Kristóf Nyíri

# Time and Image
## Collected Essays
**Expanded version**

Dunabogdány – Pécs, 2025

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Paper written by Kristóf [J. C.]  Nyíri

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# Preface

As I prepare to teach my PhD course in the autumn of 2025 at the Doctoral School of Philosophy, University of Pécs, I noticed that several items on the suggested reading list – my own publications – were originally written in English. It struck me that it might be helpful for students to have these texts collected in a single English-language volume. This booklet is the result. Inevitably, some repetition remains throughout the text – I trust readers will grant me their indulgence.

The course I'm designing – KÉP ÉS IDŐ, or *Image and Time* – will be a rather unique endeavour. Students will not simply read and discuss the assigned texts with me to gain knowledge. Instead, the course aims to construct a new line of argument: one that challenges the mainstream notion of time's uniformity. It proposes that time does not pass at a constant speed – not merely in perception, but in reality. Sometimes, time truly moves faster; at other times, slower. I am deeply grateful to Professor Gábor Szécsi, Dean and Head of the Doctoral School, for supporting such a boldly experimental course.

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- "Suppression, Depression, Pictorial Pressure: The Road from Freud to Arnheim". Preliminary paper for the *9th Budapest Visual Learning Conference – How Images Behave*, held online, Nov. 26, 2020.

Due to the varied formatting of the original PDF publications, this collection necessarily presents an uneven visual layout. Also, the original page numbers do not align with the sequence in this booklet. To aid navigation, I have inserted supplementary page numbers all the way along the text.

Dunabogdány – Pécs, September 6, 2025.

# Contents

# KRISTÓF NYIRI

(BUDAPEST)

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# Networking and the transformation of time

Modern times have witnessed a decay of traditions, and it is generally held that the postmodern institution of electronic networking is further disrupting them. However, the same institution might also give rise to the emergence of new kinds of traditions, in at least three senses. First in the vague sense that networking obviously creates new customs, habits, and mores. Secondly in the more pertinent, but less comforting, sense that insofar as critical reflection undermines the power of tradition, and insofar as being on-line is an obstacle to critical reflection, networking is conducive to the undiscriminating acceptance of received ideas. And thirdly in the quite specific sense that traditions in their primary function, that is, as the medium of collective memory under pre-literate conditions, manifest an *atemporal framework* to which the sense of *simultaneity* so characteristically present in the world of electronic communication and information storage bears significant resemblances. It is these resemblances that form the topic of my paper.

In a culture untouched by literacy - in a *primarily oral culture,* to apply Walter J. Ong's term - the *preservation and transmission of knowledge* is a task requiring specific mechanisms. Traditional *oral poetry,* based on the mnemotechnical devices of rhythm and formulaic repetition, is just such a mechanism. What the singer of tales recites is perceived by the listener to be of ancient, and ultimately divine, origin, and to be handed down unchanged over generations. Now of course traditions are, when fulfilling their function, in fact *not* handed down unchanged. They *cannot* be and they *should* not be thus handed down. They cannot be, since oral mnemonic devices ensure ready recall, not however perfect textual accuracy. In fact the notion of textual accuracy does not make sense in an oral culture, there being no *original* text which could serve as a basis of comparison, and, most importantly, no way to *compare* texts *at all.* The text is never there; there is nothing to compare and nothing to be compared with. Also, traditions *should* in fact, for functional reasons, *change* over time. Beginning at any point suggested by the moment, the bard in the course of each performance stiches together the tale anew, singing through ever new cycles, while making use of inherited patterns. Traditions under conditions of primary orality - I have come to call them *primary traditions*[1] - seem to tell about bygone events, but inevitably recount a fictitious past, echoing new circumstances, serving as charters of the present. As van Groningen had put it:

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"The Greeks often refer to the past and, by doing so, they bind the matter in question to a chronological conception. But as soon as we inquire after the real meaning, it becomes obvious that the idea is not temporal but is used in a general sense."[2] The individual in a non-literate society, wrote Goody and Watt in their classic study, "has little perception of the past except in terms of the present"[3]. Finley stresses that Homeric epic was not *history*, and that "like all myth, it was timeless", lacking dates, or even "a coherent dating scheme". Myth, writes Finley, presented facts, "but these facts were completely detached: they were linked neither with what went before nor with what came after."[4] Eric Havelock speaks of "[5] a present tradition extending into the past and expected to extend into the future: The idiom in which the three periods are described establishes their identity, not difference." Hesiod, in his Works and Days, gives an account of man's decline from a golden age of the past, through several stages, to the age of iron - his own age. To each age a different race belongs, but none of these evolves into the next: they are "destroyed", to quote Finley once more, "and replaced by a new creation. Each race exists neither in time nor in place"[6]. So Hesiod can complain: "would that I were not among the men of the fifth generation, but either had died before or been born afterwards"[7]. Born *after* the last generation: to the extent that Hesiod conceives of a temporal pattern at all, that pattern is cyclic rather than linear - just as the pattern of the bard's song.

Only with the development of writing does there occur a differentiation of legend and fact, of myth and knowledge; does the permanent fixing of what is said, and the comparison of different texts, become possible. As Spengler has put it: writing implies "a complete change in the relations of man's waking consciousness", in that writing liberates consciousness *"from the tyranny of the present"*. While speaking and hearing, Spengler stressed, take place only in proximity and in the present, writing is *"the grand symbol"* not only of distance in space, but also of duration.[8] The age of manuscript culture, however, remains in important respects an oral one. Texts are hard to produce and expensive to obtain; early manuscripts do not allow for silent reading; the technology of manual copying submerges the possibility to maintain individual authorship; and by the inevitable phenomenon of textual corruption an objective illusion of ancient truths and progressive falsities is established. Manuscript literature does not foster a radical break with traditionality. The disfigured references to dates, names, and places in historical narratives still result in an intermingling of fact and myth; and Christian eschatology, though suggesting a kind of consecutivity in history, still subordinates temporal change in this world to the eternity of a divine plan.

Around 1300 the mechanical clock was invented; with that invention, the concept of time became progressively abstract and objective. Roughly at the same period, during the thirteenth and fourteenth centuries, ingenious methods were devised to increase the pace and accuracy of manuscript copying.[9] J. H. Plumb is probably right in assuming that the beginnings *of historical criticism* - "to see things as they were in their own time"[10] - date back to the late Middle Ages. The decisive change however occurred as a consequence of the invention of *printing*. With it there emerged an unprecedentedly rich world of reliable and constant texts. The biographies of different personalities ceased to be merged with each other, portraits showing characteristic features were reproduced unchanged over the time, the framework of the modern individual was created. Standardized chronologies came into being; a space for cumulative and critical knowledge was established, modern historical consciousness was formed. "The new attention to textual accuracy in documents coming out of the remote past", writes Ong, "generated a consciousness of the differences between past and present in man's life-world such as had never before been known."[11] Or, as Elizabeth Eisenstein puts it: "The past could not be set at a fixed distance until a uniform spatial and temporal framework had been constructed. ... Before trying to account for an »idea« of progress we

might look more closely at the duplicating process that made possible not only a sequence of improved editions but also a continuous accumulation of fixed records."[12]

In the age of the printed book, then, the need for a traditional transmission of knowledge became much weaker. Traditions could be reflected upon, criticized, abandoned. However, the process of abandonment was a slow and gradual one. Until about the last third of the eighteenth century the actual richness of the world of books was unavailable but to the very educated, or the very rich. The average middle-class person with an average education owned, or had access to, a very small number of books only. As a consequence, people read, to use Rolf Engelsing's term, "intensively". The few books they had they read "over and over again, ... so that a narrow range of traditional literature became deeply impressed on their consciousness". By 1800 reading become "extensive". People read many kinds of material, especially periodicals and newspapers, reading them only once, then moving on to the next item. Periodicals and newspapers radically undermined the influence of tradition. As Engelsing puts it: through them the wisdom conveyed by church literature, reaching out beyond time and this world, became complemented and confronted by a this-worldly experience bound by time and place and presupposing a mechanical understanding of time and space ("[wurde] ergänzt und konfrontiert ... durch eine fortwährende zeit- und ortsgebundene innerweltliche Erfahrung, die ein mechanisches Verständnis von Zeit und Raum voraussetzte").[14]

The newspaper, stresses Engelsing, satisfied the new need for ordered information on factually disconnected events. Until the 1860s the *column* of course reigned over the news; there still was a point of view the newspaper did convey, as did also, typically, the middle-class novel, best represented by the *Bildungsroman*, showing the gradual unfolding of personality in time through describing a definite sequence of experiences. With the rise of telegraph news reporting however, the daily paper became - and here one cannot avoid quoting McLuhan - "a mosaic of unrelated scraps in a field unified by a dateline. Whatever else there is, there can be no point of view in a mosaic of simultaneous items."[15] Carolyne Marvin has stressed that the invention of the telegraph, "the first of the electrical communications machines", is "as significant a break with the past as printing before it". As she puts it: "In a historical sense, the computer is no more than an instantaneous telegraph with a prodigious memory".[16] This might be an exaggeration. But in terms of restructuring time and space, the telegraph, and early reactions to it, certainly foreshadowed some of the effects, and some of the discussions surrounding, today's computer networks.

