourt, this way of assembling beings derives from several factors that had a decisive influence on the evolution of domestication in the Western Sphere, comprising Europe, the Mediterranean, and the Near East, and thus precisely the geographical area Michel Serres is writing about in his books on foundation.

Haudricourt is careful to distance himself from any easy determinism deriving social evolution directly—without mediation, translation, but also the abduction and theft he reflects upon—from climate. He nevertheless maintains that the question of which non-human entities could be integrated into the collectives had significant influence on the way those relations are constructed. Yet, significant regional differences in flora and fauna are due to geographical and climatic factors. He thus ascribes strong agency in the formation of mentalities not only to animate beings other than humans, but also to other non-human factors. Paradoxically, this is the case even where eventually this mentality evolves into a mode based on domination and the denial of such agency.

Haudricourt mainly opposes two models of human agency, *direct, positive action* and *indirect, negative action*, both linked to a triad of a) a rural profession, b) the domesticated beings and c) the place that is laid out and that to him is equivalent to the respective type of society: To describe the Western model of direct positive action, he chooses the sheep and the shepherd, and, consequently, as their space, *la bergerie*, the sheepfold.⁴⁸

In this context, one might recall Foucault's reconstruction of Western governmentality presented mainly in his lectures on *Sécurité, Territoire, Population*, which revolves precisely around the figure of the pastorate and the governor as the shepherd.⁴⁹ To Haudricourt, this is more than a metaphor. A certain type of overall conception of the relation between the rulers and subjects, based on commands, stems from the way sheep behave and have to be treated when domesticated. He characterizes them as over-domesticated, a property he ascribes to their transplantation from the mountain to the plain and thus into an unfamiliar milieu.⁵⁰ The henceforth insecure and thus passive sheep must therefore be constantly and positively or actively guided, protected, and watched over. This treatment of the

⁴⁸ For what follows cf. Haudricourt: *Domestication* (as note 38).

⁴⁹ Cf. Michel Foucault: *Sécurité, territoire, population*. Cours au Collège de France, 1977–1978, Paris 2004, but cf. also Michel Foucault: »Omnes et singulatim«: vers une critique de la raison politique [1981], in: Id.: *Dits et écrits II, 1976–1988*, edited by Daniel Defert and François Ewald, Paris 2001, pp. 953–980. The parallels between this text and Haudricourt's *Essai sur l'origine* are striking and would require further examination.

⁵⁰ Cf. Haudricourt: *Domestication* (as note 38), p. 278. Wild sheep indeed *do* live in the mountains.

domesticated animal proves contagious: It fashions a treatment of humans according to the shepherd model.

Haudricourt's main counter-example is the Melanesian cultivation of the yam root, a clone. It is performed by gardeners who transform woodland into secluded garden areas. A second plant he adds to illustrate this type of cultivation is wild rice, an aquatic plant, which allows him to connect New Caledonia to ancient China, in his eyes a horti-culture par excellence in its treatment of all members of its collective, humans included.

It would be misleading to think that for Haudricourt the difference between the Western and the Eastern model is exclusively a difference between domesticating animals on the one side and cultivating plants on the other. Things are more complicated in Haudricourt's writings on domestication, although he does not reflect on this explicitly. While the main opposition he introduces is between yam and rice on the one hand and mutton on the other, he also opposes yam to grain. Finally, he deals with the specificities of animal domestication in the Far East. To understand his description, we need to disentangle several superposed arguments, some of which require more explication than Haudricourt provides himself: First, the absence of command structures in the East is due both to the fact that there, domesticated animals have more agency or activity than the paradigmatic mutton *and* that one does not communicate with plants through orders. Thus, plants are paradigmatic for the Eastern attitude, also, a second important aspect, because the cycle of plant growth involves per se periods where one cannot act directly on the domesticated species. Hence, the treatment of plants is paradigmatic for indirect negative action. But in order for this to establish an attitude, another factor has to come into play through very *specific* plants with specific qualities: Yam, rice, and taro needs require intense care and careful handling. This is what differentiates them from grain that is robust and grows by itself. Therefore, there is a sharp distinction between action and non-action in the Western model corresponding to (and stemming from) the difference between animal and plant treatment. In exchange, only because the yam etc. require such intense care, their treatment, although indirect, can be perceived as a kind of action or rather the effective exertion of agency by the gardener, an agency which does not contradict the attribution of agency to the growing plant. And, finally, the indirect treatment of these Eastern plants relies upon intense preparation of the soil they are supposed to grow upon (e.g. rice terraces).⁵¹

These aspects tend to superpose: Domesticated animals, but also some plants in the gardening parts of the world, are much more active. Whereas the shepherd

⁵¹ Of course, one can wonder what Haudricourt would have made of vineyards. Then again, the grapevine is manipulated very directly.

protects his sheep, the buffalo protects his keeper against the tigers. Dogs and pigs, the most important domesticated animals in the Far East, both were *attracted* by human excrement and auto-domesticated themselves rather than being summoned into their collective like sheep. But even sheep, when domesticated there, are treated in a *faire faire* mode. Likewise, rice is attracted by humans: Haudricourt thinks it most probable that it first appeared as a bad weed in taro culture, in other words, as a parasite that invited itself to the collective.

Cultivation of aquatic rice and yam can only be achieved through indirect, negative action. Negative, indirect action is an interesting concept, because it does not mean passivity, but rather thwarts our conceptual dichotomy of activity and passivity. Since they do not simply collect what grows without their intervention, the gardeners are far from remaining passive.⁵² One might take up Latour's minimal definition of an actant, which he uses to argue for the agency of non-human beings, to describe what these gardeners are doing: They are not just doing something, but by offering favorable conditions to the plants, they make do, *faire faire*.⁵³

6. Affine places

The yam requires a lot of care and, since it is fragile, it must not be neglected, but at the same time it must not be touched directly nor the ground it grows in be tread upon by man or animal. Haudricourt speaks of a relationship of »respectful friendship« not required by crops descending from steppe grasses.⁵⁴

Gardening thus means to lay out a reserved area, as it were. Haudricourt observes the liminality of this space and, one could add that, although thoroughly cultivated, it is not fully appropriated—the garden remains a place that is (almost) *let alone* without being *left alone*, as it were. After the preparation of the ground and the planting, the gardeners patiently wait for the plants to do something—from a distance.

If we consider, with Haudricourt, yam—or wild rice—as part of the collective of these gardening societies, then we could say that we face another form of assemblage in which, in contrast to the shepherding model, being with is not characterized by co-presence and synchronization, be it mediated in a trivial sense.

⁵² With an important difference to *laisser faire*: It is not based on a naive belief in 'natural' forces. There is a lot of work to be done: *Faire faire* is much more active than *laisser faire*.

⁵³ Cf. Bruno Latour: *Re-Assembling the Social. An Introduction to Actor-Network-Theory*, Oxford 2005, p. 217. In this context, Latour quotes François Jullien, consequently *make do* seems to be directly influenced by his characterization of Chinese thought, and so we come full circle.

⁵⁴ Cf. Haudricourt: *Domestication* (as note 38), p. 279.

«There is never any brutal contact in space nor simultaneity in time between the gardener and the yam,» Haudricourt states and he lists the gestures that are required to establish and maintain this indirect relationship with the fragile plant successfully.⁵⁵ Yam evolves in a place and time zone of its own, or rather, not in its own, proper, independent place and time zone, but in an *attached* place and time zone. Instead of being fully *incorporated* into an encompassing spatio-temporality of humans as gardeners, it is *attached* to their spatio-temporality, since it depends on it – and vice versa. One could also call it a place of affinity if we follow Viveiro de Castro's reminder that affinity is a spatial category, the affine is »that whose domain is bordering mine.«⁵⁶ It would be *out and there* at the same time, *hors là*. Its spatio-temporal logic would correspond much more to what Michel Serres is trying to prove in his reading of Maupassant's novel *Le Horlà* than to his description of the habitat of domestication: The yam root would not so much root the gardener in a common proper ground, but exist within an interval, attached and *apparenté*,⁵⁷ in parental relations rather than fully possessed. As such a relative, the yam root is indispensable for the constitution of the collective. It is not decisive who treads or lives on the same ground with the Melanesian gardeners—Cook and his men were thought to be revenants the Melanesians did not dare to address—⁵⁸ but who eats the fruit grown on attached and affine garden ground. Haudricourt maintains that it does not make any sense to impose our nature/culture dichotomy on the inhabitants of New Caledonia: Space and beings are organized along the lines of culture and »un-culture« (*in-culture*) instead. Uncultured are all those who do not eat the yam roots, with no need to further distinguish between animals, foreigners, gods, and the dead. Whoever can be made or forced to eat yam belongs to culture and thus to the collective. Haudricourt insists on the fact that, whereas crop culture is based on selection of the best seed, and thus on *exclusion*, clone cultures like that of yam are based on the *collection* and exchange of the best clones—and this is precisely what all New Caledonians do with all plants, as he observed—they adopt whatever they can grow in their gardens. What at first sight seems to be based on sameness—the reproduction of the same clone-individual—in fact allows for genealogies that do not work according to the tree and lineage model.⁵⁹ The genealogy of each clan can be traced

55 Haudricourt: Domestication (as note 38), p. 278.

56 Viveiros de Castro: Métaphysiques cannibales (as note 20), p. 40.

57 Haudricourt: Nature et culture dans la civilisation de l'igname, in: Id.: La technologie science humaine (as note 38), pp. 287–298: 294.

58 Cf. Maurice Leenhardt: Les Gens de la Grande Terre, Paris 1937, quoted in *ibid.*, pp. 292–294.

59 For Deleuze and Guattari this is the main point they use to contest the European arboreal model.

back to an »un-cultured« person who was acculturated by ritual feeding of yam and thus collected into the collective. The clan chiefs systematically seem to be recruited among such acculturated persons and considered gods.⁶⁰

7. The ground as medium

One could speculate a little more. In his writings, Haudricourt repeatedly insists upon what is implied in the cultivation of plants: an absence of constant control, a time lag between doing something and the response other entities give to this action. This leaves more room for non-human agency and, since control is not exerted constantly, the forces at work are not as controllable and visible as in the herding of cattle. Isn't there also more room for invisible processes and beings? Could it be that the problems of making a place for certain beings Latour observes in Western culture has to do with the fact that we stem from a shepherd culture, not a horti-culture?

There is a second aspect I wish to point out: The *faire faire* model of yam culture or of Chinese gardening is not to be misunderstood as a model in which »nature« has its own way. It requires immense cultivation work. And this is where the place in a very material sense comes into the foreground of the constitution of this collective. Yam culture and Chinese gardening mean taking care of plants through care and attention for the soil itself—as opposed to the carelessness towards the soil in the Western growing of grain cultivated from very resistant grasses. This might, in the case of yam culture, be supported by the fact that yam roots are clones. The same individual is copied and reproduced again and again, there is no degeneration through generation: »The farmer knows that when a harvest is bad, only the ground, his work, and the rain can be held responsible.«⁶¹ The cultivator of yam thus focuses on his interaction with the soil. Therefore, in the cultivation of yam and Chinese gardening indirect negative action on the plants means that the soil is not just a medium in the sense of more or less passive matter that is summoned to lend itself as a substrate to formative processes attributed mainly to the cultivator (or nature). Neither is it forced into a preconceived form. It is a medium in a very strong sense; it is the mediator between gardener and plant, the medium of communication, a third entity, milieu through which the gardeners negotiate with their plants, make them offers or suggestions for their growth.⁶² In a second step,

⁶⁰ Cf. Haudricourt: *Nature et culture* (as note 57).

⁶¹ *Ibid.*, p. 289.

⁶² Chinese dwarf plants are produced by acting upon the soil, not by cutting off branches as with Japanese bonsai (Haudricourt: *Domestication* (as note 38), p. 279), a strong contrast not only to French baroque gardens, but to the practices of plant orthopedics as

this ground and its produce become the mediums through which beings are integrated into the collective. This would be a more open, experimental process in which the ground is itself a tool and contains information and potential the gardener works with. I think this has some resonance with what Andrew Pickering described lately when pleading for a different ontology that redistributes agency and gives up violent, one-sidedly formative action on landscapes, for example when trying to force the Mississippi off its course again and again in order to keep it from flooding New Orleans.⁶³

8. Unwelcome affinities: A different form of power relations

As for Pickering, it is obvious to Haudricourt which model he favors when opposing the Western ontology based on domination, orders, slavery, and transcendence—and, one has to add, a very asymmetric distribution of agency—to a, geographically very patchy, Eastern, Chinese–Melanesian ontology which he believes to favor explication and immanence—and a more symmetric distribution of agency. In his most speculative text, *Essai sur l'origine des différences de mentalité*, he makes the boldest statement on the consequences of domestication that prevailed in the West:

»The organization of work between the master who commands and the slave who carries out was the origin of occidental dualism; difference between the plan and its execution; theory and practice, ideas and things, spirit and matter. In the world of the spirit, everything is perfect, the master always imagines and thinks up things well; he is always right; in the world of matter, things are imperfect: the slave does not understand, thus he works badly or he sabotages.«⁶⁴

There is a striking resonance in these lines with the philosophy of Gilbert Simondon. I think the role attributed to the place as soil implied in Haudricourt's description of Eastern horticulture arises from a ground that has an affinity to Simondon's critique of hylemorphism.⁶⁵ Hylemorphism ascribes agency and activity only to form, considering matter and ground as passive and receptive, remaining ignorant to its energetic and formative potentials. Even if Simondon does not turn

presented in Michel Foucault: *Surveiller et punir. Naissance de la prison*, Paris 1975, figure 30.

⁶³ Cf. Andrew Pickering: New Ontologies, in: Id./Keith Guzik (eds.): *The Mangle in practice. Science, Society, and Becoming*, Durham/London 2008, pp. 1–14.

⁶⁴ Haudricourt: Lecture commentée (as note 34), p. 38.

⁶⁵ Cf. Simondon: Du mode d'existence (as note 8).

east in order to look for alternatives, his diagnosis of a fundamental solidarity between an attitude of domination, asymmetric distribution of agency, and the hubris of the master-philosopher who commands the slave and does not deign to enter the craftsman's workshop, let alone explore what happens within the mold where the brick comes into being, is not alien to the scarce remarks formulated by a rather laconic author.

Simondon shares the philosophical project to elaborate an alternative to the dominant Western mode of thinking that, one could add, does not only fail to describe accurately the mode of existence of technical objects. But he mainly works from within the Western tradition, finding resources for renewal in minoritarian lines of thought within that tradition. One major advantage of his approach is that it does not lure us into thinking that simple adoption of ready-made concepts will do. The same caution should prevail when dealing with alternative models from other cultures and their importation. I can only sketch this here in broad strokes.

To begin with, it would be naive not to see that Haudricourt's predilection for the Eastern model was *strategic*⁶⁶—a dispositive against the limitations of the proper grounds or the xenophobia of the Darwinist descendants of the »selectors.«

Then, one has to differentiate: Whereas Haudricourt knew New Caledonia, the French overseas territory, from his own observations, he relied on written sources for China—and on his Marxist sympathies. Maybe New Caledonia actually is or was one of those Fortunate Isles Occidentals have dreamt about for thousands of years, where indirect negative action is tantamount to amicable relationships. At least concerning China, one might be rather skeptical about an inherent friendliness of this type of action. But the antidote to Western conceptions it provides has to be seen as a *pharmakon*. It *does* grant more agency to the »subjects« and to non-human entities in general.⁶⁷ To a certain extent, but to a certain extent only, it is compatible with a revision of hylemorphism and even with Simondon's conception of the invention of technical objects. And yet this certainly does not mean that we would deal here with relations outside of power relations, as Isabelle Stengers makes clear when she proposes a reconceptualization of the strategies precisely of what she calls sciences with an »appétit du terrain,« an appetite for a concrete and local ground, terrain, or field they work upon or within without the pretense of obtaining results that could be generalized as all-terrain.⁶⁸ To describe this reconceptualization, she refers to the Chinese concept

⁶⁶ This strategy is very often associated with Montesquieu's *Lettres Persanes*. In fact, it is much older and goes back to Mandeville's *Livre* from the 14th century.

⁶⁷ And yet: Activity and passivity are conceived of differently. Active is not the one who acts and expends his energy, but the one who maintains the initiative in the manipulation of the propensity of things and thus can spare his efforts.

⁶⁸ Cf. Isabelle Stengers: *Cosmopolitiques II* [1997], Paris 2003, pp. 213–214.

of propensity or *che/shi* as presented by François Jullien.⁶⁹ It is another power relation that abhors open or direct violence and confrontation not because of moral scruples, but simply because they are considered to be an ineffective waste of energy, blocking the flow of things instead of going with them, adapting to them in order to better foster, exploit, channel, and manipulate them for one's own purposes.⁷⁰ Jullien's own analysis of Chinese efficacy is both consistent with Stenger's reading and with Haudricourt's characterization of the gardener paradigm. The model of efficacy is drawn from the growth of plants, and it is thus indirect: Do everything to let them grow, prepare their ground. One lets grow—but even if the activity in this is minimal and invisible to others, this letting is something active, a manipulation of the course of things.⁷¹ But the strategy of manipulation and conditioning is also designed as a means of automatizing power relations: It can lead to the construction of a machinery of power, a dispositive that generates anticipatory obedience because it pushes the subject in the direction favorable to the ruler before the subject even started to act.⁷² Long before sovereignty become an obsolete mode of government in Europe, power in China was based on surveillance by an invisible emperor.⁷³ But if surveillance existed in China long before it became dominant in the West, what do we make of *laisser pousser, laisser-passer, laisser-faire*,⁷⁴ when we think about the reconstruction of the birth of modern governmentality out of the spirit of security as described by Foucault and that starts, curiously enough, with a shift of focus from urban space to rural space and the cultivation and commerce of crops?⁷⁵ Does not the Chinese model of indirect negative action resemble very closely the new, negative directive of liberalism: Do not interfere in the natural course of things, populations, goods, etc.? Yet, there are important differences. Despite these affinities, Western security governmentality works in a different conceptual framework. As for its temporality, it is within the categories of prevision, planning, projects («travailler sur l'avenir»⁷⁶—hence the importance of statistics), and cause–effect relations, even if feedback processes are discovered. As for its spatiality, at least it does not resemble that of an affine, attached ground. One simply needs to take seriously, literally, Foucault's own char-

⁶⁹ Stengers refers to Jullien: *La propension des choses* (as note 9). Jullien elaborates further on this in Jullien: *Traité de l'efficacité* (as note 26).

⁷⁰ Cf. Stengers: *Cosmopolitiques II* (as note 67), pp. 252–254.

⁷¹ Jullien: *Traité de l'efficacité* (as note 26), p. 116. But references to indirectness as the Chinese paradigm of action are numerous throughout both *La propension des choses* and the *Traité*.

⁷² *Ibid.*, p. 125, pp. 184–185.

⁷³ *Ibid.*, p. 184.

⁷⁴ *Ibid.*, p. 116.

⁷⁵ Foucault: *Sécurité* (as note 49), pp. 349–351.

⁷⁶ *Ibid.*, p. 21.

acterization of the space of society, where *laissez-faire* is only the flip side of constant intervention for the sake of security:

»A l'intérieur du champ ainsi délimité va apparaître tout un domaine d'interventions, d'interventions possibles, d'interventions nécessaires [...] Il va donc falloir encadrer les phénomènes naturels de telle manière qu'ils ne dévient pas ou qu'une intervention maladroite, arbitraire, aveugle ne les fasse [pas] dévier. C'est-à-dire qu'il va falloir mettre en place des mécanismes de sécurité [...] L'intégration des libertés et des limites propres à cette liberté à l'intérieur du champ de la pratique gouvernementale, c'est devenu maintenant un impératif.«⁷⁷

The field in question is a field embedded within the field of governmentality that frames and surrounds it and from which the forces of deviation—delinquency, abnormality, etc. —and its agents have to be removed immediately in order to guarantee the free play of »nature.«

⁷⁷ Ibid., p. 360–361, emphasis added. »An entire domain of possible and necessary interventions appears within the field thus delimited [...] Natural phenomena will have to be framed in such a way they do not veer off course, or in such a way that clumsy, arbitrary, and blind intervention does not make them veer off course. That is to say, it will be necessary to set up mechanisms of security [...] The integration of freedom, and the specific limits of freedom within the field of governmental practice has now become an imperative.« Michel Foucault: *Security, Territory, Population. Lectures at the Collège de France 1977–1978*, edited by Arnold I. Davidson, translated by Graham Burchell, London/New York 2009, pp. 352–353.

Islands of Stability

Engaging Emergence from Cellular Automata to the Occupy Movement

Andrew Pickering

MY AIM IS TO EXPLORE an important aspect of social life which goes largely unrecognised in social and political theory and practice. First, I ask why ›being with‹ is a problem. This brings up questions of performance, stabilisation and emergence.¹ I then review some models of emergence that can serve to illustrate and clarify the problem. The third section reviews some in-principle difficulties in being with that follow from this analysis, and the fourth section points to important real-world exemplifications of these difficulties. Finally I outline some attempts to come to terms with them.

1.

In what sense is ›being with‹ a topic? We are continuously with an endless list of entities from the moment we are born until we die (and even before and after that). Being with is literally mundane. Here I am, drinking a cup of lukewarm coffee, typing at my computer, glancing at my watch or the snow outside the window, talking to my wife about the weather or lunch or the new Pope—so what? That’s how it always is—what more can one say?

We could make a start by saying that ›being with‹ appears unproblematic because we tend to think about stabilised relationships. I know this computer pretty well;

¹ This article, resulting from a talk given at the IKKM conference *Being with. Affinities – attachments – assemblages* held in Weimar April 18–20 2013, is one of a series of talks and publications in which I try to get clearer on the shift from what I called the ›representational‹ to a ›performative‹ idiom in my earlier work in science studies, cf. Andrew Pickering: *The Mangle of Practice. Time, Agency, and Science*, Chicago, IL/London 1995. On relationships with the environment, cf. Andrew Pickering: *Being in an Environment. A Performative Perspective*, in: *Natures Sciences Sociétés* 21/1 (2013), pp. 77–83; on psychiatry, cf. Andrew Pickering: *Laing beyond Words. Antipsychiatry as a Dance of Agency*, paper presented at an international conference, *R. D. Laing in the 21st Century*, Wagner College, Staten Island, New York, 25–27 October 2013.

I have even managed to stop Microsoft Word checking my spelling; I know how to get along with it. But this is not always the case. Going to new places with my computer seems always to generate tense hassles in connecting to the Internet, reading my email, sending stuff to a new printer. Sometimes, then, we enter these zones of instability in which being with becomes difficult to the point of impossibility—and this certainly happens as much with nature and other people as it does with technology. Instability is thus also endemic to our being in and with the world.

Now we have some conceptual elbow-room—the gap or transition between stability and instability. What can we say about that? First, that negotiating the transition is a performative rather than a cognitive process. No-one ever seems to know how to connect to the Internet, though some frequent obstacles have names—user IDs and passwords for example, as well as more mysterious entities like firewalls, IP addresses, secure socket layers and PPPoE. Experience helps but is never enough. What remains is trial and error—trying this, trying that, seeing what happens, reacting to that. And eventually the connection is made and one is with one's email again.

This is our ontological condition, what being in the world is like. Getting on in the world is a performative achievement, continuously or from time to time performatively renegotiated. It is not, in the first place, a cognitive achievement. One does not think one's way into being with. Now I know that today I needed to go through that firewall, and that to do so I had to update my operating system and then download a new driver to connect to that printer. But all that knowledge was the upshot of stabilising a relationship; it came after, not before, being with. We are plugged into the world via performance, not cognition.

This whole process is emergent in time, unpredictable and inexplicable in advance of its happening. We are stuck with performative experimentation precisely because no one knows what will happen when I connect my computer to a new server. In this sense, we live in a world of becoming and the continual bubbling-up of genuine novelty. This again is our ontological condition.

Why is this not already clear to us? How is that we can take being with so often for granted? The answer has to be a refinement of the ontological picture. There are islands of stability in the flux—my relationship with my computer today, for example, is stabilised by all the settings established in getting this version of Microsoft Word under control and accessing my email through this network. When we find these islands, we live on them and celebrate them cognitively and we mistake them for the world itself. But we should instead remember that they are chancy performative achievements, and we can easily and unpredictably fall off them. The word ›Fukushima‹ can probably still serve as a mnemonic for this point.²

² Cf. Pickering: *Being in an Environment* (as note 1).

2.

This is one way to understand ›being with‹ as an interesting topic linked to a specific topology—as a chancy and emergent performative achievement of fragile and local stabilisations in a world of becoming. Now I want to come at the problem from a different angle. We do not usually think of a world of becoming; we think in terms given to us by the scientists and engineers, of a world of knowable and reliable entities: rods, pulleys and gears; molecules, atoms and black holes. That is the world in which the problematic of being with recedes; in which our relation to others can, in principle at least, be a cognitive one—we can think ourselves into stable relationships with stable entities as long as we know enough.

This is a powerful image; how can we get away from it? The first move might be to recognise that stories of fixed and knowable worlds are themselves built on these islands of performative stability I just mentioned. These stories are intrinsic to our ways of inhabiting them, shoring them up, extending, and repairing them. But then the question arises of how to imagine the world differently; how to break the spell of cognition and language and to enliven instead our imagination of performance and emergence? The strategy I want to follow here is to think of some simple examples—models—that stage vividly aspects of an ontology of becoming. These are the sorts of things that it helps to have in the back of your mind if you want to grasp being with as an interesting problematic. I could run through a long list, but I will confine myself to three: black boxes, cellular automata, and homeostats.

Black boxes are well known in science and technology studies (STS) thanks to Bruno Latour,³ but the idea itself goes back to World War II, where ›black box‹ referred to a piece of enemy equipment that fell into the hands of the other side.⁴ The first task of the receiving scientists was a sort of performative mapping, seeing what the box would do, subjecting it to trials as Latour calls them, exposing the box to various conditions and recording its response. This mapping of input-output relations could be our primordial model for being in the world and stabilising relationships. It is how babies learn to cope with their environment, but is also surely how all entities, human and nonhuman, organic and inorganic, do the same—a performative experimental coming-to-terms with otherness.

This mapping can, of course, be a prelude to reverse-engineering, a way of starting to open up the black box to cognition. But the black box as model serves

³ Cf. Bruno Latour: *Science in Action. How to Follow Scientists and Engineers through Society*, Cambridge, MA 1987.

⁴ Cf. William Ross Ashby: *An Introduction to Cybernetics*, New York 1956; Andrew Pickering: *The Cybernetic Brain. Sketches of Another Future*, Chicago, IL 2010.

to remind us that cognitive reverse-engineering depends on prior engagement. Cognition derives from performance. And opening black boxes is decidedly optional. I've been to university; I could sketch out the mechanisms of light switches and door handles. But my mode of being with them depends not at all on that sort of knowledge—I learned to get along with them long before I went to school. Stabilising that sort of getting along is what we need to think about to come to terms with being with. Just imagine a world of black boxes engaging with one another.

One limitation of black-box talk is that it still invites us to think of hidden but knowable and predictable mechanisms, even if we recognise that in practice such knowledge is often not important. How can we imagine becoming, the ability of the world to continually surprise us? We could go to a different extreme and look for models of becoming. The clearest and cleanest examples I can think of are cellular automata. A CA is a string of zeroes and ones, evolving in discrete time-steps according to some rule—for example, if both neighbours of a particular location are 'one' then the value at that point at the next step will also be one.

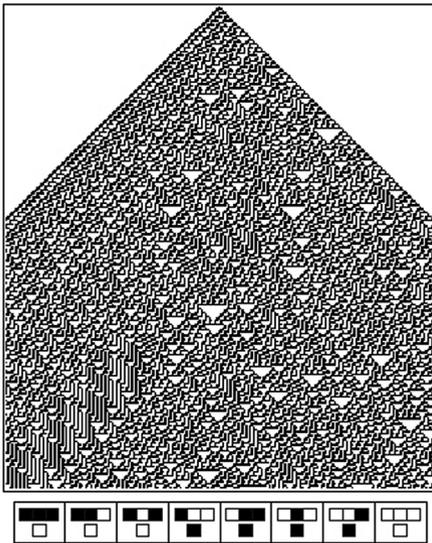


Fig. 1: Cellular Automaton, Rule 30.
Time runs from top to bottom

CAs are simple determinate systems. The rule specifies with no ambiguity how any given array of zeroes and ones will evolve over time. Some rules generate predictable patterns, in the sense that having watched them evolve for a while you can say what will show up a thousand or a million iterations into the future. For example, if a CA dies—meaning that at some point its elements are all zeroes—it will not come back to life. Some rules generate regular geometrical patterns or fractals, so it is easy to get the hang of where they are going. But what is fascinating here is that some rules generate utterly unpredictable behaviour. Nothing about them evidently continues predictably into the future—you just have to keep iterating the rule to find out what the system will look like after any specified number of steps.⁵

So CAs are good to think with if we are interested in the problematic of being with: imagine that the world is built from unpredictable and emergent CAs rather than quarks or clockwork. In a sense, this

⁵ Cf. Stephen Wolfram: *A New Kind of Science*, Champaign, IL 2002.

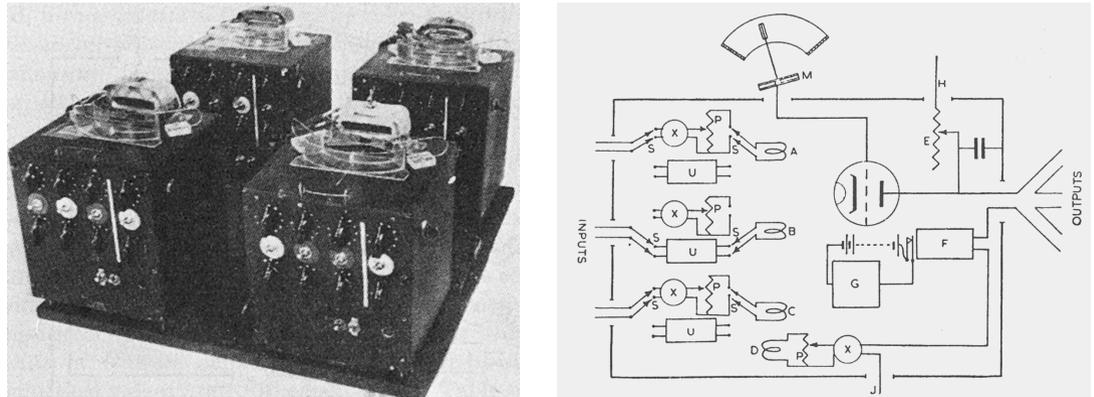


Fig. 2: Homeostat: Four-Homeostat Set-Up (left); Wiring Diagram (right)

is going too far, inasmuch as one could never, in fact, stabilise a relationship with one of these entities. One would always be being surprised by it and adjusting again. There are no islands of stability to be found here.⁶ We should move on, while just remarking on the uselessness of any cognitive opening up of CAs. We already know the rules that generate them, and that knowledge helps us not at all in knowing what they will do next. We should imagine the world like that.

Thirdly, we can turn to a gadget built in 1948 by Ross Ashby, the homeostat.⁷ This was an electro-mechanical device that processed an input current, turning it into an electrical output. Its key feature was that if the current within it exceeded some preset value, a relay would trip and change the internal wiring—the machine would randomly reconfigure itself. Any single homeostat was inert and lifeless, but Ashby constructed multi-homeostat set-ups so that the outputs from each unit were the inputs to the others. When first switched on, such set-ups were typically unstable—the currents within the units tended to grow—but then the relays would start tripping and carry on doing so until the currents tended to vanish and the whole set up became stable and quiescent.