Computers, and computer networks, in more than one way enable their users to radically strengthen their grip on the world of data and texts; and thus also on the temporal organization of documents. But it is quite essential to realize that the logic of computer data processing, of electronic editing, and of electronic networking, as such tends to erode our specifically modern sense of the past. Just think of the data pertaining to one's own personal history. I have kept all my old appointment calendars, and whenever I attempt to check on the chronology of something I did at any time from the mid-1960s to the early 1980s, I usually succeed. Early in 1985 I started to use a word processor and came to rely on various software to keep record of appointments. The reader will be familiar with those computer calendars: entries expired are, after a time, gone. So I changed to the method of searching in old letter files whenever I wanted to refresh my memory. Prior to 1987 I used the operational system CP/M and worked with WordStar. After that it was DOS and WordPerfect. For some time I kept converting of my older files with the help of MediaMaster; then came the day when, setting up yet a new machine again, I omitted installing that particular software. For the period 1985 to 1987 I would now find it almost impossible to have a check on when exactly I did what; and I would find the same more than awkward for a period of quite some years after

that - with not every backup diskette copied to the harddisks of the subsequent computers. Today I prefer to use e-mail. I try to save all outgoing and incoming messages to the harddisk of the machine I have at home; but I can see that few people do that. E-mail correspondence is, typically, kept on the server - and gets deleted from there after a time, with no traces of the past left. But even when still archived, e-mail messages are seldom re-read. As Herbert Hrachovec has put it, "the permanent topicality of the medium implies an incessant antiquation of content".[17]

Or think of the way one edits one's documents in the electronic medium. There are the various data files and lists; updating them generally means deleting the older versions. The same occurs when writing a paper; one does not keep track of the various stages the text goes through; only the latest version is saved; the history of corrections, modifications, and additions becomes irretrievable. Documents viewed on the screen are, in an essential sense, all of the present moment. Age-old texts or pictures called up from a CD-ROM or loaded down from the network might carry indications of their history; yet in their digitized form they belong to the here and now, with no difference whatsoever between original and copy. The virtual library, accessed through the net, brings about a flattening of historical perspectives. As Sven Birkerts puts it: "our sense of the past ... is in some essential way represented by the book and the physical accumulation of books in library spaces. In the contemplation of the single volume, or mass of volumes, we form a picture of time past as a growing deposit of sediment; we capture a sense of its depth and dimensionality."[18]

Virtual libraries have a crippling effect on humanities studies. Online public access catalogues contain mostly recent material, both for monographs and serial titles. However, it has been repeatedly pointed out that in the humanities new developments had always been based upon a random survey of the entire corpus of the literature rather than upon a small selection of recent contributions.[19] And as notably Seamus Ross has pointed out, there is a real danger that virtual library holdings - with magnetic and optical storage media relatively unenduring, and hardware and software rapidly becoming obsolete - might in a relatively short time become irretrievable, or else prohibitively expensive to preserve.[20] The most dramatic threat to the past's future however is that experienced by the archival profession today. As Margaret Hedstrom has so admirably put it: "Many current institutional practices undermine retention, preservation, and secondary use of electronic records... Even the word archive has lost much of its traditional meaning and associations. In the vernacular of data processing professionals, »to archive« means to store data off-line. A »permanent medium« is one that cannot be erased or altered even if it only lasts a few years. These new definitions do not incorporate any of the concepts that archivists normally associate with the term archive: to understand information in its context, to identify what is valuable, or to retain records and make them accessible as long as they have value. ... ... some archivists are beginning to question whether fundamental archival practices, such as provenance and original order, are applicable to the administration of electronic records. The concepts of original order and provenance derive from the basic archival principle ... that much of the meaning and value of records derives from knowledge of the context in which the records were created. Knowledge of the context of creation in turn can be ascertained by examining records in their original order and by studying the administrative history, organizational structure, and functions of organizations and the life history ... of individuals." However, "except for the simplest data file structures, the physical ordering of data is controlled by software and is distinct from its logical order".[21]

Electronic communications technology develops at a rate which makes accommodation, except for those in their teens and twenties, a formidable, and often hopeless, task. The older generations look to the younger for guidance; Margaret Mead's notion of a "prefigura-

tive" culture, one in which "the elders have to learn from the children about experiences which they have never had" and in which "the young are taking on new authority in their prefigurative apprehension of the still unknown future", appears to have materialized. Nothing could be further away from postfigurative traditionalism. And yet if one considers that the future, for today's networking culture, is not just unknown - what else could it be? - but also unimaginable, except in the most down-to-earth terms of the present; and that this present is threatened by getting as blind to the past as it is to the future; one is then tempted to say that this culture is, once more, coming under the rule of myth, the myth of the present; coming under the rule of a new, secondary, traditionality.

## NOTES

[1] For a more detailed analysis cf. my „Introduction: Notes towards a Theory of Traditions", in: J. C. Nyíri, ed., *Tradition*, Wien: IFK, 1995, pp. 7–32.

[2] B. A. van Groningen, *In the Grip of the Past: Essay on an Aspect of Greek Thought*, Leiden: E. J. Brill, 1953, p. 17.

[3] Goody, Jack and Ian Watt, „The Consequences of Literacy", 1963, in: Goody (ed.), *Literacy in Traditional Societies*, Cambridge: Cambridge University Press, 1968, p. 34.

[4] M. I. Finley, „Myth, Memory, and History", *History and Theory* 1965, pp. 284f.

[5] Eric Havelock, *The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present*, New Haven: 1986, p. 58.

[6] Op. cit., p. 286.

[7] Lines 174-75, transl. by H. G. Evelyn-White in the Loeb Classical Library edition.

[8] *The Decline of the West*, New York: 1934, vol. II. pp. 149f.

[9] Cf. Marcel Thomas, „Manuscripts", in: Lucien Febvre – Henri-Jean Martin, *The Coming of the Book: The Impact of Printing 1450–1800* (1950), London: NLB, 1976.

[10] J. H. Plumb, *The Death of the Past*, London: Macmillan, 1969,

[11] *The Presence of the Word*, p. 274.

[12] *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe*, Cambridge: Cambridge University Press, 1979, vol. I, pp. 124 and 301.

[13] Robert Darnton explaining Engelsing's views cf. Darnton, „First Steps Toward a History of Reading", in his *The Kiss of Lamourette: Reflections in Cultural History*, New York: Norton, 1990, p. 165.

[14] Rolf Engelsing, „Die Perioden in der Lesergeschichte der Neuzeit: Das statistische Ausmaß und die soziokulturelle Bedeutung der Lektüre", *Archiv für Geschichte des Buchwesens* 10 (1969), col. 976.

[15] Marshall McLuhan, *Understanding Media: The Extensions of Man, New York*: McGraw-Hill, 1964, p.24.

[16] Carolyn Marwin, *When Old Technologies Were New: Thinking About Electric Communication in the Late Nineteenth* Century, New York: Oxford University Press, 1988, p. 3.

[17] „Elektronische Post ist... blitzgeschwind unterwegs und dieses Tempo wirkt auf die Schreibenden zurück. Sie können es nicht erwarten, die »message« wegzuschicken. Zahllose Tippfehler - um von Gedankenlosigkeit zu schweigen - belegen, daß es als wichtiger erfahren wird, schnell weiterzumachen, als sich Zeit zur Korrektur zu nehmen. Und kaum, daß das Ding versandt ist, ist es bereits archiviert, d.h. Vergangenheit. ... Die permanente Aktualität des Mediums hat unablässige Veralterung des Inhalts zur Folge." (H. Hrachovec, „Intimität in der Mailbox", in: U.M. Ernst, Ch. Annerl és W. Ernst (hg.) *Rationalität, Gefühl und Liebe im Geschlechterverhältnis*, Pfaffenweiler: Centaurus, 1995, pp. 42-52.

[18] Sven Brikets, *The Gutenberg Elegies: The Fate of Reading in an Electronic Age*, Boston: Faber and Faber, 1994, p. 129.

[19] Cf. Diana Crane, *Invisibe Colleges: Diffusion of Knowledge in Scientific Communities*, Univ. of Chicago Press, 1972, p. 94. Similary Lynne Brindley, in her recent study „Research Library Directions in the 1990s", in: Seamus Ross - Edward Higgs (eds.), *Electronic Information Resources*

*and Historians: European Perspectives,* St. Katharinen: Scripta Mercaturae Verlag, 1993, p. 178: „citiation studies in the humanities... show that well over 50% of books cited have imprint dates up to 35 years ago and earlier".