Homeostats are interesting here from several angles. Firstly, they can serve as models of a distinctly performative form of stabilisation. Their interactions were purely at the level of performance rather than cognition; each unit was a black box to the others. Secondly, they exemplify again the uselessness of opening up black boxes. All there was to know about them is that under certain uncontrollable

⁶ Unless, as it happens, one looks at more complex CAs like the gene networks at the heart of Stuart Kauffman's theoretical biology, cf. Pickering: *Cybernetic Brain* (as note 4). These do fall into 'basins of attraction' and remain stable until one jolts them out of them. But this is to get too technical.

⁷ William Ross Ashby: *Design for a Brain* (1952), London 1960.

conditions they would reconfigure themselves randomly, and this knowledge was itself of no use in the process of achieving equilibrium. And thirdly and most importantly, they can help us go further in thinking about the process of stabilisation and being with. A multi-homeostat set-up is a nice model of a system that finds islands of stability, precisely the end states in which the individual units still react dynamically to disturbances from the others but in which no more inner reconfigurations are called for. In the rest of this paper, I want to explore this as a model for the achievement of stable being with.

3.

The first section of this essay translated the problematic of being with into one of the stabilisation of relationships. The second section reviewed some models that can help us think our way past the image of a fixed and knowable world that tends to obscure this problematic. Now I want to lean on the homeostat to think further about the process of stabilisation. Ashby was interested in the length of time it would take combinations of homeostats to achieve collective equilibrium. He thought of them as models of the brain, so the question for him was whether one could build a brain that would adapt to the world in a reasonable length of time. Both calculation and his machines showed that four fully interconnected homeostats, each capable of taking on twenty-five different inner states, could come into equilibrium within a couple of seconds. But if one extrapolated that to an assemblage of one hundred fully interconnected homeostats (fifty as a brain; fifty for the world) the combinatorics were such that chancing on an equilibrium arrangement would entail search-times orders of magnitude greater than the age of the universe. Even if 99 of them found a way to settle down, chances are that the 100th would set them spinning again.

This is the point we need to focus on. It takes time to run through homeostat-like processes of reconfiguration, putting possibilities to others who are doing the same back, proposing and counter-proposing, vetoing and counter-vetoing. And the length of time it takes to stabilise such an arrangement increases astronomically with the number of participants and the density of their connections, meaning the number of others with which each entity interacts directly. Finding stability can easily become a practical impossibility.

Ashby drew an ontological conclusion from this. The elements of the brain and the world must be sparsely, not densely, connected to one another, since we do, in fact, manage to stabilise some relationships within a finite human lifespan. This counts, I think, as a genuine and strange ontological discovery, and I cannot see how one would arrive at it without first grasping the problem of being with as one

of performative experimentation. The remainder of the essay tries to draw on Ashby's insight in thinking about social relations and the political problem of being with other people.⁸

4.

Antonio Calleja-Lopez is studying the Occupy movement as a participant/observer, an active member of the movement.⁹ Ironically, perhaps, his original aim was to study the development of a software platform tailored to the needs of Occupy members. Instead, he writes accounts of failures to agree how to go about this project, backing up into failures to agree what Occupy is and how to study it. These failures shade into stories of splits and divisions within the movement, which themselves always seem to shade off into tales of violence. Occupy Berlin Biennale in summer 2012 was the latest attempt to get the software development underway, but ended in conflicts with other Occupiers and the departure of the software group.

One might blame these failures to move forward on individual personalities, the usual penchant of the left for squabbling, and so on, and no doubt there would be something to this. But I am increasingly inclined to see it as an ontological problem at the heart of radical democracy. Like other contemporary radical move-

⁸ There are many directions we could fruitfully explore here, cf. Pickering: *Cybernetic Brain* (as note 4). In psychiatry, Ashby thought of his findings as offering a rationale for lobotomy, a way of decreasing the degree of interconnections of neurons within the brain; Grey Walter likewise drove his robot ›tortoises‹ mad and cured them by disconnecting some of their circuits; while Gregory Bateson understood the double-bind as the achievement of pathological islands of stability, and psychosis as a mechanism that set the homeostats spinning again in search of other islands. The architect Christopher Alexander drew on Ashby's work to explain what he took to be the continually failing adaptation of contemporary buildings; again, his response was to thin the connections, trying to find subsets of architectural/environmental elements that were only weakly coupled to one another, leading up to his concept of ›pattern languages,‹ cf. Christopher Alexander et al.: *A Pattern Language. Towns, Buildings, Construction*, New York, NY 1977. Alexander conceptualised linkages in terms of one hundred interconnected lightbulbs, arranged as a two-dimensional cellular automaton. One can understand our dominant way of relating to the environment as a sort of arms race with nature, which never stabilises, cf. Andrew Pickering: *New Ontologies*, in: Andrew Pickering and Keith Guzik (eds.): *The Mangle in Practice. Science, Society and Becoming*, Durham 2008, pp. 1-14, Pickering: *Being in an Environment* (as note 1).

⁹ I am supervising his PhD research at the University of Exeter; what follows is a simplified version of the findings of his research, which is still in progress and unpublished. I am grateful for his permission to mention his work here.

ments, Occupy is endemically suspicious of experts, authorities and the exclusions that are their other side. Decision-making has to be decentralised and collective; everyone should be free to have a say. And it seems to me that Occupy is thus continually running into the multi-homeostat problem, with an indefinite number of people densely interacting with one another, creating endless possibilities, pushing them around, reacting to others, but never finding a stable configuration. And it further seems to me that this is a problem that must always face forms of radical democracy searching for unconventional islands of stability.

I am encouraged to think this way because such problems surface in many places, whenever established means of control collapse or are otherwise circumvented. Warren McCulloch, the chair of the famous interdisciplinary Macy Cybernetics Conferences (1946–53), recalled their meetings like this: »[W]e were unable to behave in a familiar, friendly or even civil manner. The first five meetings were intolerable. Some participants left in tears, never to return. We tried some sessions with and some without recording, but nothing was printable. The smoke, the noise, the smell of battle are not printable.«¹⁰ At a more serious level, think about post-invasion Iraq. The standard expectation was that the Iraqis would react in some uniform fashion, possibly by giving flowers to the occupiers. Instead there was violence and chaos with a multiplicity of groups forming and reforming, pursuing different and changing agendas and never achieving any sort of equilibrium. We could see this as a playing-out of the multi-homeostat problem writ large. Likewise the collapse of the Soviet Union and, for example, the disintegration of Yugoslavia. Likewise the events which used to be called the Arab Spring, a term which Thomas Friedman now says »has to be retired« in the expectation of »a long period of intrastate and intraregional instability, in which a struggle for both the future of Islam and the future of individual Arab nations blend together into a ›clash within a civilization.«¹¹ I find it striking that no-one ever seems to anticipate these break-ups and failures of being with. We should do; they should be central to political thought; and Ashby's homeostats can help us get them into focus.

A case I know more about concerns radically democratic movements within the 1960s counterculture, which show striking commonalities with the experience of Occupy. The three-week Dialectics of Liberation conference, held at the Roundhouse in London in 1967, brought together the likes of Herbert Marcuse, Gregory Bateson, Allen Ginsberg, Stokely Carmichael, leader of the Black Power movement, and R. D. Laing, the leading figure in the antipsychiatry movement.

¹⁰ Warren S. McCulloch: *The Beginnings of Cybernetics*, undated manuscript, reproduced in: Claus Pias (ed.): *Cybernetics-Kybernetik. The Macy-Conferences 1946-1953*, vol. II: *Essays and Documents* Zürich/Berlin 2004, pp. 345–360: 356.

¹¹ Thomas Friedman: *The Arab Quarter Century*, in: *New York Times* (April 10, 2013).

It was the apotheosis of international countercultural politics, but instead of moving the revolutionary agenda forward, »there was this meeting afterwards . . . and there was extreme bad feeling and a huge argument and split between them all. Allen [Ginsberg] was going, ›This is dreadful. We have not argued this long for everyone to start getting at each other's throats and getting divided. This is not going to get us anywhere.«¹²

Antipsychiatry was a radically democratic movement centred in the 1960s on Kingsley Hall in London, where psychiatrists and the mad tried to live together in a non-hierarchical commune, but its social disorder in fact precipitated tense disputes on whether some directive management was required to make communal living possible at all:

»Disagreement among ›the brothers‹ as to how ›the place‹ should be run intensified. Aaron Esterson was advocating the appointment of a medical director [...] Ronnie wanted a type of spiritual free-for-all, with no rules except for those that evolved through the experience of people actually living there.«¹³

»Life at Kingsley Hall became less pleasant. It became impossible to ask friends [...] round, because a prior agreement [...] had to be arranged from both camps. The usual high-level, all evening dinner discussions were replaced by glares, stares and recriminations [...] Aaron used to walk about [...] carrying a biography of Stalin [...] Ronnie began to intersperse his lofty metaphysical comments [...] with quotes from Lenin.«¹⁴

The most extensive account concerning academic experience I have to hand is Joe Berke's account of the Free University of New York. Founded in 1965, FUNY's self-description included the statement that »The Free University consists of its intellectual participants. Students and teachers meet on common ground to discuss the direction of the school and to develop curricula, course content, symposia, forums, etc.« In practice:

»Formal policy was made, officially by a co-ordinating committee of ten people, five students and five faculty. There was a formal FUNY constitution drawn up. Great. One day a week, after classes [...] the committee met for hours, and hours, and hours. The meetings were open to all members of FUNY, and all were invited to participate in the deliberations (if they could last). I must say, anyone who came did have a say, and decisions, for the most part, reflected the views of those who cared to show up. But on and

¹² Sue Miles, quoted in Jonathon Green: *Days in the Life. Voices from the English Underground, 1961-1971*, London 1988, p. 209.

¹³ Adrian C. Laing: *R. D. Laing. A Biography*, New York 1994, p. 106.

¹⁴ Mary Barnes and Joseph Berke: *Two Accounts of a Journey Through Madness*, New York 1971, p. 255.

on and on. How many times did Allen [Krebs] win his point solely because he could last out longer than anyone else [...] The ultimate horror was the monster bi-yearly plenums, whereby all of FUNY was invited to meet at one time in the same place to ratify policy and vote for a co-ordinating committee. What wonderful shrieking-matches they proved to be [...] Only the most battle-hardened politicians in the place could withstand these ulcer sessions. Ah well, like they say, the enemy is within.«¹⁵

There is always a note of bitterness in these accounts, as if something beautiful should have happened but didn't, and others are somehow to be blame. My own suggestion is that no one is necessarily to blame and that the »enemy within« is ontological. Even with the best will in the world, experiments in radical democracy will necessarily run into Ashby's multi-homeostat problem and find it practically impossible to arrive at collective decisions and find stable modes of living together. Being with is intensely problematic in such situations.

That is the sad onto-political conclusion of this analysis of being with in terms of performative stability and stabilisation. In the remaining sections, I review some tactics that address the multi-homeostat problem in social and political life.

5.

Ashby was right. The only route to stabilisation is to cut down the variety—to reduce the number of configurations an assemblage can take on, by reducing the number of participants and the multiplicity of their interconnections. This is the only way to have a chance of finding islands of stability in a finite time, and it is what social and political institutions do. Even the Free University of New York had a co-ordinating committee. Much more drastically, democratic politics in the West now consists of being given a single choice between a couple of more or less identical parties every few years. I tend to see my home institution, the University of Exeter, as a microcosm of modern management, and it tries to reduce homeostat-like interactions to zero. Our masters live in their own administration building and are almost never seen around campus. Layers of lesser managers function as a cut-off between them and the faculty. At the same time, horizontal interaction between faculty is made difficult in the extreme; there are, for example, no email lists we can use to contact others en masse—they exist, but only the managers can access them.

¹⁵ Joseph Berke (ed.): *Counter Culture. The Creation of an Alternative Society*, London 1970, pp. 214, 221.

And these tactics work. By minimising variety, they make it possible to achieve a kind of stable being with, in which plans are quickly »agreed to« and specific actions follow. Many of us find these arrangements repellent. They are the means by which a small class of politicians and managers keep the rest of us under their thumb; they subjugate us to their vicious plans. This is, of course, the dissatisfaction that feeds the Occupy movement. But I have just discussed the problems inherent in truly radical democracy, and I want to close by discussing other ways of reducing variety that do not in themselves stabilise hierarchy and asymmetric power relations.

6.

If we have to reduce variety somehow, are there ways of doing it that do not feed into the control mechanisms of contemporary neoliberalism? Is there another paradigm for being with? The only person I know who has seriously addressed this question explicitly and in practice is Ashby's friend, Stafford Beer, the founder of what he called management cybernetics, and I can review a couple of his initiatives to indicate the sorts of arrangements we might want to think about.¹⁶

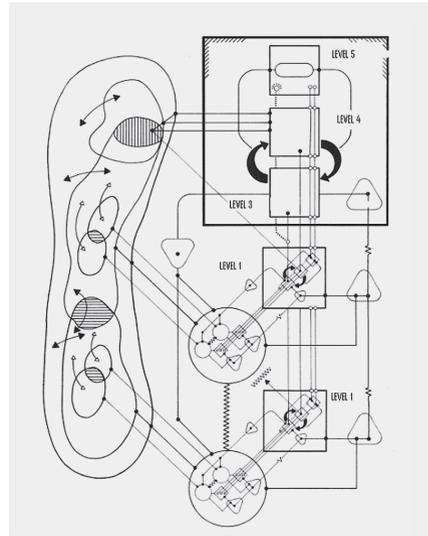


Fig. 3: Diagram of the viable System Model

¹⁶ Much closer to the present, Calleja-Lopez' findings on Occupy and related movements also point to organisational experimentation aimed at reducing variety as a way of coping with the multi-homeostat problem: »Most massive general assemblies, and surely the camps—the organizing forms more prone to fall into the multi-homeostat problem—tended to fade away everywhere. New local assemblies, autonomous groups and projects flourished, specially in Spain [...] Distrust or disinterest of the GA in London grew with time. [...] Decentralization grew more important than collective action almost everywhere.« Lopez also points to the importance of »facilitation, which is a qualitatively different role [from] the rest of the people-homeostats involved, [and] is more effective in small groups,« and of a class of »catalyzers« in the 15M Movement (personal communication, 23 March 2013). Conversely, Latour's politics of nature (2004) and Stengers' cosmopolitics (2010) aim to slow things down by multiplying interconnections relative to contemporary political arrangements, cf. Bruno Latour: Politics of Nature. How to Bring the Sciences into Democracy, Cambridge, MA 2004; Isabelle Stengers: Cosmopolitics I, Minneapolis, MN 2010.

From the early 1970s until his death in 2002 Beer worked as a management consultant, and the diagram of what he called the viable system model or VSM functioned as his trademark in thinking about organisational design.¹⁷ In some respects the VSM is rather conventional, dividing organisations up into functional units, though Beer placed an unconventional emphasis on units devoted to operations research, planning and the simulation of possible futures. In the present context, the key feature is that Beer did not aim to squeeze all the variety out of the system, but instead to choreograph it. The links between units were designed as homeostat-like interfaces, indicated by reciprocal arrows in the diagram, rather than the one-way command structures familiar to those of us who work in English universities. Management, planners, OR people and production units would engage in processes of reciprocal vetoing as Beer called it, exchanging proposals and counterproposals until some sort of equilibrium, a condition of stable being with, was achieved between the parties involved.¹⁸

The VSM thus found space for emergent performative experimentation at the expense of structuring and localising it. The pay-off, of course, was that because not everyone in the organisation was involved with everyone else in this process, the prospect of finding islands of stability in a finite time was greatly increased.

The VSM might not be instantly attractive to the Occupy movement. It is not radical democracy; it involves a segregation of functions; the vertical structure of the diagram still speaks of managerial hierarchy. But Beer argued, at least, that it is the best we can get as far as organisations are concerned, certainly better than conventional forms of neoliberal management. Perhaps the trick here is to turn the diagram on its side; the homeostat-like couplings suggest we should see different functions like management, planning, production, etc. as being on the same plane, each part of the organisation, none of them in ultimate control.

The question remains as to what these homeostat-like couplings would look like in practice. In his early career in the steel industry, Beer improvised, trying to grab managers and trade-union representatives after work on Friday afternoons and take them off to his office to drink whisky. The idea was simply to break down established antagonisms and set the homeostats spinning to see what would emerge. Later this evolved into a more structured procedure Beer called syntegration.¹⁹ Syntegration is a complex process of many iterations, usually extended over several days, but the central idea is to assign participants to the edges of a notional icosahedron, and to organise a process of sequential discussions between the

¹⁷ Cf. e.g. Stafford Beer: *Brain of the Firm*, New York 1981; Pickering: *Cybernetic Brain* (as note 4).

¹⁸ The VSM had a recursive structure, so each unit was built from subunits, again linked homeostatically.

¹⁹ Stafford Beer: *Beyond Dispute. The Invention of Team Syntegrity*, New York 1994.

parties whose edges end at a common vertex, alternating in steps between the vertices at the end of each edge. In this way proposals and arguments can emerge and progressively echo all around the icosahedron, eventually taking an emergent form controlled by no-one in particular. The topic of syntegegration could be anything, ranging from the linkages between functions within an organisation I just discussed, to appraisal of the overall purpose and structure of an organisation—one of the first formal syntegegrations focussed on the reorganisation of the Operations Research Society, of which Beer was then President—up to Israeli–Palestinian relations and world peace.

In general, we can get the hang of what is going on here. Beer called syntegegration a form of perfect democracy. It evidently falls short of the radical democracy of Occupy and the counterculture, but at the same time it evades the ontological problems of being with that they necessarily run into. And it does this by reducing and orchestrating the variety in a way that, unlike conventional structures and decision-making procedures, does not create a privileged centre that magically reproduces the status quo.²⁰ Together with the VSM, it can stand as an exemplar of a different and open-ended mode of being with from the neoliberal control and management strategies we know and love.

My aim here is not to recommend the specifics of the VSM as a way of patterning organisational life or syntegegration as form of constructive negotiation. I have tried to follow through an analysis of being with as a process of performative stabilisation to get clear on the problems this brings to the surface, and to follow the ontological story through into some features of communal life that are probably not well enough appreciated, either by activists for radical democracy or social and political theorists. This closing discussion of Stafford Beer's work was intended to point simply to possibilities for organising ourselves differently that follow from the analysis, possibilities for producing another world systematically different from neoliberalism.

²⁰ Beer had a nice analysis of questionnaires, polls and agendas as ways of stacking the deck—reducing the space of possibilities in advance. Topics for syntegegration were supposed to be as loosely defined as possible, simply names of areas of active concern to whoever chose to participate, and the first phase of a syntegegration then aimed at finding more precise articulations. In the course of the Cybersyn project in Chile in the early 1970s, Beer also sought to design feedback mechanisms directly linking the people to the government and setting up further homeostat-like balancing acts, cf. Pickering: *Cybernetic Brain* (as note 4).

Image Credits:

Fig. 1: Cellular Automaton, Rule 30.

Fig. 2: Homeostat: (A) four-homeostat set-up; (B) Wiring Diagram

Fig. 3: Diagram of the viable System Model

Acknowledgement:

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Disassembling the »SAN DOMINICK«

Sovereignty, the Slave Ship, and Partisanship in Herman Melville's *Benito Cereno*

Ben Robinson

1.

From the late 15th until the 19th century the political economy of the »Atlantic world« was characterized to a significant degree by two apparently distinct operations. These are in turn imprinted in Atlantic history in two paradigmatic representations: the frontispiece of Thomas Hobbes' *Leviathan* (1651), etched by Abraham Bosse,¹ and the diagram of the slave ship *Brookes* (1789). Each presents an aspect of the order and ordering of bodies of people and of people's bodies that defined, in decisive fashion, the Atlantic »common-wealth.«

The famous frontispiece illustrates that »Art« by which, according to Hobbes, »is created that great LEVIATHAN called a COMMON-WEALTH, or STATE.«² It is as such a representation of representation since, in the *Leviathan*, representation or the ability to personate is the



Fig. 1: Frontispiece of Thomas Hobbes' *Leviathan, Or the Matter, Forme & Power Of A Common-Wealth Ecclesiasticall And Civill*, London 1651; etching by Abraham Bosse.

¹ The attribution to Bosse is made by Horst Bredekamp in his extensive analysis of the frontispiece. See Horst Bredekamp: *Thomas Hobbes visuelle Strategien*, Berlin 1999, pp. 39-52.

² Thomas Hobbes: *Leviathan*, ed. by Richard Tuck, Cambridge, MA 1996, p. 9. The text will subsequently be cited in brackets under the abbreviation: *Leviathan*.

very condition of political life. Originally a Greek theatrical device, πρόσωπον, the wearing of a mask to express character, it was transposed into Roman law as *persona*, »any Representer of speech and action as well in Tribunalls, as Theaters« (Leviathan, p. 112). For Hobbes, personation is the ascription of a unity where

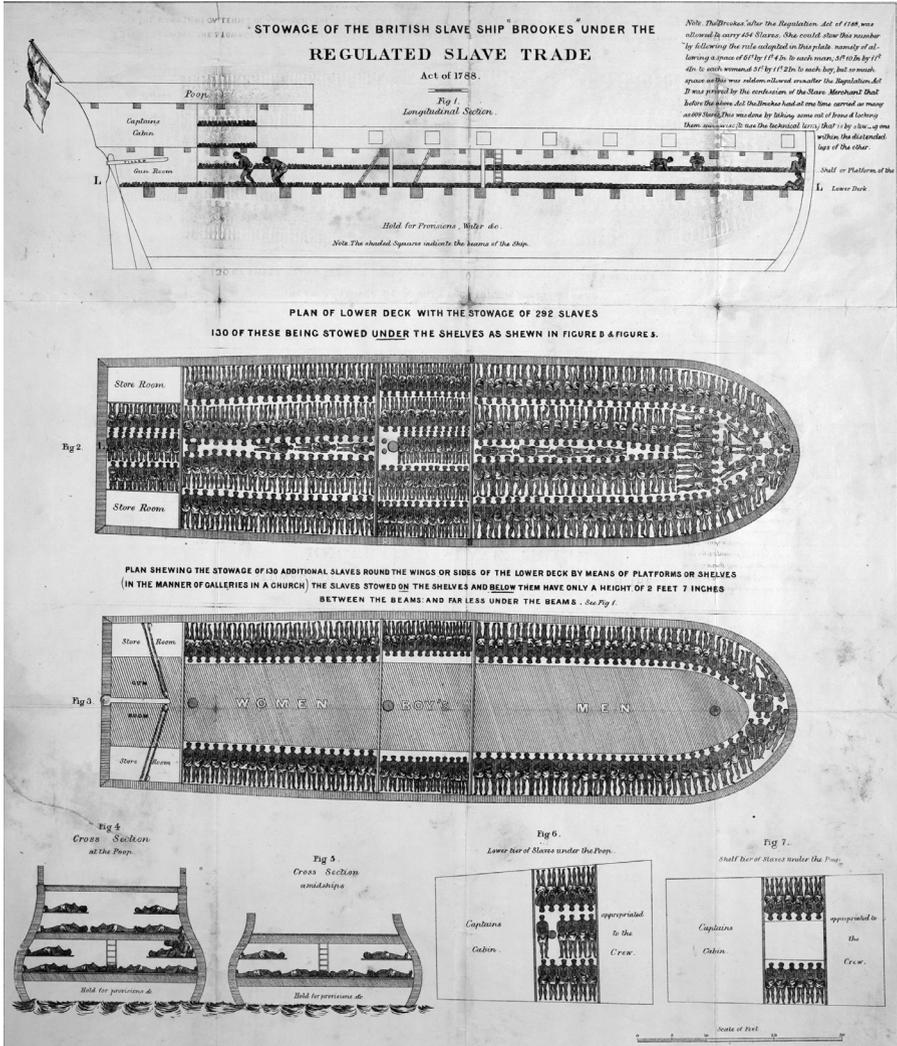


Fig. 2: »Stowage of the British slave ship Brookes under the Regulated Slave Trade Act of 1788.« One of several similar versions of the slave ship *Brookes* after the less elaborate Plymouth plan first published in 1789.

otherwise an anarchic multiplicity would exist. By the device of representation, the person produces the coherence of the body, which it represents in speech and action, just as the state is the production of a political body, which can only achieve coherence and become one body when it gives itself a persona—the head of state: »A Multitude of men, are made *One* Person, when they are by one man, or one Person, Represented« (Leviathan, p. 114). The assembly of the body politic is but a function of the representation of its head: »the Members of every Commonwealth, as of a Naturall Body [...] cohaere together; but they depend onely on the Sovereign« (Leviathan, p. 397). In the frontispiece the sovereign is a giant man composed of the bodies of his subjects, who, distinguishable in the engraving, look up in concert at his face or persona. Under the direction of the sovereign head, its members achieve a common sense of order and orientation that in turn secures and stabilizes their own legal and lawful persons and representations. Only in such a state—under one heading as it were—might there be coherent articulation, commerce and communication of all members.

The representation of the *Brookes* is that of a sea-monster-machine of a different kind—the slave ship being devoted to the production of a representativeness of an interchangeable, exchangeable and therefore de-personalized sort. First published by the Plymouth Chapter of the *Society for Effecting the Abolition of the Slave Trade*, the image was intended to disseminate awareness about, and generate popular opposition to, the slave trade. It soon became its defining image. That it presented an »enlightened« development in the trade following the Dolben Act of 1788, which imposed certain restrictions on conditions and crowding on the ships and was therefore often published under such headings as »Stowage of the British Slave Ship »Brookes« under the Regulated Slave Trade« only made the image the more repellent. Indeed, by the schematic representation of ship and human cargo, the image exhibits the bio-political operations which the slave ship set out to accomplish: by no means simply the transport at optimal ratio of cargo to unit volume without disproportionate risk to its value, but also, as Marcus Rediker has argued, the transformation of said cargo from people of diverse backgrounds and ethnicities kidnapped, captured and sold from various parts of the African continent into the single category of black chattel slaves.³ And one significant aspect of this operation, as expressed in the image of the *Brookes*, is the packing and compacting of bodies together but in a manner so disarticulate, disconcerted and constrained as to occlude any sort of political gathering. The slave ship brings together in order to dis-assemble: systematically cutting or disabling former bonds—familial, linguistic, ethnic, amicable—while impeding the constitution of new ones.⁴ The

³ Marcus Rediker: *The Slave Ship. A Human History*, London 2007, pp. 9–13.

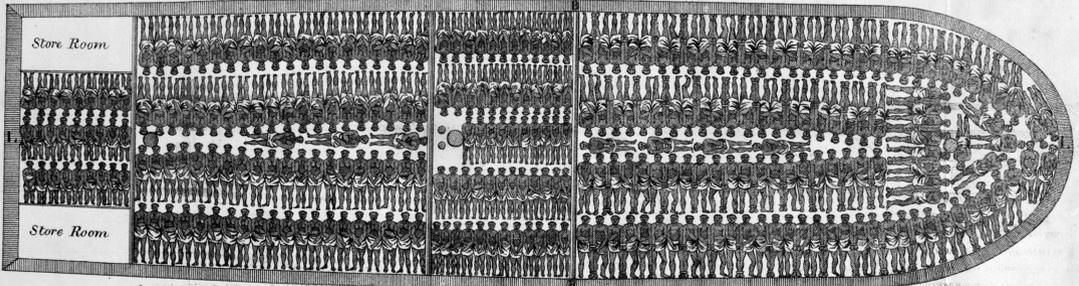
⁴ Of course, it was never completely successful in this regard and the threat of revolt was a



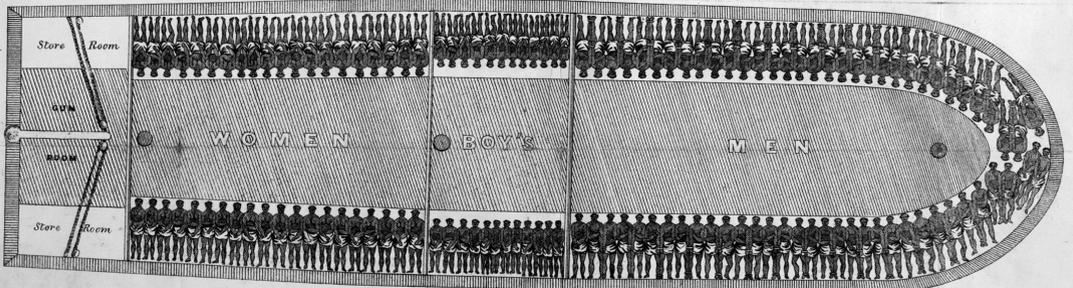
Fig. 3: Detail of *Leviathan* frontispiece (Fig. 1)

Fig. 4: Detail of the *Brookes* (Fig. 2)

PLAN OF LOWER DECK WITH THE STOWAGE OF 292 SLAVES
 130 OF THESE BEING STOWED UNDER THE SHELVES AS SHEWN IN FIGURE B & FIGURE S.



PLAN SHEWING THE STOWAGE OF 130 ADDITIONAL SLAVES ROUND THE WINGS OR SIDES OF THE LOWER DECK BY MEANS OF PLATFORMS OR SHELVES
 (IN THE MANNER OF GALLERIES IN A CHURCH) THE SLAVES STOWED ON THE SHELVES AND BELOW THEM HAVE ONLY A HEIGHT OF 2 FEET 7 INCHES
 BETWEEN THE BEAMS: AND FAR LESS UNDER THE BEAMS. See Fig 1.



slave ship, as »ideal type,« generates a state of disassembly, the regulation of a crowded but apolitical site by techniques of corporal violence and terror.

These apparently contrasting representations of two aspects of the political economy of the Atlantic world share—if paradoxically and by no means always effectively—a common concern with the preservation and organization of life. Or rather, it would be more accurate to speak of the production of certain types of life—of certain corporations, compartments and corporalizations—in which case, according to a typology familiar from the work of Giorgio Agamben, the frontispiece would represent the production of »political life« while the *Brookes* diagram would represent that of an apolitical but nonetheless intensively politicized »bare life,«⁵ albeit one that may also be aptly characterized as »social death.«⁶ In Hobbes' own terms political life is the achievement of sovereign representation: »the *Sovereignty* is an Artificiall Soul, as giving life and motion to the whole body« (Leviathan, p. 9). It is thus at once that living entity, »the great LEVIATHAN« generated by the unanimity represented in the sovereign head of state, and the way of life—coherent, articulate, measured—which that »*Mortall God*« guarantees by the exclusion of the threat of arbitrary violent death (Leviathan, p. 120). In contrast, the *Brookes* image represents the exclusion of political life by the organization of a space of »bare life« insofar as it is subject to relentless exposure to arbitrary violence. The bare life occluded because it is protected in the sovereign state, is foregrounded because it is exposed in the slave ship. If in the historical period that witnessed the emergence of the Atlantic world, the ship of state, in its distinctive sovereign manifestation, and the slave ship, that exemplary proto-capitalist vehicle of the nascent global economy, ran parallel courses, it is because they are structurally related, presenting two poles of the emergent preoccupation with life as the end and substance of »the political.« The slave ship is then exemplary of that all-too-political state of exception from the political in which, as it were, the mutilated underside of the Leviathan is exposed.

persistent risk and anxiety, one which in turn made for the increasingly oppressive practices of incarceration and punishment on the ships. Bonds were indeed formed onboard (a theme of Rediker's study) and former bonds were doubtless never completely dissolved. The tabula rasa image of the middle passage—to which the *Brookes* diagram and much Abolitionist discourse contributed—is itself both spurious and suspect: »The notion that the Middle Passage was so traumatic that it functioned to create in the African a tabula rasa of consciousness is as odd as it is a fiction, a fiction that has served several economic orders and their attendant ideologies.« Henry Louis Gates: *The Signifying Monkey. A Theory of African-American Literary Criticism*, Oxford 1998, p. 4.