[20] Cf. Ross, „Introduction: Historians, Machine-Readable Information, and the Past's Future", in: Seamus Ross - Edward Higgs (eds.) *Electronic Information Resources and Historians: European Perspectives.*

[21] Margaret Hedstorm, „Understanding Electronic Incunabula: A Famework for Electronic Records", *American Archivist,* vol. 54, Summer 1991, pp. 336 and 349.

[22] M. Mead, *Culture and Commitment: The New Relationships between the Generations in the 1970s.* Rev. and updated ed., New York: Columbia University Press, New York: 1978.

# Time and Communication

## Kristóf Nyíri

My main thesis in this paper, for which I will argue in section 3, is that with the mobile phone, time has become personalized. It is not just our perception of time that has changed, nor indeed merely our way of talking about time. What has changed is, in fact, the *nature* of time. Wittgensteinian received wisdom of course would not allow one to keep a straight face when mentioning the nature of time, or even when using the substantive "time" in earnest. I believe the received wisdom is wrong; an alternative philosophical strategy applicable to the problem of time is outlined in section 1.

## 1.  Philosophical preliminaries

It should be pointed out that though his therapeutic tone pervades the 1932–35 lectures and dictations, and is dominant in the *Philosophical Investigations* (Kaspar and Schmidt 1992; Grundy 2005, 97; Reichenberger 2005), Wittgenstein himself did sometimes refer to time in a different key. In contrast to the position that puzzlement about the nature of time arises from a grammatical confusion (Wittgenstein 1979, 15; Wittgenstein 1958, 6; Wittgenstein 1953, §§ 89f.), he also made remarks suggesting that genuine issues might pertain to the phenomenon of time; that there might be room for exploration and insight here. According to one such remark, written in 1937 and still being experimented with in 1942/43 (in the text that was to become Part I of the *Philosophical Investigations*): "*That* times occur to us in coincidence with the clock; that we can *estimate* the time; is one of the reasons why what the clock measures, the time, is so important".[1] Or recall the remark, written in 1941: "could we talk about minutes and seconds, if we had no sense of time; if there were no clocks …; if there did not exist all the connexions that give our measures of time meaning and importance?"[2]

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1   "*Dass* uns die Zeiten übereinstimmend mit der Uhr einfallen; dass wir die Zeit *schätzen* können; ist ein Grund, warum, was die Uhr misst, die Zeit, so wichtig ist", Wittgenstein 2001, 517f.

2   Cf. Wittgenstein 1978, 382. The sentence as printed there has "hours" instead of "minutes"; the same error occurs in the German editions as well. I am indebted to István Danka for alerting me to this lapse.

On the other hand, when jotting down the remarks "This is the similarity of my treatment with relativity-theory, that it is so to speak a consideration about the clocks with which we compare events" (Wittgenstein 1978, 330) and "Einstein: how a magnitude is measured is what it is"[3] Wittgenstein clearly saw himself as staying within the confines of grammar—compare his remark, written in 1937: "Du vergißt, was //glaube ich// Einstein //wie ich vermute// die Welt gelehrt hat: daß die Methode //Art & Weise// der Zeit-messung zur Grammatik der Zeit-Ausdrücke gehört" (Wittgenstein 2000: MS 119). Of course the similarity between Einstein's approach and that of Wittgenstein soon breaks down. Where Wittgenstein warned against moving beyond the grammar of everyday language, Einstein sought to modify the everyday world-view embodied in our everyday grammar. As Wittgenstein said in 1935: "There is no trouble at all with primitive languages about concrete objects. … A substantive in language is used primarily for a physical body, and a verb for the movement of such a body. … We might say that it is the whole of philosophy to realize that there is no more difficulty about time than there is about this chair" (Wittgenstein 1979, 119). By contrast, Einstein certainly saw difficulties both with time and with primitive languages, and was intent on solving the former by clarifying the latter. As he wrote in 1934: "[t]he whole of science is nothing more than a refinement of everyday thinking" (cf. Miller 1984, 13).

How can one avoid making time seem a "*queer thing*" (Wittgenstein 1958, 6), and still build up meaningful discourse about what time *is*? The philosophical strategy I believe to be the most promising here is to regard time as a kind of *theoretical entity*, in the specific sense Wilfrid Sellars gave to this term. The point where Sellars' view of the nature of theories differs most significantly from that of, say, Carnap, Reichenbach, and Hempel, is his conviction that science is "continuous with common sense". As he puts it: "the ways in which the scientist seeks to explain empirical phenomena are refinements of the ways in which plain men, however crudely and schematically, have attempted to understand their environment … since the dawn of intelligence" (Sellars 1963, 181–183). It is within the framework of everyday observational discourse that certain unobservable entities are first postulated, entities in terms of which certain properties of observable events become explainable. Now according to Sellars, time is just such a postu-

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3    Written in 1929, and included in *The Big Typescript*, see Wittgenstein 2005: 208
     and 488 for two different translations; the second is the correct one.

lated entity, with "events in Time (or Space-Time) as metrical abstractions grounded in the reality of changing substances" (Sellars 1975, 282). There emerge "rules for coordinating statements concerning empirically ascertainable metrical relations between episodes pertaining to the things of everyday life and science, with statements locating these episodes, relatively to other episodes, in time, that is, with statements having the characteristic syntax of statements 'about time'" (Sellars 1962, 551 f.). The advance of science, the physical theory of time, will tell us *what* time is (Sellars 1962, 593), but this advance has been underway all through the cultural evolution of humanity, from primitive thought through Plato, Aristotle, and Augustine, to modern and contemporary philosophy and physics.[4]

A great advantage of the specifically Sellarsian interpretation of time as a theoretical entity is that it allows for an amalgamation of social time, or time as a social construct, with astronomical time, or time as a construct of the physical sciences. The classic statement as to the originally social nature of time of course comes from Durkheim. It is clear, Durkheim wrote, that those indispensable fixed points with respect to which all things are temporally organized are the products of social life; that it is the periodicity of rites, feasts, public ceremonies, to which the division into days, weeks, months, years, etc. corresponds. Time, as opposed to duration, is time as lived by the group—*social time*; it is time, as Durkheim puts it, "tel qu'il est objectivement pensé par tous les hommes d'une même civilisation" (Durkheim 1912, Intr., sect. II). *One and the same civilization*—it should be stressed that this is a dynamic, rather than static, notion. Let me quote at some length the decisive sequel to Durkheim's argument, by Sorokin and Merton (1937):

> The local time system varies in accordance with the differences in the extent, functions, and activities of different groups. With the spread of interaction between groups, a common or extended time system must be evolved to supersede or at least to augment the local time systems. … The final common basis was found in astronomical phenomena … Thus, the social function of time reckoning and designation as a necessary means of coordinating social activity was the very stimulus to astronomical time systems …

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4    As Whitrow (1961: 58) puts it: "out of man's primeval awareness of rhythm and periodicity there eventually emerged the abstract idea of world-wide uniform time".

Interaction between groups, as well as the coordination of social activities, essentially involve communication. And indeed there is an intrinsic connection between time and communication, whichever meaning of the latter term we focus on. "Communication" in its original, archaic sense means *participation*. Echoing Dewey (1916) and Heidegger (1927), this is the sense Carey singled out when describing the "ritual" view of communication. The ritual view, he wrote, "exploits the ancient identity and common roots of the terms 'commonness', 'communion', 'community', and 'communication'. A ritual view of communication is directed not toward the extension of messages in space but toward the maintenance of society in time …" (Carey 1975). In another sense, communication of course means *transportation*—moving people and goods through space, in real time. And then there is communication in the sense of *conveying information*. It is the connection of time with communication in this latter sense that constitutes the topic of my paper. The connection can be seen in two broad perspectives.

First, the communication of temporal information—*communicating time*. My argument in section 3 will be about communicating time in everyday life; at the present juncture, let me insert a brief reference to communicating time as a scientific issue. The reference of course is, once more, to Einstein, for whom the problem of synchronizing clocks at a distance was the starting point on the road leading to the special theory of relativity. Nor was this issue for Einstein, as has been brilliantly demonstrated by Galison (2003), an abstractly scientific one. The young patent office clerk in Bern had dutifully evaluated dozens of submissions having to do with the distant synchronization of clocks by electric means before hitting on the revolutionary thesis of his 1905 paper on electrodynamics.

The second perspective is about *the impact of communication technologies on our notions of time*—and, with that, on the formation of the theoretical entity *time* itself. This is the perspective I shall pursue in section 2.