⁵ Giorgio Agamben: *Homo Sacer. Sovereign Power and Bare Life*, translated by Daniel Heller-Roazen, Stanford 1998.

⁶ Orlando Patterson: *Slavery and Social Death. A Comparative Study*, Cambridge, MA 1982.

If the slave ship is a paradigm, to be sure an exceptional one, for the politics of the Atlantic world, slave revolts on slave ships present sites of exception and of exceptional life that are truly irregular. For this reason, on board slave revolts have always presented singular and perplexing cases in the history of international law. In the famous *Amistad* case (1841), for instance, John Quincy Adams had to demonstrate not only that the slaves, who were newly arrived from Africa and therefore not »legally« slaves, had the right to fight for their freedom according to the laws of nature on the open seas but equally that, as such, they should not be treated as pirates. What was the status of a boat in which people, severed from a recognizable political and cultural context and treated as property, rose up to make an unambiguously political claim? Did such a politics fit, as Adams maintained, the troubled discourse of the rights of nature or did the slave ship present a different iteration of political existence and political life, of the relation between politics and life? And where indeed did such people belong—given that »Africa« was as much an invention of the Atlantic slave trade as the »blacks« whom it deposited on American shores? Taking the ship, the rebels produced a distinct kind of political space. Set adrift without the recognition or protection of an established power, without a country to make for or a territory upon which to lay claim, the question of the conditions and legitimacy of political existence in the absence of any priority in claims of ownership, property or standing, imposes itself in barest form. Such appears to be the case in the ship, or the representation of the ship, called the *San Dominick* in Herman Melville's 1855 novella, *Benito Cereno*.⁷

2.

The story was a favorite of Carl Schmitt who read it as a geopolitical allegory presenting the situation at the end of the »*jus publicum Europaeum*.« Schmitt never, however, acknowledges the singular fact that the story concerns a *slave ship*, one named the *San Dominick* no less.⁸ In his reading, the rebellious slaves on the slave ship become simply pirates on a pirated ship and Schmitt claims to identify with

⁷ »Benito Cereno«, in: Herman Melville: *Piazza Tales and Other Prose Pieces, 1839–1860*, volume nine, Scholarly Edition, ed. by Harrison Hayford et al, Evanston 1987, pp. 47–117. The text will subsequently be cited in brackets under the abbreviation *BC*. On Melville's story and the *Amistad* case see Carolyn Karcher: *The Riddle of the Sphinx: Melville's »Benito Cereno« and the Amistad Case*, in: Robert Burkholder (ed.): *Critical essays on Herman Melville's »Benito Cereno«*, New York 1992, pp. 196–229.

⁸ For a survey of Schmitt's reading of *Benito Cereno* (drawing attention to the noted absence of slavery) as well as subsequent Schmittian interpretations, see Thomas O. Beebe: *Carl Schmitt's Myth of Benito Cereno*, in: *Seminar* 42/2 (2006), pp. 114–134.

the hapless Spanish captain, Benito Cereno, representative of the old European-Catholic order, who finds himself subject to the vicissitudes of the revolutionary multitude with whom he is forced to play the part of impotent collaborator over and against the naïve and apparently humanitarian interventions of the American captain, Amasa Delano.

Schmitt's suppression of the slave-question in Melville's story—as well as in the larger account of the political significance of the discovery and appropriation of the New World he gives in *Nomos of the Earth*⁹ and elsewhere—is remarkable since the status of a slave ship in revolt presents an extraordinary case of the sort of anomalous political scenarios Schmitt treated in his studies of such para-legal and para-political figures as privateers on the sea and partisans on land. These were irregular but distinctly modern figures who could not be assigned to the age-old category of »pirate,« owing to their political significance in the transformation of the *nomos* of the earth.

In Schmitt's account, privateers, who differ from pirates insofar as they are licensed by a sovereign power, played a pivotal role in the »world historical struggle« that shifted the concrete balance of power, and, more fundamentally for Schmitt, the very self-understanding of the world-order from a Catholic to a Protestant one in the 17th century.¹⁰ The partisan would play a similarly effective role in the revolutionary and independence struggles that unsettled the Euro-centric international order in the 20th—such, at least, seems to be the impetus of Schmitt's *Theory of the Partisan* (1963), which is subtitled: »Intermediary Remark on the Concept of the Political.« Like privateers, partisans are affiliated with a party, which characterizes their engagement as political as opposed to piratical. They also share with privateers, as an aspect of their irregularity, an increased tactical and technical mobility, which, however paradoxically, is complemented in the case of partisans, Schmitt insists—and this is *the* distinction between privateer and partisan—by a singular attachment to the land. If the privateer functions as an intermediate between private and public interests, the partisan is an altogether more elemental political figure; the partisan is the exponent of the earth. Schmitt concludes: »For the moment the partisan still stands for a patch of authentic ground. He is one of the last sentries of the earth insofar as it is not yet a completely destroyed world-historical element.«¹¹

⁹ Carl Schmitt: *Der Nomos der Erde im Völkerrecht des Jus Publicum*, Berlin 1950.

¹⁰ See Carl Schmitt: *Staatliche Souveränität und freies Meer. Über den Gegensatz von Land und See im Völkerrecht der Neuzeit*, Leipzig 1942; cf. also chapter 7 of Carl Schmitt: *Land und Meer. Eine weltgeschichtliche Betrachtung*, Stuttgart 1942, pp. 40-44.

¹¹ Carl Schmitt: *Theorie des Partisanen. Zwischenbemerkung zum Begriff des Politischen*, Berlin 1963, p. 70.

But even these supplementary determinations—the pirate, the privateer, the partisan—which are intended to complete the theoretical articulation of the space of »the political,« fail to account for the phenomenon of a slave revolt on a slave ship. Would such rebels, with no determinate attachment to any fixed place on earth, certainly not to a sovereign power as Schmitt would define it, not be something like partisans of the sea? And would this not then make the last outpost of »authentic ground« akin to the deck of the ship upon which they find themselves thrown? This would be a different kind of place, indeed, a barely political place—indefinite, anomalous, and almost unreal—but nonetheless not the null-space, legally speaking, of the pirate ship nor the non-place of a utopia nor any nihilistic space in the sense Schmitt tended to characterize zones subject to the element of the sea. It would be a question rather of a shadowy entity of the sort that makes its appearance in the figure of a strange ship in Melville's novella. I read *Benito Cereno* as a partisan account, one that provides an »intermediary remark« of a different sort on »the concept of the political.«

3.

Benito Cereno is loosely based on, and follows in form, an historical description given by Captain Amasa Delano in his *Narrative of Voyages and Travels in the Northern and Southern Hemispheres* (1817).¹² Delano records encountering a strange ship—apparently a Spanish slave transport in distress but actually one in revolt—and added as an addendum, as if to confirm the veracity of his account, excerpted documents translated from the legal deposition from the trial in Lima that followed the eventual re-taking of the ship with the Americans' aid. Crucial among the changes Melville makes is the renaming of the Spanish ship from the *Tryal* to the *San Dominick* and the shifting of the year from 1807 to 1799—and so into the midst of the independence struggle in Haiti/St Domingue.

The change of name opens up an historico-political problematic that is concentrated in the very representation of the ship which, in line with Schmitt's analysis, presents the »faded grandeur« of the Golden Age of the Spanish empire in the decrepit midst of the rebellious slave ship; a tension captured in the description of the name: »upon the tarnished head-boards, near by, appeared, in stately capitals, once gilt, the ship's name, »SAN DOMINICK«, each letter streakingly corroded ...; while... dark festoons of sea-grass slimily swept to and fro over the name, with

¹² The account is in chapter 18 of Amasa Delano: *Narrative of Voyages and Travels in the Northern and Southern Hemispheres*, Boston 1817, pp. 318–353.

every hearse-like roll of the hull« (BC, p. 49).¹³ Hispaniola or *Santo Domingo* was among the first lands »discovered« by Columbus and the first to be settled. By the end of the 17th century, reflecting a broader shift in power, the island was divided in two, the western part *Saint-Domingue* under French dominion. During the 18th century, the French territory became the richest and most productive colony in the world on the back of enormous imports of African slaves. And, of course, at the end of the century it was the site of a slave revolt and revolution that culminated in the declaration of independence of the new state of Haiti in 1804.

The history abbreviated in the name *San Dominick* is the history of the genesis and transformation of a new and exemplary political space—the New World, the colony of colonies, the colonial revolution, and the independent »black« state. The name also recalls the *dominicus* of Roman law, who possessed power of life and death over his household and slaves, and the trajectory of that notion of paternal power into modern times. Further, it suggests the all-too-worldly implication of religious institutions in political, not least colonial, ones—the *dominion* in *Dominican* as it were—as well as, taken in a different sense, the transfer of theological notions into political thought. In this light, the *San* of the *Dominick* presents the defining political-theological concept of the epoch—the notion of a sanctified and absolute mode of domination—the concept of sovereignty.

The Spanish captain, Don Benito Cereno, ostensible sovereign of the *San Dominick*, appears as hollow and worn out as the ship he is supposed to command: »to have beheld this undemonstrative invalid gliding about, apathetic and mute, no landsman could have dreamed that in him was lodged a dictatorship beyond which, while at sea, there was no earthly appeal« (BC, p. 53). Indeed, Delano goes so far as to attribute the apparently disorderly state of the ship to the »involuntary mental disorder« of its captain, as if the state of the ship were a function of the ship's head (ibid.). In fact, of course, Cereno has been deposed. He is but a »paper captain,« to use Delano's term, »a commander who has little of command but the name« (BC, p. 59). Indeed, even the *name* »captain« has been evacuated of its force. Every sign of the captain's authority is emptied or eaten away, to leave but the exoskeleton, or deposit, of his former post: »And that silver-mounted sword, apparent symbol of despotic command, was not, indeed, a sword, but the ghost of one. The scabbard, artificially stiffened, was empty« (BC, p. 116).

¹³ On the historical juxtapositions in the story, especially St Domingue and Charles V, see H. Bruce Franklin: *Past, Present and Future Seemed One*, in: Robert Burkholder (ed.): *Critical essays* (as note 7), pp. 231–243; and Franklin: *Slavery and Empire: »Benito Cereno«, in John Bryant and Robert Milder (eds.): *Melville's Evermoving Dawn*, Kent 1997, pp. 147–161. On the significance of San Domingue/Haiti in the context of new world slavery, see chapter 2 of Eric Sundquist: *To Wake the Nations. Race in the Making of American Literature*, Cambridge, MA 1993, pp. 135–221.*

The apparent disorder onboard is in fact the sign of a different kind of order, one that Captain Delano is unable to recognize. The new dispensation of the ship, revolutionary though it may be, does not simply invert the previous regime. Babo, referred to as the »plotter« and »ringleader« of the revolt, nevertheless does not take Cereno's sovereign place. Rather than performing a set of displacements and replacements, the revolutionary deposition transforms the very place in which such operations occur. In Cereno's words to Delano, the ship itself is »mined into honey-combs under you« (BC, p. 115). If the »state« is that stable ordered place defined, as in Hobbes, by the unity in space and continuity in time of the representative positioned at its head, then the revolution upsets the composure of the state by de-posing the very position of the head and its sovereign representativeness. This is achieved by means of disparate, dispersive and dis-personalizing devices of which the distracted figure of Benito Cereno is one of the more elaborate.

After spending the day walking the deck of the *San Dominick*, Delano prepares to return, none the wiser, to his ship. It is only when Cereno desperately jumps into his boat followed by the dagger-wielding Babo that the »scales drop from [Delano's] eyes,« the turning point in the American account (BC, p. 99). The disclosure of the ship in its »true state« (as Cereno would have it) coincides with the revelation, indeed the unveiling, of the figurehead that had been concealed under canvas when Delano first boarded. Before only the phrase, »*Seguid vuestro jefe* (follow your leader)« could be made out below the figurehead (BC, p. 49). After, as Delano looks back seeing for the first time the blacks in »ferocious piratical revolt,« the ship swings round to reveal »death for the figurehead, in a human skeleton; chalky comment on the chalked words below« (BC, p. 99).

The figurehead was originally, as Cereno puts it, »Christoph Colon, the discoverer of the New World« (BC, p. 107). The rebels, however, had replaced it with the skeleton of their former master and Cereno's friend, Don Alexandro Aranda, and added the inscription. If the figurehead of »Christoph Colon« represented the discovery and conquest of the New World or perhaps the spirit of discovery or the global vision of the colonist, and in any case the faith in the destiny and direction and above all the Right of European projects, the replacement does not simply oppose that message with a skull and crossbones in the manner of the mere outlaw or pirate but fundamentally deposes the order of signification it represents. Such is the effect of the inscription, which, »rudely...chalked, as in a sailor freak« ironically undermines the »sort of pedestal,« or fundament, on which it is written. »*Seguid vuestro Jefe*,« is translated but also Americanized by the narrator as »follow your leader,« but *jefe*—to be sure also part of the idiom of slavery and colonialism—carries the connotation of »head« from the Latin *caput*, and might be therefore: »follow your captain,« »follow your head,« »follow the figure of the head,«

»follow the heading,« and so also, follow thought, reason, spirit, Right, as well as in a different but related register, follow your capital, capitalize etc.

The rebel slaves decided to kill Aranda because, so Babo told Cereno, they »could not otherwise be sure of their liberty« and because »he wanted to prepare a warning« (BC, p. 106). Some days later, a skeleton appeared at the figurehead, which Babo mockingly asks Cereno to identify and to consider, »whether, from its whiteness, he should not think it a white's« (BC, p. 107). The gesture does not simply ridicule the essentialization of a racial difference but the system of signification that enables such a practice. Babo's semiotics stops dead the metaphorical transport of the sort figured in the ship's figurehead, namely, the ascription of a transcendent spiritual or metaphysical significance to a phenomenological character. If Aranda's death means the death of the rebels' *jefe*, then to replace the figurehead with his skeleton is the death, or the deadening, of the *name* »*jefe*,« which no longer functions as the representative metaphor for a metaphysical or in any case political-theological order of representations. If the figurehead, not unlike the king's two bodies,¹⁴ guaranteed the transcendence of the place of the head even with the demise of the figure personified thereon, henceforth the very place of the head is dead and the whole system of headings is defunct.¹⁵

At one point, Captain Delano, believing he is commiserating with Cereno about Aranda, describes the horror of burying a friend at sea: »like scraps to the dogs—to throw all to the sharks« (BC, p. 61). If such extra- or anti-political forces devour and dismember the sovereign body committed to the sea, the *San Dominick* presents a case of an ocean burial on deck. Rather than disappearing into the sea, the body remains cannibalized by partisan forces from within. Reduced to its bare articulation and torn from the organizing sovereign logic of the *jefe*, the remains represent a different, partisan, political corporation.

As shown in the figurehead, the revolution has been the decapitalization of the »SAN DOMINICK,« the name printed in »stately capitals« on its prow (BC, p. 49). For most of the narrative, however, the figurehead is veiled. Only the inscription is shown, which acts as an ironic heading for the rest of the devices staged on board, each of which rehearses in thinly veiled fashion the singular deposition concealed at the prow. What cannot be tolerated, however, is an attempt to re-assume the position of the head, a gesture of sovereign authority of the sort Delano absentmindedly makes when the water is brought up. The assertion of the head suspends all parts:

¹⁴ Ernst Kantorowicz: *The King's Two Bodies. A Study in Mediaeval Political Theology*, Princeton, N.J. 1957.

¹⁵ On the »European spirit« and its relation to the head/heading—*cap*—see Jacques Derrida: *L'autre Cap*, Paris 1991.

»In another moment the casks were being hoisted in, when some of the eager Negroes accidentally jostled Captain Delano, where he stood by the gangway; so that, unmindful of Don Benito, yielding to the impulse of the moment, with good-natured authority he bade the blacks stand back; to enforce his words making use of a half-mirthful, half-menacing gesture. Instantly the blacks paused, just where they were, each Negro and Negress suspended in his or her posture, exactly as the word had found them—for a few seconds continuing so—while, as between the responsive posts of a telegraph, an unknown syllable ran from man to man among the perched oakum-pickers. While Captain Delano's attention was fixed by this scene, suddenly the hatchet-polishers half rose, and a rapid cry came from Don Benito« (BC, p. 79).