## 2.  From cyclic time to timeless time

According to a periodization germinating from McLuhan's Toronto circle, the history of the technology of communication can be divided into the following main phases: 1. primary orality; 2. literacy; 3. the typographic phase (printing); 4. "secondary orality", given rise to by electronic information processing and transfer. Elaborated, most notably, by Havelock (1963), Goody and Watt (1963) and Ong (1982), this periodization has for some

time been rather widely accepted. I myself have adhered to it (cf. Nyíri 1991 and Nyíri 1992), until about the time I began working on my "The Picture Theory of Reason" (Nyíri 2001). Since then, I have realized that a more fine-grained set of distinctions is called for. Currently, I would suggest something like the following series of divisions: 1. Mimetic communication, based on what has been referred to as "the emergence of the most basic level of human representation, the ability to mime, or re-enact, events" (Donald 1991, 16). Not only do we have good grounds to assume that language first emerged as a visual sign system, but clearly it today still retains a basic dimension of mimetic gestures. 2. The culture of primary orality, where words are exclusively spoken or heard, with the knowledge society possesses stored in easily recalled formulae, memorized through constant repetition of authoritative texts. 3. Pictorial communication, ranging from the earliest cave paintings through ancient pictographs, and through medieval and modern drawings, to photography, and on to twentieth-century iconic symbols (today, conspicuously, icons on digital displays). 4. Ideographs. 5. Syllabic and alphabetic writing. 6. Typography. 7. The age of secondarily oral communication, within which again several phases and dimensions must be distinguished: telegraphy, representing a step away from the silence of writing towards the world of sounds not because it involved clicks and clacks just as it did dots and dashes, but because it gave rise to an elliptic style reminiscent of spoken rather than written language; the telephone; the movie, both in its silent and sound film phases; radio broadcasting; television; and the various sound and video recording devices. 8. Computer-mediated communication, creating a kind of *secondary literacy* with e-mail (and its cousins instant messaging and mobile SMS), a return to writing in the age of secondary orality; creating, also, a *network* of users exchanging *multimedia* documents.

What effect do these different modes of communication have on the evolving concept of time? Here the language of gestures provides a truly fertile initial medium. Gestures are movements, the meanings conveyed by them are created visibly in time. They necessarily create the experience both of "before" and "after", as well as the experience of time consisting of *extended intervals*, the latter experience leading, say, to the Stoics' idea of the "broad" present (Sorabji 1983, 25), or to James' elaboration of the notion of "the *specious* present" (James 1890, 608 f.), with this notion having interesting echoes in Wittgenstein's middle period (Wittgenstein 1975, 98 and Wittgenstein 2005, 351). Miming, that is re-enacting, events must also generate a rudimentary consciousness of the difference between the *present* and

the *past*—between what is in fact lived through, and what is only remembered. The experience of memory provides one of the main inspirations for the theoretical construct *time*. However, for this experience to become fully conscious, something like a verbal language must first emerge. In the case of autobiographical memory, it is with the development of linguistic skills that so-called childhood amnesia gradually diminishes, and first recollections arise (Draaisma 2004, 24 f.). Similarly with primitive group memory, which is embodied in myths and preserved through the basic information storage and retrieval activity of primarily oral societies: the recitation, that is repetition, of texts. To repeat is to re-live: time in the medium of primary orality is experienced as cyclic, rather than as linear. And it is of course a cyclic view of time that the daily movement of the sun, the changes of the moon, the seasons of the year, and the succession of generations in the animate world suggest. The idea of linear time is a culturally subordinate construct, one which did not become dominant prior to the age of the printing press.

Jan Assmann provides a masterly summary (Assmann 1999, 27–38) of the simultaneous, but unequal, presence of the cyclic and the linear views in medieval Christianity (with the Church partaking in the sacred linear history leading to salvation, while events here in this world followed a cyclic pattern), in ancient Mesopotamia (with occasional attempts at retrospective political chronicles), and indeed in Egypt (where the construction of king lists represented rare and insignificant episodes within an overwhelmingly cyclic world view). The Egyptians did have a linear writing system just as the Mesopotamians did. However, the educated Egyptian was, also, immersed in a world of *pictures*, a world of images and ideographs (hieroglyphs). Now it is of course well-known that *what* these pictures depict conveys a notion of time recurring, or standing still. Also, the canonical style of Egyptian art, unchanging over thousands of years (Assmann 1992, 171–174), suggested and indeed upheld an idea of immutable time, where contact with the past meant repetition, not continuation.[5] But the question we must here ask is whether it may not lie in the very nature of pictorial communication to give rise to a halting, as opposed to a sequential, view of temporality. And one

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5    "Die Kanonisierung der Bildkunst … steht im Dienste der Wiederholbarkeit, nicht der Anschließbarkeit", and similarly with texts: "Texte werden kopiert und variiert, aber sie werden nicht eigentlich interpretiert" (Assmann 1992, 177, 175). Yet here, too, one should pay heed to Assmann's warning against an all too uniform view of ancient Egypt: "Man darf sich das Weltbild einer mehrtausendjährigen und vielschichtigen Kultur nicht zu monolithisch vorstellen" (Assmann 1975, 20).

way to argue for this would be to point out that the handed-down is more powerful in pictorial than in textual form: a culture where the image dominates over text might well be more acquiescent, less prone to initiate changes in the pattern of events, than one in which text rules over the image.

On the other hand, it should be stressed that even though, as Wittgenstein convincingly demonstrated (Wittgenstein 1953, §22), isolated pictures are often ambiguous, a series of pictures, or a moving image, can very well be unequivocal, and can tell a story, i.e. recount events happening in time. Indeed one of the most interesting extended discussions by Wittgenstein on time (Wittgenstein 1958, 104–109), dealing with the question of "how a child might be trained in the practice of 'narration of past events'", begins with the introduction of a pictorial language involving two sequences of images running in parallel to each other. One sequence is the "sun series", representing the passage of time during the day, the other the "life pictures", showing the activities of a child. The two rows of pictures, when properly correlated, "tell the story of the child's day". Alternatively, the sun series can be replaced by writing a number against each life picture indicating the hour on the dial of a clock in the nursery. Interestingly, this pictorial training of the child does not seem to proceed beyond the boundaries of a single day. The sun completes its daily round, as does the hour hand of the clock; the picture series suggest a cyclic, rather than a linear, notion of time.

Syllabic and alphabetic systems, with writing and reading proceeding from top to bottom, right to left, or left to right, in a definite direction (if we skip the *boustrophedon*, "as the ox ploughs", early variants), obviously create a minimum experience of time being linear and having a direction.[6] But the temporal world of manuscript cultures—think of Greece, think of the European Middle Ages—is still overwhelmingly cyclic. There are two broad reasons for this. First, there was a residual orality resulting from the phenomenon of reading aloud (typical before the advent of easily followable printed texts), with written lines, ultimately, still experienced as a fleeting succession of sounding syllables; secondly, text corruption was a common by-product of manual copying. The older a manuscript, the more reliable the text: there is decay, and a feeling that one should return to the beginnings.

With the advent of the printing press, a radical change occurs. Every new edition produces identical, or indeed improved—corrected—texts. It was

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6    While reading a linear text is a unidirectional process, looking at pictures involves
     to-and-fro scanning. This might be another cause for pictorial communication not
     engendering a linear notion of time.

the fully developed age of the printed text, beginning with the seventeenth century, in which the idea of linear time became victorious. Newton's vision of the constant linear flow of time, and of course Locke's enthusiastic endorsement of that vision, would not have been imaginable without the suggestion of a "constant and regular succession of ideas" (*Essay*, II, xiv, 12) created by following the printed line. This was the age, too, in which the notion of *progress*, and modern historical consciousness, emerged. As Elizabeth Eisenstein wrote: "Before trying to account for an 'idea' of progress we might look more closely at the duplicating process that made possible not only a sequence of improved editions but also a continuous accumulation of fixed records. … the communications shift [precedes] … the beginning of a modern historical consciousness … by a century or more. The past could not be set at a fixed distance until a uniform spatial and temporal framework had been constructed" (Eisenstein 1979, vol. I, 124 and 301). Or to quote Sven Birkerts' memorable formulation: "our sense of the past … is in some essential way represented by the book and the physical accumulation of books in library spaces. In the contemplation of the single volume, or mass of volumes, we form a picture of time past as a growing deposit of sediment; we capture a sense of its depth and dimensionality" (Birkerts 1994, 129).

Historical consciousness, the ability, as J. H. Plumb puts it, "to see things as they were in their own time", "the consciousness of a different past", the "wish to understand the past in its own terms" (Plumb 1969, 82 and 118f.), did not, then, fully emerge before the seventeenth century. And after less than three hundred years, with the rise of telegraph news reporting, it had already begun to erode. Historical consciousness presupposes a definite point of view in time. Until the 1860s, the *column* reigned over the news even in the daily paper; there was a temporal perspective the newspaper conveyed. But then the daily paper became, to quote McLuhan, "a mosaic of unrelated scraps in a field unified by a dateline. Whatever else there is, there can be no point of view in a mosaic of simultaneous items" (McLuhan 1964, 249).

In a much more tangible way, too, the experience of time was changed by the telegraph. Precise longitude determination and global mapmaking initially depended on the transportation of accurate timekeepers. After 1866, when the first transatlantic cable was successfully laid, long-distance synchronization of clocks became possible. By 1880, every inhabited continent was connected (Galison 2003, 132–144). Local times came to be elements within the overall framework of global time; there emerged the practice of almost real-time communication between people belonging to differ-

ent time zones. The "mixing of tenses" bemoaned by Castells (1996, 433) began with telegraphy, the first medium which allowed a separation of the movement of information from the movement of people. The second such medium was telephony, with distant communication becoming actually real-time, and with the narrow broadband of telegraphy giving way to the much wider broadband of live human voice.

In 1895 the Lumière brothers presented their cinematograph. With that, an extremely powerful new metaphor for the flow of time came into being (Draaisma 2004, 57ff.). Bergson made fundamental use of it; Wittgenstein, in the early 1930s, was infatuated with it (Reichenberger 2005, 255). In *Creative Evolution* there is an argument spanning some 40 pages (Bergson 1911, 304–345), in which the cinematograph simile ("the film of the cinematograph unrolls, bringing in turn the different photographs of the scene to continue each other") is deployed to explain our inability to recognize real becoming behind a series of mental snapshots, to dissolve Zeno's paradox of the flying arrow, to provide a context for the immutable *eidos*, to highlight both the parallels and the differences between modern and ancient science, and of course to plead once more for the Bergsonian notion of *durée*: "if time is not a kind of force, why … is not everything given at once, as on the film of the cinematograph?". Wittgenstein seems to have read Bergson, and he, too, was impressed by the difference of the series of pictures existing, on the one hand, synchronously on celluloid, and on the other, creating a narrative in time on the screen: "If I compare the facts of immediate experience with the pictures on the screen and the facts of physics with pictures in the film strip, on the film strip there is the present picture and past and future pictures. But on the screen, there is only the present" (Wittgenstein, 1975, 83).

Then there is, in the silent film, the effect of verbal language being subordinated to the secondary role of mere captions. The poet, playwright, and film critic Béla Balázs, in a book published in 1924 (*Der sichtbare Mensch*, "The visible man"), made the following observation: "In film … speaking is a play of facial gestures and immediately visual facial expression. They who *see* speaking, will learn things very different from those who hear the words". Balázs expresses his belief that film will bring back "the happy times" when, in contrast to the times "since the spread of the printing press [when] the word came to be the main bridge between human beings", "it was still allowed for pictures to have a 'theme', an 'idea', because ideas did not always first appear in concepts and words, so that painters would only subsequently provide illustrations for them with their pictures" (Nyíri 1999, 7f.). The pure

pictoriality of the silent film was soon supplanted by the sound film, the first multimedia. But whether silent or sound, the experience of time given rise to by film was not the linear one suggested by written, especially printed, language.

The more obvious influences of film on the experience of time are well-known. The techniques of slow motion, fast motion, or running the film backwards create entirely new temporal impressions. Also, scenes alternate. With television, especially with cutting becoming ever faster, the breaking up of time as an ordered sequence continues.[7] And with satellite channels, "TV's electronic time zones are competing increasingly with … our internal biological clocks to determine our sense of time" (Ofield 1994, 593). What began with telegraphy, and continued with shortwave radio and long-distance telephony—the juxtaposing of different local times—went yet a step further with global television. The final step, of course, was the emergence of computer networks.

Computers transformed our experience of time even before world-wide computer networks were built. In one of the founding analyses of the topic, Bolter argued that, for the computer programmer, time becomes finite, discrete, and—think of loops—cyclic (Bolter 1984, 100–123). But let us note that even for everyday users, certain time-related phenomena are changed. Word processing has a special significance here. The spoken word is flexible, elastic, but vanishes in the moment of speaking. Written language, and to an even greater extent, printed language, are enduring but rigid. A text that is stored in the computer, in contrast, is preserved, but changeable as well. The text called up from the memory of the computer is always simultaneous, lacking in all history. Age-old documents preserved in the computer carry no mark of temporality. Images called up from a CD-ROM or downloaded from the network might carry indications of their history; yet in their digitized form they belong to the here-and-now, with no difference whatsoever between original and copy. Clearly, this environment of timeless documents cannot remain without influence on our sense of time.

Simple word-processing, global computer networks, and the world of digital multimedia documents all contribute, then, to the emergence of what Castells calls *timeless time*. As he puts it: "linear, irreversible, measurable, predictable time is being shattered in the network society … we are not just witnessing a relativization of time according to social contexts or alterna-

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7    For a discussion from a complementary point of view, see Steininger 2005.

tively the return to time reversibility … The transformation is more profound: it is the mixing of tenses to create a forever universe …, not cyclical but random" (Castells 1996, 433). However, as I attempt to show in the concluding section of this paper, the truly fundamental transformation in communications today—the triumphant progress of the mobile phone—does not further aggravate, but much rather *alleviates* the condition of timeless time.

## 3. Time and the mobile phone

Back in 1934, Lewis Mumford noted that what is effected by "our closer time co-ordination and our instantaneous communication" is "broken time and broken attention" (Mumford 1963, 272). By contrast, I believe that the mobile phone gives rise to a new synthesis of what Mumford referred to as "mechanical time" and "organic time".[8]

At the very beginning of *Technics and Civilization* Mumford gave a list of "the critical instruments of modern technology" (Mumford 1963, 4). The first two items on this list are the clock and the printing press. Now the two technical inventions whose significance is most plausibly paralleled by that of the mobile phone are the *portable book* and the *portable clock*. The portable hand-held book was an innovation, in 1501, of publisher Aldus Manutius. What this innovation enabled was communication, albeit unidirectional, with the absent author, anytime, anywhere; and access to information anytime, anywhere, as long as that information was contained in the books one carried around. The emergence of the portable clock, and the beginnings of the transition from the portable clock to the watch, took place over the course of the fifteenth century. The mechanical clock itself was invented in the thirteenth century. At first, it had no dial but it did strike the hours—it was in fact, as Landes puts it, an "automated bell" (Landes 2000, 81)—communicating time within the space of the monastery, or in the public space of the medieval town. The fourteenth century saw the spread of bell towers. Urban society increasingly depended on these, the "striking of the bells brought a new regularity into the life of the workman and the merchant" (Mumford

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8    "[M]echanical time is strung out in a succession of mathematically isolated instants … [While] mechanical time can … be speeded up or run backward, like the hands of a clock or the images of a moving picture, organic time moves in only one direction—through the cycle of birth, growth, development, decay, and death" (Mumford 1963: 16).

1963, 14). With the portable clock, public time could also be kept privately.

By the nineteenth century, the regularity dictated by public time could no longer be experienced but as a tyranny of fixed schedules. As Georg Simmel wrote in his famous paper "Die Großstädte und das Geistesleben" in 1903, "The relationships and affairs of the typical metropolitan usually are so varied and complex that without the strictest punctuality in promises and services the whole structure would break down into an inextricable chaos. … If all clocks and watches in Berlin would suddenly go wrong in different ways", Simmel continued, "all economic life and communication of the city would be disrupted for a long time. In addition, … long distances … make all waiting and broken appointments result in an ill-afforded waste of time. Thus, the technique of metropolitan life is unimaginable without the most punctual integration of all activities and mutual relations into a stable and impersonal time schedule".[9]

By the last decades of the twentieth century, the rule of the clock became simply impractical in many domains of decentralized mass society, i.e. postmodern society. As Ling (2004, 62), in reference to Beniger (1986), puts it: "The demands for rapid and geographically dispersed coordination of small groups became more acute due to the rise of transportation systems and the differentiation of social functions." It appears that in the postmodern world, the need for the possibility of frequent re-scheduling was there even before the mobile phone, the instrument *par excellence* for changing schedules while on the move, appeared on the scene.[10] To a considerable degree, the mobile actually took over the functions of the clock. The co-ordination of social activity today relies, in no small measure, on mobile negotiation, rather than on keeping pre-defined schedules (Ling and Yttri 2002, 143f.). A different way of synchronizing activities has emerged: within the overall framework of fixed public time, windows of personalized time are opening up. In the constitution of the theoretical entity *time*, the building-block of Einstein's situation-bound relative time there is now joined by the building-block of personalized time.

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9    Simmel 1997, 177f. In the sentence "In addition …" I had to modify the translation "would make all waiting" to "make all waiting". Simmel here is not continuing the speculation about what would happen if clocks went wrong, but is making a straightforward observation to the effect that since in the metropolis one has to travel longish distances to keep appointments, non-punctuality is all the more unpleasant.

10   "The mobile phone breaks the flow of information away from the scheduling necessary to ensure coordination of journeys" (Townsend 2000: 96).

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*Kristóf Nyíri*　　　　　Time and the Mobile Order

One of the most fundamental functions of the mobile has become that of enabling recurrent programme rescheduling while on the move. Mobile communication coordinates people's movements not just in space, but also in time: within the overall framework of fixed public time, windows of personalized time are opening up. My thesis in the present paper is that not just our perception of time has changed thereby, nor indeed merely our way of talking about time. What has changed is, in fact, the *nature* of time. This is a thesis with philosophical import, and indeed in the second part of my paper I will borrow arguments from philosophy to underpin it. But let me first turn to the topic of the radical reordering of time relations as a consequence of mobile telephony.