The captain's »word« is dead and all stop dead. If the characteristic force of the sovereign command is that it is always accompanied by the threat of death—every sovereign sentence is also potentially a capital one—here Delano's unfortunate performance is a »non-play.«¹⁶ His »word« arrests the play on board the *San Dominick* to produce a death-like, and for the captain potentially deadly, tableau that exhibits the very theatricality of proceedings. The hatchet-polishers half-rise and momentarily the tenuous staging of community on the *San Dominick* seems about to descend into sheer violence.

Sensing danger but mistaking Cereno's cry as a signal for a piratical attack, Delano considers leaping overboard, »but paused, as the oakum-pickers, dropping down into the crowd with earnest exclamations, forced every white and every Negro back, at the same moment, with gestures friendly and familiar, almost jocose, bidding him, in substance, not be a fool.« (BC, p. 79) A fool, that is, not for considering the jump, but for his infelicitous sovereign gesture. He can proceed so long as he abandons such sovereign pretensions, in the absence of which all—whites and blacks—return to their parts: »Simultaneously the hatchet-polishers resumed their seats, quietly as so many tailors, and at once, as if nothing had happened, the work of hoisting in the casks was resumed, whites and blacks singing at the tackle« (BC, p. 79–80).

The oakum-pickers are not »old dominies to the rest« (BC, p. 60), as Delano assumes. They are not figures of authority at all but rather, as seen in the incident above, of de-authorization. They sit undoing old bonds and bindings in order to produce shreds for the caulking of the ship. Their work detaches and dis-attaches all that held the old order together so as to achieve a different kind of adhesion—caulking—that nonetheless keeps the ship afloat and community together. This

¹⁶ The term for such »misfires« is from J. L. Austin: *How to Do Things with Words*, Cambridge, MA 1975, pp. 18, 31.

work is complemented by a »continuous, low, monotonous chant,« from which no words, phrases, commands or directions can be made out; it is the sound of the disarticulation of such speech. When interrupted by Delano's »word,« the chant breaks down into an »unknown syllable« that passes telegraphically between them, the automatic repetition of an isolated and unidentifiable fragment or strand (BC, p. 79). Unlike the imperative of the Spanish sailor's knot, »undo it, cut it, quick« (BC, p. 76), and despite their »sphinx-like« (BC, p. 50) appearance, the oakum-pickers are not to be interpreted for coded meaning. Their significance is of a different sort; their drone, from the oakum of language, expresses, as in a hive, a particular communal bond.

Just as the oakum-pickers unravel the coherent narrative of the former state, their chanting preempts the composition of a new account of the same order. This is the case for all the partisan devices of the *San Dominick*. They operate less in order to sustain the appearance of the slave ship under the captaincy of the Spaniard—although this is what Cereno takes them to be doing—than to persistently aggravate the possibility of clear-headed cognition. If thought—sovereign thought—is a function of the unity of space and time, the devices serve to disrupt the continuity of time and upset the coherence of space. Indeed, the ship is nothing more than the complex of operations carried out by these devices that articulate time as interrupting, punctuating, arresting and constitute space as knotted, juxtaposed, and contradictory. Delano is rendered unable to synthesize these particular impressions into a single comprehensive vision. On board the *San Dominick* he finds himself in no state to put his thoughts in order.

If the symbol of sovereignty is the sword—Cereno's it turns out is only the ghost of one—the exemplary arm of the partisans on the *San Dominick* is the hatchet. The hatchet-polishers, stationed along the quarterdeck, are not, however, deck-officers, who Delano remarks would perform the function of »police department« on a populous ship (BC, p. 54). They do not wield the arms as representatives of the hand of the sovereign but prepare them for general use. At intervals, »two-and-two they sideways clashed their hatchets together, like cymbals, with a barbarous din,« an activity which marks the time by interrupting it. Delano is repeatedly distracted by them. The irritating buzz of the polishing and intermittent clashing conducts a veritable guerilla war on Captain Delano's train of thought, just as the hatchets are prepared to conduct the same on his person and property.

But it is the former African chief, Atufal, who makes the most disconcerting impression. »Like a time piece,« he poses every two hours in chains before Cereno. Delano surveys »not without a mixture of admiration, the colossal form of the Negro« (BC, p. 50), and subsequently starts »at the unexpected figure of Atufal, monumentally fixed at the threshold, like one of those sculptured porters of black

marble guarding the porches of Egyptian tombs« (BC, p. 78). His size is all the more striking for the silence and the near-lifelessness of his figure—he seems more a statue than a man. And if, despite his chains, this »pretended rebel, but punctual shadow« (BC, p. 82) seems to Delano more like a guard or a sentry, he does not protect the captain but watches over the tomb, or sarcophagus of the captaincy. A giant artificial man without life or voice, Atufal presents a counter-figure to sovereignty. The opposite of the »royal spirit« Delano imputes to him, his arresting appearance petrifies—it is, as the hapless Cereno shows, the mortification of sovereignty.

Most memorable of Babo's devices is »shaving time,« which explicitly interrupts: »master told me never mind where he was, or how engaged, always to remind him, to a minute, when shaving-time comes. Miguel has gone to strike the half-hour after noon. It is *now*, master« (BC, p. 82). Such »uncommon punctuality,« to use Delano's phrase, describes the temporality of the whole spectacle, punctuated as it is by Babo's repetitive »*now*, master« as he applies the razor to the pale Cereno's neck. The thought of that exemplary revolutionary practice—decapitation—is unavoidable even for the levelheaded Captain Delano who »could [not] resist the vagary, that in the black he saw a headsman, and in the white, a man at the block.« The vagary is, however, dismissed as »one of those antic conceits, appearing and vanishing in a breath, from which, perhaps, the best regulated mind is not free« (BC, p. 85). Entering the head as the fatal thought of a decapitation and so as an incapacitating thought, the conceit does not assume the regularity and univocity of the concept. Or rather, the conceit is a partisan concept. It cannot be entertained in the well-ordered mind if the captain is not, himself, to lose his head. The *San Dominick*, however, only appears as such conceits. Of these the one that brings Delano, despite himself, closest to the truth of the ship is at the end of the scene when he cannot suppress the thought that »the Negro seemed a Nubian sculptor finishing off a white statue-head« (BC, p. 87).

4.

The insurrection is put down and the ship re-taken but not before a quite different—and distinctly »American«—set of capital calculations have been made. Delano is keen to lead the attack himself but, convinced otherwise by his officers who remind him of the interests of the ship's owners, he appoints the chief mate, who had been »a privateer's man, and, as his enemies whispered, a pirate—to head the party« (BC, p. 101). In order to encourage the sailors he also promises a bounty against their personal risk. In short: the partisan appearance of the *San Dominick*

turns the *Bachelor's Delight*, renamed by Melville after the historical pirate ship,¹⁷ from a private enterprise into a privateer—its actions underwritten by a global order that is no longer so much a law of nations as a global economy.

En route to Lima, baffled by Cereno's continued despondency, Delano exclaims: »You are saved, Don Benito...you are saved; what has cast such a shadow upon you?,« and Cereno replies: »The Negro« (BC, p. 116). On the slave transport the *San Dominick* »the Negro« stands for the stateless in the state, for the bodies not represented in the body-politic, for those who are subjected without being subject to the head, whether the head of state, the captain or the capitalist. But »the Negro« is as such also the figure of the partisan who exists in the shadow of the state, indeed, whose existence *is* the shadow of the state as the constant threat of revolution. Don Benito Cereno cannot return to the blessed and serene state suggested in his name—neither the state of mind nor the political state—because he can no longer forget the partisans occluded by the ostensible integrity of such states. If saving means a sense of wholeness or heading, of corporal integrity or spiritual destination, then even in Lima, ministered to by priest and doctor, Cereno can be saved in neither body nor soul. He never recovers from the mortification on the *San Dominick* and so, as the last line of the narrative states, »did, indeed, follow his leader« (BC, p. 117).

Babo, for his part, never says another word: »Seeing all was over, he uttered no sound, and could not be forced to.« (BC, p. 116) He does not, however, simply say nothing. There is rather a performative force to his silence; it attests to a partisan stratum of political existence that eludes the cephalic machinations of the law. If the end of sovereignty is death by decapitation, which is to say, if sovereign power can extend no further than the capital sentence and the decapitation that is its execution, then some part of the partisan outlasts the decisive sovereign operation. Such is the case with Babo: »Some months after, dragged to the gibbet at the tail of a mule, the black met his voiceless end. The body was burned to ashes; but for many days, the head, that hive of subtlety, fixed on a pole in the Plaza, met, unabashed, the gaze of the whites.« (BC, p. 116)

By this punishment the law attempts to make an example of the head. But Babo's is not a head but a hive—a »hive of subtlety«—which recalls Cereno's characterization of the *San Dominick* »as mined into honey-combs«. »It is true,« writes Hobbes, »that certain living creatures, as Bees, and Ants, live sociably one with another, (which are therefore by *Aristotle* numbered amongst Politicall creatures) and yet have no other direction, than their particular judgments and appetites; nor speech, whereby one of them can signifie to another, what he thinks expedient for

¹⁷ The ship associated with the famous published accounts of the pirates William Dampier and William Ambrose Cowley.

the common benefit« (Leviathan, p. 119). The partisan is the exponent of a particular life and a life in parts, of a body and a body politic that adheres in its disarticulation, cut-up and disjointed—an *insect* kind of life. It is, as Hobbes observes, a life without direction and without speech, if speech means the conceptual language common to centralized programs and capital projects. But there are partisan expressions, emotions, movements, and demonstrations, communication of an anomalous but altogether more »common« sort, aptly connoted in the word—that is but the sound that it names—»buzz.« In the terms of the *San Dominick*, and in keeping with its anachronicity, one could say that the state achieves its statehood by obscuring all buzzing such that it becomes just »white noise.« It remains, nonetheless, a shadowy expression of those bodies and parts that are neither a part of, nor altogether apart from, the state and which might, at any particular time or place, rise up—as a »black« swarm.

The theory of sovereignty is premised on the suppression of the swarm and a profound anxiety about all partisan agitations, which appear only as that terrifying fanaticism called in German »Schwärmerei.« This serves to clarify the relation between sovereignty and the slave ship: both may be considered anxious reaction-formations against the apparition of a swarm. In this light, the two images form a diptych under the title »Leviathan,« insofar as the slave ship sets out to destroy the particularity that is irreducible to the composed state to which the frontispiece aspires. Melville's representation of the *San Dominick* presents the complementarity of these operations in the context of their dissolution in a partisan revolution, the figure for which is Babo's hive-like head. If Babo is a *Schwärmer*, he is a subtle one. He shows that there are other more subtle ways to lose one's head than sheer fanaticism and headless states that betray a subtle order other than the anomic violence of the swarm Hobbes feared. Nonetheless, the mute gaze of Babo's severed head threatens a *Schwärmerei* that terrifies the subjects of the colonial capital known as the »City of Kings,« on whom it looks out, unabashed.

Picture credits:

Fig. 1: Frontispiece of Thomas Hobbes' *Leviathan*, London 1651; etching by Abraham Bosse.

Fig. 2: »Stowage of the British slave ship Brookes under the Regulated Slave Trade Act of 1788,« etching, Liverpool 1884, from the Library of Congress under: <http://memory.loc.gov/rbc/rbpe/rbpe28/rbpe282/28204300/001dr.jpg> (27.05.2013).

Composite Congress

On Dispersal Patterns in Mathew Brady's Political Imagery¹

Ulrich Meurer

1. PATCHWORK—The difference between Europe and America, between their historical and topographical formations, is the difference between embroidery and patchwork. In the penultimate chapter of the *Thousand Plateaus*, Gilles Deleuze and Félix Guattari delineate the story of the quilt through »a short migration sequence« (the settlers leaving the Old World) and detect a transition from embroidered to »appliqué« or »pieced« quilts. In contrast to the formers' central theme or motif and dependence on a woven, i.e., striated underlay, the patchwork is characterized by a missing center, by the indistinguishability of top and bottom, and by infinite, successive additions with their affinity to smooth space.² Expanding horizontally, it is the epitome of a particularly »American« combinatorics: a collection of samples or heterogeneous parts—not only in textiles, but also in philosophy, politics, aesthetics....

As a trans-discursive concept, the patchwork marks the renunciation of Europe's principle of ancestry. It dismisses the family tree and root and all institutional verticals (kingship and its administration) which descend from, and can always be traced back to, a »One.« While the tree dominates the dynastic successions of Judeo-Christian history, oedipal family structures, political hierarchies, and the philosophical concept of origin, America lets the horizons flee.³ It shifts frontiers, forms rhizomes and replaces consanguinity with a loose gathering and voluntary oath of fatherless individuals. Deleuze's essay on Herman Melville's *Bartleby* identifies the American as »one who is freed from the English paternal function, the son of a crumbled father, son of all nations.«⁴ Against the monarch,

¹ This paper is an abridged version of the article »Patchworking the Union,« to be published in German in: Martin Doll and Oliver Kohns (eds.): *Die zwei Körper der Nation*, 2 volumes, Paderborn 2014.

² Cf. Gilles Deleuze and Félix Guattari: *A Thousand Plateaus. Capitalism and Schizophrenia*, translated by Brian Massumi, Minneapolis/London 1987, p. 477.

³ Cf. *ibid.*, p. 19.

⁴ Gilles Deleuze: *Bartleby; or, The Formula*, in: *Id.: Essays Critical and Clinical*, translated by Daniel W. Smith and Michael A. Greco, London/New York 1998, pp. 68–90: 85.

America introduces a utopian society of friends, a general assembly with its belief in relations.

This, then, is a central aspect of the patchwork: the principle of relations not being subordinate or the mere attributes of entities, but existing outside and independent of them. Such a displacement of ›substances‹ by seams and ruptures, gaps and intersections, attractions and repulsions also implicates the loss of any guiding principle. The assemblage or *agencement* does not constitute a whole, it has no ›general‹, it is neither representation nor symbol. Deleuze calls this peculiar joining a harlequin's coat, a spinal column without a brain, a wall of uncemented stones, an archipelago....

And according to his reading of Walt Whitman, the adhesive force between all the patches and elements is *sympathy*. As a relational agency, sympathy provides for both contact and separation; it initiates the encounter or »co-functioning«⁵ of the various physical, social, verbal bodies, and at the same time, it ensures their difference and distance, since the elements perceive each other only in passing—as D. H. Lawrence highlights in Whitman: »Meeting all the other wayfarers on the road. And how? [...] With sympathy, says Whitman. Sympathy. He does not say love. He says sympathy. Feeling with. Feeling with them as they feel with themselves. Catching the vibration of their soul and flesh as we pass. [...] Accepting the contact with other souls along the open way, as they lived their lives.«⁶ Operating as a connector and spacer, sympathy arranges for that precarious balance between random disintegration and metaphysical merging, anarchy and state apparatus, while the patchwork is in constant danger of drifting towards one of these poles. (In fact, since he cannot hold his horses, Walt Whitman eventually allows the ideal of sympathy to turn into one great Christian love: no more relational particles, but the fusion of everything in the universe, as Lawrence laments: »All those lists of things boiled in one pudding-cloth!«⁷

5 Cf. Gilles Deleuze and Claire Parnet: *Dialogues II*, translated by Hugh Tomlinson and Barbara Habberjam, London/New York 2002, p. 39.

6 D.H. Lawrence: *Studies in Classic American Literature*, London 1971, p. 181. In many ways, Lawrence's writings give direction to the Deleuzian interpretations of Anglo-American literature, culture and philosophy: e.g., he points to the »lines of flight« drawn by Lawrence and Herman Melville in order to escape from petrified subjectivity and personalized consciousness, from the rule of the signifier and rigid »faciality« (cf. Deleuze, Guattari: *Thousand Plateaus* (as note 2), pp. 186–191); furthermore, Lawrence opposes European morals and its concept of charity to an ideal of American »life« (cf. Deleuze: *Bartleby* (as note 4), p. 87), and criticizes Whitman for his unhealthy pantheism (cf. Gilles Deleuze: *Whitman*, in: *Id.: Essays Critical and Clinical* (as note 4), pp. 56–60: 58, note 12).

7 Lawrence: *Classic American Literature* (as note 6), p. 174.

To sum up, when we talk about ›patchwork‹ in a Deleuzian sense, we indicate a constellation characterized by the *elective affinity* of its elements (as opposed to familial structures), by a particular *relationism* which is independent of subjects or objects, by *horizontality* without a general or leading principle, and finally by the specific intervals or ›proximal distance‹ between sympathetic parts holding the position between diffusion and cementation.

2. THE SENATE, 1859—Mathew Brady may not be the first photographer who wants to be recognized as the national historian of the United States (before him, Edward Anthony and John Plumbe had entertained the same aspirations). In any case, Brady is determined to document American antebellum politics and the Civil War experience in every detail, taking pictures of hundreds of socialites to »concentrate and embalm«⁸ his epoch in images—a major example being his GALLERY OF ILLUSTRIOUS AMERICANS from 1850, a series of twelve daguerreotypes of prominent politicians, scientists and artists, lithographed for publication by Francis D'Avignon. After twenty years as a famous portraitist in New York, ›Brady of Broadway‹ opens a branch studio in Willard's Hotel in Washington, D.C., known as the ›Residence of Presidents‹ and according to Nathaniel Hawthorne, »more justly called the center of Washington and the Union than either the Capitol, the White House, or the State Department. Everybody may be seen there. It is the meeting-place of the true representatives of the country [...]. You exchange nods with governors of sovereign States; you elbow illustrious men, and tread on the toes of generals; you hear statesmen and orators speaking in their familiar tones.«⁹ Situated at Pennsylvania Avenue and 14th Street, the gallery is not far from the White House, so that Brady's daguerreotypes and albumen prints can ›embalm‹ delegates, senators and—from Adams to McKinley—(almost) every person who, between 1825 and 1901, held the presidential chair. And in 1859 and 1860 Mathew Brady produces two elaborate collages of the 36th United States Congress: the first large-size salted paper print shows the members of the House of Representatives, the other one those of the Senate.

⁸ Cf. the article »M. B. Brady« by an anonymous author in Frank Leslie's Illustrated Newspaper 3:57 (January 10, 1857), p. 86, quoted in: Mary Panzer: Mathew Brady and the Image of History, Washington, DC 1997, p. 96.

⁹ Nathaniel Hawthorne: Chiefly About War Matters, By a Peaceable Man, in: The Atlantic Monthly (July 1862), under: <http://www.theatlantic.com/magazine/print/1862/07/chiefly-about-war-matters/6159/> (04.13.2012).



Fig. 1: M. Brady: *Composite of the Members of the United States Senate, 1859*, salted paper print, Princeton University Library, Graphic Arts Collection

It is a common saying in political theory that democracy has no images. The transition of sovereignty from the monarch to the people is accompanied by the abandonment of ceremonial and spectacular representations of rule; the new republican maxim of reason puts an end to all pictorial enchantments. In his po-

litical anatomy of democratic representations, Philip Manow delineates an extensive discursive tradition—from Habermas's post-metaphysical and iconoclastic democracy, Foucault's incorporality of the republic and Patrick Guineffey's transformation of subjects into quantities to Albrecht Koschorke's democratic unrepresentability and, perhaps most famously, Claude Lefort's empty place of power.¹⁰ The sovereign is everyone, individuals are conceived as numerical values (of votes in proportional elections), the imaginary becomes symbolic. Nonetheless, Brady's composite seems to act as an even twofold instance of representation, namely as the collective portrait of the US-Senate which, in turn, is supposed to be the true image of the people.¹¹ Thus, the picture raises the question of whether, and how, its modality and mediality might perhaps disclose the basic régime of American politics as patchwork.

Before producing a ›likeness‹ or confirming the identity of any specific subject or substance, Brady's image emphasizes the spatial coherence of bodies, their relations, which actually prove to lie outside the figures. In the first place, the senators' heads constitute a collocation or cluster. The characteristic diversity and particularity of their faces opens out into a complex web of jaw-lines, forelocks, and shirt-fronts, rather than converging on distinct individuals. Nine years earlier, the twelve ILLUSTRIOUS AMERICANS had still formed a collection of singular items: every month the subscribers received one sheet, every portrait was published as an oval vignette in the middle of the printed folio, every head centered in front of a mostly neutral background. These earlier portraits relied on the formula of classical paintings—focusing on the respective subject and thereby establishing paternal antetypes. Modeled after the prime father and avatar of national union, George Washington, the images formed a series of ›second fathers.‹¹² In contrast, Brady's composites of the US-Congress employ such representative and ›aristocratic‹ single components only to introduce them into a specifically ›democratic‹ constellation.

The image's production process alone accounts for the elements' undetermined status *between* reverential detachment and political fusion: in personal sittings with the various delegates, Brady and his assistants expose hundreds of glass plates; the prints are cut out individually, collaged in a three-by-five foot frame and then re-photographed—no group picture, but a composition; no communion, but a

¹⁰ Cf. Philip Manow: *Im Schatten des Königs. Die politische Anatomie demokratischer Repräsentation*, Frankfurt am Main 2008, pp. 8 sq and 18.

¹¹ Philip Manow points to the fact that the topos of the people's ›representation‹ in parliament is not only wide-spread by the mid-18th century; moreover, the metaphors of an ›image‹ or ›portrait‹ of the people *en miniature* and of the parliament as a well-composed ›work of art‹ which ennobles its object are taken quite literally. Cf. *ibid.*, p. 88 sq.

¹² Alan Trachtenberg: *Reading American Photographs. Images as History. Mathew Brady to Walker Adams*, New York 1989, p. 51.

patchwork. This medial operation leaves its mark on the form. On the one hand, it seems obvious that Mathew Brady tries to present an ideal convention, sixty-eight senators who address and align themselves with a common subject—be it the observer of the picture as the legal initiator of this assembly, a virtual vanishing point in front of the image surface, a political aim, a national body.... Hence, the figures on the left turn to the right, and vice versa; they are all centered round a rather precise point of convergence or along a shared axis of attention. However, this common orientation is countered by the senators' diverging lines of sight. Like the *ILLUSTRIOUS AMERICANS*, they have been photographed in individual sessions, aiming their sometimes introspective and sometimes visionary neo-classical gazes at diverse and distant objects (their own soul, historical events, the nation's future). While, according to Alan Trachtenberg, Brady's earlier portraits show »public figures in moments of abstraction, perhaps deep in thought—in any case, unaware of being seen,«¹³ the two composites, by suggesting a collective, let the individual figures' timeless contemplation appear as somewhat tattered and silent confusion of the group. Although some of the senators return our gaze, most of them look here and there and seem distracted by random points in space. The *centralization* of bodies is thus undercut by a peculiar dissonance of attention. Anticipating the coming events of 1861, Brady's composite may well evoke *amor patriae* and national unity, but on a more latent formal level its concomitance and intricate crossings of two differing directions—one centripetal and unionist, the other centrifugal and secessionist—seem to call into question the »One« and »synthesis«. Beneath Brady's representation of a political bond, we can still discern the wall of uncemented stones....

In a similar vein, spatiality and flatness intersect in the composite. Again, everything seems to congregate in one extensive space as Brady detaches the busts from their original settings, removes their frames and surrounds them with so many neighboring shoulders and heads. According to the rules of monocular spatial perception and atmospheric perspective, the figures overlap, and those in the foreground have sharper contours and appear significantly richer in contrast than those in the background. Yet, none of them casts a shadow, which would indicate a shared presence in space; no ambient structure supports the illusion of spatiality. Moreover, the background figures' missing reduction in size creates the impression that the ground rises steeply like the tiers in an anatomical theater. And finally, a sometimes rough scissor-cut or too straight edge of a silhouette marks the handcrafted flatness of the composite. Thus, while space contains and scales

¹³ Ibid., p.46. The impression of timeless abstraction is heightened by D'Avignon's lithographic smoothing and idealization of the previously detailed and true-to-life daguerreotypes.

the elements, they also appear evenly disseminated or strewn on a plane where, according to Deleuze, each one of them has, »a value in itself but also in relation to others: isolated and floating relations, islands and straits, mobile points and sinuous lines—for Truth always has ›jagged edges‹.«¹⁴ This heterogeneous space with its peculiar dimensionality (greater than 2, smaller than 3; more than plane, less than space)¹⁵ is of course an effect of the collage-technique. Without aiming for it, Brady's operation of joining one portrait to another implements a particular kind of politics; it is the pictorial realization of the patchwork. Owing precisely to its alleged medial and formal ›deficits‹ and to the awkwardness of the *dispositif*, the image—far from becoming a mere political metaphor—possesses a clandestine democratic excess value.

There is more to say about intersections of singles and multiples, for instance regarding the image's temporality: while it seems that the assembly has actually gathered in front of the lens, while it imitates the instantaneousness of the photographic moment, the extended and differentiated time of the diverse production steps is nevertheless inscribed in the image. It displays a specific asynchronicity, a feigned presence which seeks to conceal the extensive process and its various absences. For not only does the taking of so many photographs last several months; in addition, ten of the senators are expelled for their support of the confederate rebellion, twelve resign from office as their states leave the Union, senator Sam Houston's term ends in March 1859, senator David C. Broderick is mortally wounded in a duel with the Chief Judge of California's supreme court in September, Hannibal Hamlin leaves the senate to become Vice President under Lincoln. And when Brady is ready to sell prints of the composite, the senate is an entirely different one. The picture shows the paradoxical unity of an elaborately synthesized instant: no presence, not even a historical afterimage, but political fiction.

3. LEVIATHAN—The composite of 1859 confronts the *unum* with the *pluribus*, it crosses the figures' concerted alignment, homogeneous spatiality and synchronicity with the divergence of their lines of vision, entropic flatness and asynchronic-

¹⁴ Cf. Deleuze: *Bartleby* (as note 4), p. 86.

¹⁵ Cf. Deleuze, Guattari: *Thousand Plateaus* (as note 2), p. 482 sqq. Deleuze and Guattari illustrate smooth space by means of mathematical sets whose dimension is represented by fractions or non-integral numbers; one example is the ›Von Koch's curve‹ (a line of the dimension 1,2618 which ›sprawls‹ through homothetic segmentation and recombination to approximate a surface) or the ›Sierpensky's sponge‹ (a cube whose infinite homothetic perforation produces a dimension of 2,7268 — between surface and space). »A smooth, amorphous space of this kind is constituted by an accumulation of proximities, and each accumulation defines a *zone of indiscernibility* proper to ›becoming‹ (more than a line and less than a surface; less than a volume and more than a surface).« (p. 488).

ity. This discrepancy in the pictured leads over to a fundamental indeterminacy of the picture itself: it is a photographic icon or index, i.e., it resembles the members of the US-Senate, and it depends upon their presence in front of the camera. But at the same time, and beyond all concrete resemblances, it visualizes the specific ›proximity‹ between collage and collective, between a medial and a political patchwork through the analogy of concepts determining their respective patterns (what Kant calls a ›symbolic hypotyposis«).¹⁶ Obviously, the image operates on multiple representational levels, it lacks a unifying structural and semiotic principle or ›general«.

That something is missing is unmistakably indicated by a rather insistent blank spot: a hole in the heart of the image, as if someone had not yet arrived or already left. This empty center cannot be adequately explained by the compositional dynamics, for example as the characteristic hub which forms when the direction of the senators turning right meets those turning left—like a hair whorl or the eye of a cyclone around which the substance organizes itself. Moreover, this gap is no isolated case; it recurs in Mathew Brady's collage of the House of Representatives and therefore appears as a constitutive and consciously introduced part of the represented political body.

A veritable icon of political theory may offer a clue for this empty place: the frontispiece of Hobbes' *Leviathan* is the hypotypotic representation of a state in which the sovereign is no longer dependent on the grace of God, but on the plurality of the subjects who constitute his creatural and mortal body *from below*. But the place of authority remains undivided; the privileged metonymical organ of the head or brain (obviously no Deleuzian spinal column) is intact and inaccessible for the people.¹⁷ This head piece guarantees the stability of the whole system, a circumstance which is already implied in the mythical name of the political organism: the Book of Job describes the Leviathan as not only immensely powerful, but also as dense and impenetrable: »His scales are his pride, shut up together as with a close seal. One is so near to another, [sic] that no air can come between them. They are joined one to another, they stick together, that [sic] they cannot be sundered.«¹⁸

¹⁶ Kant characterizes a ›symbolic hypotyposis« by a twofold operation of the power of judgment, firstly to combine a concept of reason, »to which perhaps no intuition can ever directly correspond,« with an object of a sensible intuition, secondly to apply »the mere rule of reflection« on that object of intuition to the non-sensible concept of reason. »For between a despotic state [or: US-American collectivity] and a handmill [or: the imaging technique of a collage] there is, of course, no similarity, but there is one between the rule for reflecting on both and their causality.« Immanuel Kant: Critique of the Power of Judgment (part I, section 2, § 59), ed. Paul Guyer, translated by Paul Guyer and Eric Matthews, New York, NY 2000, p. 226.

¹⁷ Cf. Friedrich Balke: Figuren der Souveränität, Munich 2009, p. 42.

¹⁸ Job, 41; 15-17.



Fig. 2: Thomas Hobbes, Abraham Bosse (?):
Detail from the frontispiece of *Leviathan, Or:
The Matter, Forme and Power of A Commonwealth
Ecclesiasticall and Civil*, 1651

central portrait of John Cabell Breckinridge, president of the chamber, and in the House it is the speaker and chairman William Pennington who, owing to the breach in the assembly, dominates the picture's center in his elaborately graven armchair. The deliberate arrangement of portraits, the distinct *cordon* of respect around the place, or person, of authority and the theatrical direction of our gaze appear as traces which monarchy has left in the codes and practices of democracy. However, the full potential of the image's empty space ensues only from the *interplay* of concrete personality and abstract composition. The center of the assemblage acts as a »reversible figure« combining concentration and dispersal, elevation and equalization. As a representation of historical persons, the collage may well expose

Accordingly, the head generates a concentric arrangement of the surrounding elements of state and with it their consolidation or fusion. It produces tight political and aesthetic structures without blank positions. Consequently, the beheading of the state (in 1649, also in 1793) must involve a loosening of connections. Some eighty years after the War of Independence, this might motivate the lack of rigid closeness in Brady's republican composite and the void in the midst of the senators. One place remains empty; it is no longer occupied by the monarch, but can serve as position for *everybody*, an opening for the direct entry of always another citizen into the state's representational structures. »The statue of the father gives way to a [...] portrait that could be of anybody or nobody.«¹⁹

One might of course argue that precisely this gap proves to be a relic of obsolete monarchal imaging strategies. In the composite of the Senate it clears the view for the central

¹⁹ Deleuze: *Bartleby* (as note 4), p. 77.

the most important among them, but as a hypotyposis of American collectivity, it exhibits a gap that functions as democracy's unoccupied locus of power. It permits to view the leading entity or authority, and at the same time, its place is vacant and—according to Claude Lefort—can neither be filled nor completely represented, »as it is such that no individual and no group can be consubstantial with it.«²⁰ What is more, precisely because this gap can be identified as a residue of the sovereign's severed head, it points all the more to his democratic successors: It is the place where the imaginary rule of the king and the symbolic republic oscillate.

All this—the composite's empty center, its concurrence of unity and diversity, its undecided dimensionality and temporality—does not so much add up to a list of shortcomings attesting to a basic medial or political deficiency. Instead, these patchwork-effects deterritorialize the image and its claim of presence. They produce a *utopian topography* that no longer *re*-presents an assembly of subjects, but presents an experimental constellation of societal elements in ›friendly‹ connection ... but now the scales are no longer ›shut up together as with a close seal,« and the Behemoth of civil war can find its point of attack in the body of the nation-state.