**Temporal versus Mobile Coordination**

In his 1934 classic *Technics and Civilization*, Lewis Mumford made a distinction between what he called "mechanical time" and "organic time". As he explained: "[M]echanical time is strung out in a succession of mathematically isolated instants. … [While] mechanical time can … be speeded up or run backward, like the hands of a clock or the images of a moving picture, organic time moves in only one direction – through the cycle of birth, growth, development, decay, and death."[1] Later in the book, discussing the consequences of inventions such as the typewriter, the telephone, and the automobile, Mumford claimed that what is effected by "our closer time co-ordination and our instantaneous communication" is "broken time and broken attention".[2] One way to put what I am arguing for in the present paper is that the mobile phone, rather than breaking up time, gives rise to a new synthesis of "mechanical time" and "organic time".

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[1] Lewis Mumford, *Technics and Civilization*, 2nd ed., New York: Harcourt Brace & Company, 1963, p. 16.

[2] *Ibid.*, p. 272.

At the very beginning of his book, Mumford gave a list of "the critical instruments of modern technology"[3]. The first two items on this list are the clock and the printing press. Now the two technical inventions whose significance is most plausibly paralleled by that of the mobile phone are the *portable book* and (as analyzed in a series of pioneering works by Rich Ling) the *portable clock*. The portable hand-held book was an innovation, in 1501, of publisher Aldus Manutius. What this innovation enabled was communication, albeit unidirectional, with the absent author, anytime, anywhere; and access to information anytime, anywhere, as long as that information was contained in the books one carried around. The emergence of the portable clock, and the beginnings of the transition from the portable clock to the watch, took place over the course of the fifteenth century. The mechanical clock itself was invented in the thirteenth century. At first, it had no dial but it did strike the hours – it was in fact, as Landes puts it, an "automated bell"[4] – communicating time within the space of the monastery, or in the public space of the medieval town. The fourteenth century saw the spread of bell towers. Urban society increasingly depended on these; the "striking of the bells brought a new regularity into the life of the workman and the merchant"[5]. With the portable clock, public time could be kept privately, too.

By the nineteenth century, the regularity dictated by public time could no longer be experienced but as a tyranny of fixed schedules. As Georg Simmel wrote in his famous paper "Die Großstädte und das Geistesleben" in 1903 (translated into English as "The Metropolis and Mental Life"): "The relationships and affairs of the typical metropolitan usually are so varied and complex that without the strictest punctuality in promises and services the whole structure would break down into an inextricable chaos. ... If all clocks and watches in Berlin would suddenly go wrong in different ways", Simmel continued, "all economic life and communication of the city would be disrupted for a long time. In addition, ... long distances ... make all waiting and broken appointments result in an ill-afforded waste of time. Thus, the technique of metropolitan life is unimaginable without the most punctual integration of all activities and mutual relations into a stable and impersonal time schedule."[6]

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[3] *Ibid.*, p. 4.

[4] David S. Landes, *Revolution in Time: Clocks and the Making of the Modern World*, 2nd ed., Cambridge, MA: Belknap Press, 2000, p. 81.

[5] Mumford, *op. cit.*, p. 14.

[6] Georg Simmel, "The Metropolis and Mental Life", in David Frisby and Mike Featherstone (eds.), *Simmel on Culture: Selected Writings*, London: SAGE, 1997, pp. 177 f.

By the last decades of the twentieth century, the rule of the clock became simply impractical in many domains of decentralized mass society, i.e. postmodern society. Ling[7], in reference to Beniger[8], points out that the emergence of new transportation systems and the differentiation of social functions rendered the near-instant coordination of small, geographically dispersed groups an increasingly acute necessity. It appears that in the postmodern world, the need for the possibility of frequent rescheduling was there even before the mobile phone, the instrument *par excellence* for changing schedules while on the move, appeared on the scene. To a considerable degree, the mobile actually took over the functions of the clock. The co-ordination of social activity today relies, in no small measure, on mobile negotiation, rather than on keeping pre-defined schedules.[9] As a consequence, writes Ling, "we move away from a type of linear conception of time in which meetings, social engagements ... are fixed points [in] time".[10] But let us then ask again: is our *conception* of time changing, or is time *itself*, before our very eyes, becoming something different? This is the question I pursue in the present paper.

## Philosophy and the Concept of Time

*A Nutshell History of the Philosophy of Time*

The history of the philosophy of time begins with the negation of the reality of time by Parmenides and his pupil Zeno of Elea, in the 5th century BC. Zeno's paradoxes of time – "the flying arrow" and "Achilles

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In the sentence "In addition…" I had to modify the translation "would make all waiting" to "make all waiting". Simmel here is not continuing the speculation about what would happen if clocks went wrong, but is making a straightforward observation to the effect that since in the metropolis one has to travel longish distances to keep appointments, non-punctuality is all the more unpleasant.

[7] Richard Ling, *The Mobile Connection: The Cell Phone's Impact on Society*, San Francisco: Morgan Kaufmann, 2004, p. 62.

[8] James R. Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society*, Cambridge, MA: Harvard University Press, 1986.

[9] Richard Ling and Birgitte Yttri, "Hyper-Coordination via Mobile Phones in Norway", in James E. Katz and Mark Aakhus (eds.), *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*, Cambridge: Cambridge University Press, 2002, pp. 143–144. See also Lyn-Yi Chung and Sun Sun Lim, "From Monochronic to Mobilechronic: Temporality in the Era of Mobile Communication", in Kristóf Nyíri (ed.), *A Sense of Place: The Global and the Local in Mobile Communication*, Vienna: Passagen Verlag, 2005, pp. 267–280.

[10] Richard Ling, *The Mobile Connection*, p. 76.

and the tortoise" are the most notorious – have to this very day not found a truly satisfactory philosophical solution. What these paradoxes strive to show is that regardless of whether time is assumed continuous or discrete, the idea of movement in time leads to impossible consequences. That Plato came to postulate a world of timeless ideas behind the mutable world of phenomena was not independent of Zeno's arguments. Zeno's writings have not been preserved, his arguments have been transmitted almost exclusively via the relevant passages in the Aristotelian *Lecture Notes on Physics*. And it is the *Physics* that formulates the first classic paradigm of the philosophy of time, while the second paradigm, a good seven hundred years later, is provided by Book XI of St. Augustine's *Confessions*. For Aristotle, time is intimately connected to the movements of the heavenly bodies, it is not however identical with movement itself – time is the *measure* of movement, or, as he puts it, the number of movement in respect to the before and after. But can we think of numbers without counting, and of counting without a soul that counts? The question – and with it the question of the reality of time – is left open by Aristotle. In contrast, for Augustine, time in the everyday sense belongs wholly to the subjective inner world: "It is in thee, my mind, that I measure times."[11] Time as something external, objective, is inexplicable, incomprehensible. As Augustine puts it in what is probably the most-quoted passage in the philosophy of time:

> What then is time? If no one asks me, I know: if I wish to explain it to one that asketh, I know not: yet I say boldly that I know, that if nothing passed away, time past were not; and if nothing were coming, a time to come were not; and if nothing were, time present were not. Those two times then, past and to come, how are they, seeing the past now is not, and that to come is not yet? But the present, should it always be present, and never pass into time past, verily it should not be time, but eternity. If time present (if it is to be time) only cometh into existence, because it passeth into time past, how can we say that [it] is…[12]

And some paragraphs later: "If an instant of time be conceived, which cannot be divided into the smallest particles of moments, that alone is it, which may be called present. Which yet flies with such speed from future to past, as not to be lengthened out with the least stay. For if it be, it is

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[11] *Augustine's Confessions*, transl. E. B. Pusey, Book XI, Chapter XXVII.
[12] *Ibid.*, Chapter XIV.

divided into past and future. The present hath no space."[13]

Beside the psychologizing philosophy of time in the *Confessions*, Augustine's system of thought also includes the salvation-historical, eschatological philosophy of time of *The City of God*. Augustine takes issue with the cyclic views of time of the ancients; time lasts from Creation to the Last Judgement, is linear, and cannot repeat itself. During the centuries of the Middle Ages and the Early Modern Age, the Aristotelian and Augustinian paradigms reigned supreme. The first really new approach was that of Newton in his *Philosophiae Naturalis Principia Mathematica* (1687). Although Newton's famous formula – "Absolute, true, and mathematical time, of itself and from its own nature, flows equably without relation to anything external" – was meant as a definition, rather than as a statement in natural philosophy, the image of absolute space and absolute time became the world-view that defined thought for two and a half centuries. The alternative formulated by Leibniz in the Leibniz–Clarke correspondence (1715–16), namely that both space and time are entirely relative – space is nothing but the order of co-existent objects, time nothing but the order of successive events – did not have an impact prior to the twentieth century. And in both the nineteenth and twentieth centuries a strong influence is exerted by the Kantian paradigm of the philosophy of time and space, elaborated in *The Critique of Pure Reason* (1781) with the aim of explaining how human knowledge of the Newtonian world, regulated by the laws of nature, is possible. The laws of nature are, in Kant's view, universal and necessary truths, undiscoverable by sense-perception directed at the particular and the contingent. Kant turned to a kind of Augustinian subjectivism: we can come to know the laws of nature, he insisted, only because it is we ourselves who project the fundamental ordering principles – such as the principle of causality, and specifically space and time as universal forms of intuition, onto the object of knowledge. "Time", says Kant, "is a necessary representation, lying at the foundation of all our intuitions." After Kant, the next great change comes with Henri Bergson. In his major works written between 1889 and 1907, he contrasts what he regards as the space-like time of the natural sciences with the innerly-lived flux of *duration* which cannot be divided into parts, but is as it were an unbroken act of the self. What Bergson wants to say becomes almost comprehensible, indeed convincing, in the passages where he turns his arguments against Zeno; Bergson is perhaps the first philosopher who was able to provide an alternative, even if a rather opaque one, to the conceptual presuppositions of Zeno's paradoxes.