4. HOSPITAL—The empty place in the midst of the 36th US-Congress refers back to at least three of the above-mentioned central aspects of the patchwork. It implies the autonomy of *relations* (since the place predominates the placed entity), the *rejection of synthesis* and unity (since something is always missing), and the *interval* which untightens all connections. But as America dreams of overcoming the consolidations of the Old World by inventing such loose assemblies, it is constantly facing either dissolution or cementation—and the Civil War will bring first the one and then the other.

Out of the studio (where the dreamy, constant light and iron posing stands always result in paternal portraits) Brady goes to war to continue his documentation of history. However, he hardly abandons the ›posing figure against unspecified backdrop«. Mary Panzer, Brady's most prominent exegete, asserts that even afield, Civil War photography often complies with the conventions of portraiture: »Sitters assumed the heroic postures they had learned to hold [...], groups are posed and organized in the same rhythmic, symmetrical clusters that studios required.«²¹ The increasing fragmentation of the nation and body may interfuse some of Mathew Brady's orderly panoramas of field camps, army hospitals and landscapes only as a subliminal trait. Meanwhile, his employees Timothy O'Sullivan and Alexander

²⁰ Cf. Claude Lefort: *Democracy and Political Theory*, translated by David Macey, Minneapolis 1988, p. 17, quoted in: Bernd Herzogenrath: *An American Body|Politic. A Deleuzian Approach*, Hanover, NH 2010, p. 11 sq.

²¹ Mary Panzer: *Mathew Brady* (as note 8), p. 103.

Gardner begin taking pictures of battlefields strewn with corpses. Here, the killed soldiers appear not so much as previously alive, but as the result of a violent interference with human flesh: Mary Panzer calls these images of nameless Confederate bodies a »grim, inverted form of portraiture,«²² so far removed from the individual and its self-manifestation, so close to mere organic matter, that »anonymity« gives way to the decomposition of the very idea of identity. The photos of the dead of Bull Run, Antietam, Gettysburg, Wilderness, Petersburg replace the person with a material state and recognizable features with almost abstract »faciality«—*white wall/black hole*.²³ And towards the end of the war, Reed Brockway Bontecou abandons the face altogether. The director of the Harewood U.S. Army General Hospital is the first to use photography for clinical studies and produces hundreds of images of wounded soldiers. While most of his plates depict the patients in classical posture, his famous 1865 photograph *A MORNING'S WORK* shows the result of several busy hours in his surgery. It substitutes all individuality and cohesion for the randomness of a heap of amputated body parts.

The corporeal disintegration coincides with the political: in contrast to the official rhetoric calling for the heroic sacrifice of a limb to save the nation's body,²⁴ this dismemberment does not emerge from, or refer to, an antecedent organic unity. Instead, it visualizes what Gilles Deleuze describes as Walt Whitman's disenchantment after he had exuberantly greeted the conflict and then seen it turn into a fratricidal catastrophe: »its acts of destruction affect every relation, and have as their consequence the Hospital, the generalized hospital, that is, the place where brothers are strangers to each other, and where the dying parts, fragments of mutilated men, coexist absolutely solitary and without relation.«²⁵ The radical disruption of all ties and political adhesion, the fragmen-



Fig. 3: Reed Brockway Bontecou: *A Morning's Work* [a.k.a. *FIELD DAY*], 1865, Otis Historical Archives, National Museum of Health and Medicine

²² *Ibid.*, p. 109.

²³ Cf. Deleuze, Guattari: *Thousand Plateaus* (as note 2), p. 167 sqq.

²⁴ Cf. Herzogenrath: *American Body|Politic* (as note 20), p. 199 sq.

²⁵ Deleuze: *Whitman* (as note 6), p. 59.

tation of man and patchwork becomes evident in the image of severed body parts. Thus, »a house divided« does not only refer to the Union, the Confederacy (and the few neutral states); it refers to an absolute secession that is reflected in the transition from Brady's composite of the US-Senate to throwaway legs and feet.

But to avert the ultimate dissociation of the collective body, a father is required who speaks from childhood, colonial and antebellum times: »I do not expect the house to fall. [...] It will become *all* one thing.«

5. ABRAHAM—In essence, there are two fathers. The first is Laius, usually just a villain and pederast whose only task it is to tragically victimize his son Oedipus. However, Aeschylus reminds us that Laius abandons the son in order to save the polis, thus becoming a tragic figure himself who loses his offspring, the kingship, and his life. Laius teaches us about the inevitable decision between, and incompatibility of, fatherhood and politics. The other father is Abraham who submits to his God and learns from him that the price for founding a nation is the life of his son. He does not hesitate; he does not doubt patriarchic authority so that the real sacrifice

is no longer necessary. In this way, Abraham installs the father in politics and establishes the stable hierarchy of God the Father, father of the people, and the people.²⁶

Abraham is of course Abraham Lincoln as portrayed by Anthony Berger, one of Mathew Brady's associates, on February 9, 1864, together with his son Thomas or »Tadpole.« He becomes the nation's and people's father; he heals the rupture by sacrificing the sons of the Union as both symbolic and concrete substitute for his own son Isaac. Other than the Greek father who must always be eliminated, Abraham is the instance in which patriarchy merges with the divinely planted rule of the state. He epitomizes the consolidation of the collective, he reinstalls representation and signification in the previously formless and non-symbolic assemblage, he stands for the abolishment of those loose relations without synthesis, of the De-



Fig. 4: A. Berger / M. Brady: *President Abraham Lincoln and Tad Lincoln*, 1864, National Archives and Records Administration

²⁶ Cf. Silke-Maria Weineck: The Laius Syndrome, or the Ends of Political Fatherhood, in: *Cultural Critique* 74 (winter 2010), pp. 131-145.

leuzian patchwork which tried to establish »a function of universal fraternity that no longer passes through the father, but is built on the ruins of the paternal function, a function that presupposes a dissolution of all images of the father.«²⁷

Just like the re-United States, Brady's studio returns from the patchworked composite and the subsequent decompositions of battlefields to the portrait which is in many ways congruent with restoration and patriarchal unity: Abraham Lincoln himself confirms this congruence by ascribing the outcome of the presidential elections to his own transformation, accomplished by Brady, into a photograph distributed nationwide (*his image becomes politics*). Conversely, a deleted passage of Nathaniel Hawthorne's war report identifies Lincoln's angular, but benign features as outline and model of the entire country and its spacial and temporal layout (*politics becomes his image*).²⁸ Certainly, every image, prototype, or pattern is »an image of the father par excellence,«²⁹ and in a mimetic and identificatory urge, the subject models itself after this image. Yet, Brady's double portrait not only stands for the recurrence of identity and imitation. Its very subject exposes unmistakably the formula of filiation, the return of the father and the image: father and son who contemplate a picture book filled with portraits by Mathew Brady himself.³⁰ The photo invokes the copy, the whole state apparatus and its institutions, the ›One‹, the cement between the stones. It declares the time of the patchwork ended—»the Civil War already sounded the knell.«³¹

Here, a peculiar discrepancy appears between the deeply longed for deposition of the patriarch and the fear of fragmentation: Alan Trachtenberg certifies for Brady—and this also holds true for the entire country—that his social ambition »breaks with fathers and then mourns to recover what it has lost.«³² But after its reconstitution, the regained unity seems unsteady and full of doubts. While, time and again, it is celebrated in narratives of relief and salvation, such ceremonial confirmations of the nation's wholeness also practice the clandestine exorcism of secession and are intended for protection against its ghastly return: just like Derrida's account of the magical expulsion of Marxism from liberal democracies, this

27 Deleuze: *Bartleby* (as note 4), p. 78.

28 »He saw Lincoln's ›aspect‹ as that of the ›pattern American.‹ Eventually the whole history of the nation and its most typical character traits came to seem inscribed and indexed by the face of Lincoln.« Rob Kroes: *Photographic Memories. Private Pictures, Public Images, and American History*, Lebanon, NH 2007, p. 83.

29 Deleuze: *Bartleby* (as note 4), p. 76.

30 The bibliographical inventory Lincoln Lore states that the album »belonged to Brady and was available to his patrons while they were waiting for their appointments. It was a sort of ›Who's Who‹ in pictures.« Lincoln Lore (No 392, October 12, 1936, Lincoln and Son ›Tad‹), under: <http://www.everythinglincoln.com/articles/TadLincoln.html> (15.04.2013).

31 Deleuze: *Bartleby* (as note 4), p. 88.

32 Cf. Trachtenberg: *Reading American Photographs* (as note 12), p. 43.

»secretly worried«³³ invocation of the Union wants to assert that all is well, that the fatherless and fragmented society is now buried and will not come back. However, this is only achieved *thanks to* the incessantly circulating magic formula of the nation-state's reliable victory in exactly that »manic, jubilatory, and incantatory form that Freud assigned to the so-called triumphant phase of mourning work. The incantation repeats and ritualizes itself, it holds forth and holds to formulas, like any animistic magic.«³⁴ It cannot stop intoning the same old refrain: *The fissure is mended!* Recently, it was Steven Spielberg who recited this formula by transforming the disagreement about (and among) human freedom, separation, and unity into a family history about the survival of father, mother, son—a narrative arc from a heap of amputated limbs to the son on his father's lap.³⁵



Fig. 5

Picture credits:

Fig. 1: Mathew Brady: COMPOSITE OF THE MEMBERS OF THE UNITED STATES SENATE, 1859, salted paper print, Princeton University Library, Graphic Arts Collection

Fig. 2: Thomas Hobbes, Abraham Bosse (?): Detail from the frontispiece of *Leviathan, Or: The Matter, Forme and Power of A Commonwealth Ecclesiasticall and Civil*, 1651

Fig. 3: Reed Brockway Bontecou: A MORNING'S WORK [a.k.a. FIELD DAY], 1865, Otis Historical Archives, National Museum of Health and Medicine

Fig. 4: Anthony Berger / Mathew Brady: PRESIDENT ABRAHAM LINCOLN AND TAD LINCOLN, 1864, National Archives and Records Administration

Fig. 5: Fig. 5: LINCOLN (USA 2012, Steven Spielberg)

³³ Jacques Derrida: *Specters of Marx. The State of the Debt, the Work of Mourning, and the New International*, translated by Peggy Kamuf, New York/London 1994, p. 56.

³⁴ *Ibid.*, p. 52.

³⁵ LINCOLN (USA 2012, Steven Spielberg).

Abstracts

Jimena Canales

Einstein's Discourse Networks

This paper situates Einstein's theory of relativity within broader networks of communication. The speed of light, explained Einstein, was an unsurpassable velocity *if, and only if*, it was considered in terms of »arbitrary« and »voluntary« signals. Light signals in physics belong within a broader set of signs and symbols that include communication and military signals, understood by reference to Helmholtz, Saussure, media philosophies from WWII to '68 (Lavelle, Ong, McLuhan) and Derrida. Once light signals in physics are considered in relation to semaphore, print, telegraph, radio, computers and tape recorders, Kittler and Habermas provide us with conflicting ways for understanding science and technology, rationality and consensus. We conclude with a study of »flash and bang« in popular accounts of relativity theory to understand the role of theoretical science in the transmission of information and violence.

Iris Därmann

Myths of Labor: Elements of an Economical Zoology

Labor is both punishment and curse. At least this is what the mythical scenes of division and exclusion in Hesiod and in the Old Testament dramatise. At the same time they can be regarded as symptoms of misogyny. Without doubt, those two mythical scenes and the divine power to curse and sentence have held their spell over the economic tractates from antiquity to the modern period. How do the

ancient writings of economic theory—and specifically Aristotle's *Politics* and *Ethics*—regulate female Pleonexia on the one hand, and the limitless penal labor imposed on men on the other? How in turn do the economic tractates of the modern period—and here specifically John Locke's famous essays on the economy of labor—respond to the problem of female hybris on the one hand and the characteristic burden and suffering associated with labor on the other? What role does the differentiation and separation between free and unfree, productive and reproductive labor and, not least, the economic marginalisation of reproductive labor, play in this? And finally: In what way do »King Bee« and Queen Bee, Nurse Bee and Drone appear in this context as figures of an at once mythical and economic zoology, whose emblematic efficacy extends up to Bernard Mandeville's *Fable of the Bees*?

Ludger Schwarte

The City—A Popular Assembly

The architecture of cities provides infrastructures for thousands of people. Yet if it seems that the primary task of this architecture is to make the administration of many people, their living together, their work, their leisure, possible on a rational and dense basis, we ought not oversee that the fulfillment of these functions is not a sufficient condition of what makes a city. Important characteristics of urbanity rather enable the meeting of a multitude of people. Cities count among the conditions for social events insofar as they assemble. In my paper, I propose to

analyze this architectural condition as the decisive difference between »Being With« in contrast to just »Being next to«.

Laura Frahm

The Rules of Attraction: Urban Design, City Films, and Movement Studies

William H. Whyte's instructional film *THE SOCIAL LIFE OF SMALL URBAN SPACES* (1979), which chronicles the findings of his decade-long study of people's behavior in small urban spaces in New York City in the 1970s, offers a precise analysis of the rules of attraction that draw people into places and that keep them attached. By combining direct observation with complex technical arrangements and new forms of movement studies, Whyte's study advocates a quintessentially *process-oriented* understanding of 'placemaking' that shaped a new bottom-up approach to urban design in the 1970s.

Michael Cuntz

Places Proper and Attached or the Agency of the Ground and the Collectives of Domestication

The paper deals with different spatiotemporal relations within different collectives and the attitudes towards places and the ground arising from them. Drawing resources from Latour, Serres and ethnologists/anthropologists Viveiros de Castro and Descola, it follows up Haudricourt's opposition between direct positive and indirect negative action towards domesticated species and the further consequences that might derive from these different modes of operation. It concludes with an outlook on affinities between the security-mode of power as described by Foucault and the Eastern distribution of agency as described by Haudricourt and Jullien.

Andrew Pickering

Islands of Stability: Engaging Emergence from Cellular Automata to the Occupy Movement

Instead of considering »being with« in terms of non-problematic, machine-like places, where reliable entities assemble in stable relationships, STS conjures up a world where the achievement of chancy stabilisations and synchronisations is local. We have to analyse how and where a certain regularity and predictability in the intersection of scientists and their instruments, say, or of human individuals and groups, is produced. The paper reviews models of emergence drawn from the history of cybernetics—the canonical »black box,« homeostats, and cellular automata—to enrich our imagination of the stabilisation process, and discusses the concept of »variety« as a way of clarifying its difficulty, with the antiuniversities of the 1960s and the Occupy movement as examples. Failures of »being with« are expectable. In conclusion, the paper reviews approaches to collective decision-making that reduce variety without imposing a neoliberal hierarchy.

Ben Robinson

Disassembling the ›SAN DOMINICK‹. Sovereignty, the Slave Ship, and Partisanship in Herman Melville's *Benito Cereno*

Melville's *Benito Cereno* (1855) concentrates a historico-political problematic in the figure of a ship named ›SAN DOMINICK‹. This paper focuses on the distinctive political character of the slave ship in revolt. The partisan uprising produces an interrogation of the concept of sovereignty and the operations of exclusion on which it is premised. Superimposing the sovereign ship of state and the slave ship, Melville's novella presents a relation constitutive of the Atlantic world.

Ulrich Meurer

**Composite Congress. On Dispersal
Patterns in Mathew Brady's Political
Imagery**

Based on the ›patchwork‹ as a concept of (political) heterarchy, the paper explores the formal and medial space of M. Brady's collaged group portrait of the 36th US-Senate

and House of Representatives (1859). Poised between unity and decomposition, the image constitutes a congenial map of American politics, its specific relationism and ›proximal distances.‹ However, Brady's subsequent work sees this loose patchwork disintegrate during the Civil War and then solidify under Lincoln's paternal rule.

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