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[13] *Ibid.*, Chapter XV.

*Heidegger and Wittgenstein*

The problem of time was a central issue for arguably the two most influential philosophers of the 20th century, Martin Heidegger and Ludwig Wittgenstein. Indeed for the early Heidegger, who in 1927 published his famous *Sein und Zeit*, "Being and Time", it was *the* central issue. Heidegger's fundamental idea, that *to be is to be in time*, is best interpreted as a secular version of the Christian doctrine of fallen humanity's temporal journey to eternity. Heidegger's preoccupation with St. Augustine,[14] in the years preceding the composition of *Being and Time*, is telling. There is a temporal end facing us humans, Heidegger stresses, namely *death*; for us, being is *being towards death*. Hence time is, essentially, finite, having meaning precisely because it is finite. To live meaningfully, authentically, is to live a life defined by one's *future*, namely death. By contrast, the ordinary human being's life is "a fleeing *in the face of death*", with time construed as an infinite succession of "nows"; to the very end the inauthentic human being plays an act: "'it always has more time'".[15] The concept of time as emerging from philosophy and the natural sciences is, for Heidegger, of a piece with the ordinary human being's inauthentic understanding of temporality. Heidegger again and again attempts to show that time is neither "objective", as taken for granted by the natural sciences, nor "subjective", as maintained, say, by Augustine and Kant. Time is not an illusion; on the contrary, it is the most basic reality there is. However, in the last analysis, Heidegger does ground time in the individual human being's temporality. And his brilliant analyses certainly suggest that it does not make sense to assume that time has a kind of independent, unchanging nature.

Heidegger was not the only one upon whom Book XI of Augustine's *Confessions* had a profound effect; it also engaged the later Wittgenstein. In Wittgenstein's view, the problems philosophy traditionally deals with are spurious; so-called philosophical problems arise by misunderstanding the logic of everyday language. And the argument Augustine developed, seduced by the image of time as a continuous stream, Wittgenstein probably took to be an exemplary case of such misunderstanding. As he puts it:

> It's strange that in ordinary life we are not troubled by the feeling
> that the phenomenon is slipping away from us, the constant flux

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[14] See esp. Martin Heidegger, *Der Begriff der Zeit*, ed. by Friedrich-Wilhelm von Herrmann, Frankfurt/M.: Vittorio Klostermann, 2004.

[15] Martin Heidegger, *Being and Time*, transl. by John Macquarrie and Edward Robinson, Oxford: Basil Blackwell, 1962, pp. 474 and 477.

of appearance, but only when we philosophize. This indicates that what is in question here is an idea suggested by a misapplication of our language. – The feeling we have is that the present disappears into the past without our being able to prevent it. And here we are obviously using the picture of a film strip remorselessly moving past us, that we are unable to stop. But it is of course just as clear that the picture is misapplied: that we cannot say "Time flows" if by time we mean the possibility of change.[16]

The basic case of misunderstanding the logic of language is of course when we are misled by the role of substantives as such – when we are led to believe that the given substantive, as a meaningful word, necessarily refers to a somehow existing *thing*, of which the substantive is the name. "Think how the substantive 'time'", writes Wittgenstein, "can delude us into imagining a medium; how it can lead us astray, so that we chase after a phantom. ('But here *isn't* anything! – But here is not *nothing*!') – Or think of the problem: We can measure the duration of an event, and still it is not present."[17] All these problems are, Wittgenstein believed, just specious. As he put it to his students in 1935, proper philosophy consists in the recognition that, say, "there is no more difficulty about time than there is about this chair".[18]

Let us note in passing that although both Heidegger and Wittgenstein were deeply interested in the problem of human communication, their interest did not extend, it seems, to the particular topic of the telephone. With regard to Heidegger, I already noted in an earlier volume in this series[19] that he would hardly have found the mobile phone to his

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[16] Ludwig Wittgenstein, *Philosophical Remarks*, transl. by R. Hargreaves and R. White, Chicago: The University of Chicago Press, 1975, p. 83. The remark was written on 23 Dec. 1929. In his lectures in 1932, this was how Wittgenstein formulated the matter: "Discussion of 'the flow of time' shows how philosophical problems arise. Philosophical troubles are caused by not using language practically… Once conscious of 'time' as a substantive, we ask then about the creation of time." (*Wittgenstein's Lectures, Cambridge, 1932–1935*, ed. by Alice Ambrose, Oxford: Basil Blackwell, 1979, p. 15.)

[17] MS 142, see *Wittgenstein's Nachlass: The Bergen Electronic Edition*, Oxford: Oxford University Press, 2000, the remark was written in 1936. An earlier, similar remark: "Seduced by substantives, we believe in Substance. … What is time? – the error is already contained in the question, as if the question were: of what, of what material, is time made?" (Ludwig Wittgenstein, *The Big Typescript: TS 213*, ed. and transl. by C. Grant Luckhardt and Maximilian A. E. Aue, Malden, MA: Blackwell Publishing, 2005, p. 365e.)

[18] *Wittgenstein's Lectures, Cambridge, 1932–1935*, p. 119.

[19] Kristóf Nyíri (ed.), *Mobile Communication: Essays on Cognition and Community*, Vienna:

liking. First, because the mobile phone is a high-tech machine, and Heidegger regarded machines as an outcome of instrumental-alienating thinking. Secondly, he had no time for mobility, especially for the mobile scientist accommodating himself to the technological age. "The scholar disappears", writes Heidegger. "He is succeeded by the research man… The research man no longer needs a library at home. Moreover, he is constantly on the move. He negotiates at meetings and collects information at congresses."[20] Wittgenstein, too, was disgusted by the type of the negotiating philosopher, but he felt at home with machines – originally he wanted to become an engineer. The telephone, however, clearly did not catch his fancy. In World War I he served with the artillery, and was often sent up to the observation-post. In retrospect he complained bitterly about "the constant shouting into the field-telephone".[21] In the over ten thousand pages of his manuscripts there is almost no trace of the telephone. All one finds are two remarks. The first, written in early 1930, an odd observation to the effect that "one can transmit talk, but not measles, by telephone", to illustrate the point that thought cannot be used as it were "to make an extension of experience".[22] The second, written some two to four years later, is more interesting: "Where does the significance of language come from? Can one say: 'Without language we could not communicate with each other'? No. This case is not analogous to: Without the telephone we could not talk from Europe to America. … The concept of language is *included* in the concept of communication."[23]

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Passagen Verlag, 2003, pp. 11 f. See also the reference there to Alexander Roesler's excellent essay "Das Telefon in der Philosophie: Sokrates, Heidegger, Derrida", in Stefan Münker and Alexander Roesler (ed.), *Telefonbuch: Beiträge zu einer Kulturgeschichte des Telefons*, Frankfurt/M.: Suhrkamp, 2000.

[20] Martin Heidegger, "The Age of the World Picture" (1938), in Heidegger, *The Question Concerning Technology and Other Essays*, New York: Garland Publishing, 1977, p. 125.

[21] Brian McGuinness, *Wittgenstein: A Life. Young Ludwig, 1889–1921*, London: Duckworth, 1988, p. 240.

[22] The remark in full: "Philosophers who think that one can as it were use thought to make an extension of experience, should think about the fact that one can transmit talk, but not measles, by telephone. – Nor can I experience time as limited, when I want to…" (MS 107, see *Wittgenstein's Nachlass*; the remark is repeated in TS 209 [1930], and found its way also into the bunch of typescript clippings that was eventually published by Wittgenstein's literary executors under the title *Zettel* [§ 256].)

[23] *Wittgenstein's Nachlass*, MS 114, p. 173.

*Time as a Theoretical Entity*

How can one avoid making time seem a "*queer thing*",[24] and still build up meaningful discourse about what time *is*? The philosophical strategy I believe to be the most promising here is to regard time as a kind of *theoretical entity*, in the specific sense the important American philosopher Wilfrid Sellars gave to this term. The point where Sellars' view of the nature of theories differs most significantly from that of, say, Carnap, Reichenbach, and Hempel, is his conviction that science is "continuous with common sense". As he puts it: "the ways in which the scientist seeks to explain empirical phenomena are refinements of the ways in which plain men, however crudely and schematically, have attempted to understand their environment … since the dawn of intelligence".[25] It is within the framework of everyday observational discourse that certain unobservable entities are first postulated, entities in terms of which certain properties of observable events become explainable. According to Sellars, time is just such a postulated entity, with "events in Time (or Space-Time) as metrical abstractions grounded in the reality of changing substances".[26] There emerge "rules for coordinating statements concerning empirically ascertainable metrical relations between episodes pertaining to the things of everyday life and science, with statements locating these episodes, relatively to other episodes, in time, that is, with statements having the characteristic syntax of statements 'about time'".[27] The advance of science, the physical theory of time, will tell us *what* time is,[28] but this advance has been underway all through the cultural evolution of humanity, from primitive thought through Plato, Aristotle, and Augustine, to modern and contemporary philosophy and physics.[29]

A great advantage of the specifically Sellarsian interpretation of time

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[24] Ludwig Wittgenstein, *The Blue and Brown Books*, Oxford: Basil Blackwell, 1958, p. 6.

[25] Wilfrid Sellars, *Science, Perception and Reality*, London: Routledge & Kegan Paul, 1963, pp. 181–183.

[26] Wilfrid Sellars, "Autobiographical Reflections", in Hector-Neri Castañeda (ed.), *Action, Knowledge and Reality: Critical Studies in Honor of Wilfrid Sellars*, Indianapolis: Bobbs-Merrill, 1975, p. 282.

[27] Wilfrid Sellars, "Time and the World Order", in Herbert Feigl and Grover Maxwell (eds.), *Minnesota Studies in the Philosophy of Science*, vol. III, Minneapolis: University of Minnesota Press, 1962, pp. 551 ff.

[28] *Ibid.*, p. 593.

[29] As Whitrow puts it: "out of man's primeval awareness of rhythm and periodicity there eventually emerged the abstract idea of world-wide uniform time" (G. J. Whitrow, *The Natural Philosophy of Time*, London: Thomas Nelson, 1961, p. 58).

as a theoretical entity is that it allows for an amalgamation of social time, or time as a social construct, with astronomical time, or time as a construct of the physical sciences. The classic statement as to the originally social nature of time of course comes from Durkheim. It is clear, Durkheim wrote, that those indispensable fixed points with respect to which all things are temporally organized are the products of social life; it is the periodicity of rites, feasts, public ceremonies, to which the division into days, weeks, months, years, etc. corresponds. Time, as opposed to duration, is time as lived by the group – *social time*; it is time, as Durkheim puts it, "tel qu'il est objectivement pensé par tous les hommes d'une même civilisation".[30] *One and the same civilization* – it should be stressed that this is a dynamic, rather than static, notion. Let me quote at some length the decisive sequel to Durkheim's argument, by Sorokin and Merton:

> The local time system varies in accordance with the differences in the extent, functions, and activities of different groups. With the spread of interaction between groups, a common or extended time system must be evolved to supersede or at least to augment the local time systems. … The final common basis was found in astronomical phenomena… Thus, the social function of time reckoning and designation as a necessary means of coordinating social activity was the very stimulus to astronomical time systems…[31]

Scientific experiences and deliberations on the one hand, and experiences pertaining to time economy in everyday social and individual life on the other, all play a role in the constitution of time as a theoretical entity. The latter experiences are increasingly defined by the phenomenon of mobile coordination – the emergence of personalized time. This phenomenon is, to my mind, more decisive than the one Castells calls *timeless time*. As he puts it:

> [L]inear, irreversible, measurable, predictable time is being shattered in the network society... we are not just witnessing a relativization of time according to social contexts or alternatively the

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[30] Emile Durkheim, *Les formes élémentaires de la vie religieuse*, Paris: Alcan, 1912, Intr., sect. II.

[31] Pitirim A. Sorokin and Robert K. Merton, "Social Time: A Methodological and Functional Analysis", *American Journal of Sociology* 42 (1937), in Pitirim A. Sorokin, *On the Practice of Sociology*, ed. by Barry V. Johnston, Chicago: University of Chicago Press, 1998, p. 204.

[32] Manuel Castells, *The Information Age: Economy, Society and Culture*, vol. I: *The Rise of the Network Society*, Oxford: Blackwell, 1996, p. 433.

> return to time reversibility... The transformation is more profound: it is the mixing of tenses to create a forever universe …, timeless time, using technology to escape the contexts of its existence…[32]

However, the truly fundamental transformation in the world of communications today is the triumphant progress of the mobile phone. It seems that this is also the conclusion Castells arrives at in his new book, *Mobile Communication and Society*.[33] And the position Castells has apparently come to embrace is that mobile communication does not further aggravate, but much rather *alleviates* the condition of timeless time.

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[33] Manuel Castells, Mireia Fernández-Ardèvol, Jack Linchuan Qiu and Araba Sey, *Mobile Communication and Society: A Global Perspective*, Cambridge, MA: MIT Press, 2007.

**Kristóf Nyíri**

## *Hundred Years After: How McTaggart Became a Thing of the Past*

It is a great honour for me to be the invited speaker in the History of Philosophy section of this major Analytic Philosophy conference. It is also, as I increasingly came to realize as the date of the conference approached, a great responsibility. What I particularly came to feel uneasy about was the choice of my topic. Was it important enough? Was it broad enough? Seeking reassurance, I turned, as so often before, to the writings of the man who had been my first mentor in philosophy, one who played a significant role in analytic philosophy from the late 1940s to the 1960s, and one who was renowned for his skill in exploiting the history of philosophy as the background against which to act out philosophical analysis: Wilfrid Sellars. And Sellars did reassure me. I hit on the passage in his "Autobiographical Reflections" where he describes his first serious encounter with philosophy. It happened at Ann Arbor, in 1931/32, when in a seminar in metaphysics he was introduced, as he reports, "to McTaggart's classic paper on the unreality of Time", and chose to write his term paper on the topic. He was soon "deep in the literature" and found himself "genuinely involved". As he puts it: "Philosophy was no longer a storehouse of alternatives to be explored and evaluated but, from that moment on, an unfinished dialogue in which I might have something to say. I soon became convinced that the problem of time was so intimately connected with other classical problems that it, like the mind-body problem, is one of the major proving grounds for philosophical systems."[1] Sellars continued to work on the topic of time, returning to it again and again; and defending, from the very beginning, "a substantialist ontology of change", that is, a position diametrically opposed to that of McTaggart. I will come back to Sellars on two occasions later in my talk; just now, let me give a summary outline of the same.

McTaggart's paper on "The Unreality of Time" was published in 1908, in the journal *Mind*. The argument of the paper is sufficiently elusive to stand in need of scrutiny before being subjected to criticism. Such scrutiny is what I will attempt to provide in the first section of my talk, under the heading "The McTaggart Motley". In the second section, under the heading "Refuted and Ridiculed", I shall summarize the devastating criticisms that, since the 1920s, C. D. Broad, and others in his wake, have been directing against McTaggart's position, asking, in the third section, how, in the face of such a series of convincing refutations, his argument could still gain, and does still gain, adherents. The answer is, as I will briefly show, that McTaggart's position has become mixed up with, and won undeserved respectability from, the Einstein–Minkowski conception of space-time, proclaimed in the very same year that McTaggart's paper was published. In the final section of my talk I shall sketch, under the heading "A Future for Time?", the rudiments of an alternative – admittedly adventurous – philosophical strategy, designed

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[1] Wilfrid Sellars, "Autobiographical Reflections", in H-N. Castaneda (ed.), *Action, Knowledge, and Reality: Critical Studies in Honor of Wilfrid Sellars*, Indianapolis: Bobbs-Merrill, 1975, p. 281.

to overcome the position represented by McTaggart, that is, to vindicate the common-sense view of the reality of time.

## 1. The McTaggart Motley

McTaggart's paper exists in two versions – or in two-plus-a-bit versions, if you like. The first one is the *Mind* version.[2] The second, bearing the title "Time", is the text making up chapter XXXIII in the second volume of McTaggart's *The Nature of Existence*, published in 1927. This was a posthumous publication. McTaggart died in 1925, leaving behind a semi-finished draft of the volume, half typescript, half manuscript, bequeathing to C. D. Broad, his successor at Trinity College, Cambridge, the task of preparing it for press. Bringing it into line with the first volume that had been published in 1921, Broad divided the text into numbered sections, constructed an analytical table of contents, but otherwise reports to have made only very minor editorial changes.[3] Perhaps he should have been more thorough. Chapter XXXIII was printed from the typescript part of the draft, but my impression is that the typescript had not been without flaws, with some resulting wordings even more confused than McTaggart's formulations usually were. Also, it is generally unrecognized that the textual differences between the 1908 paper and the *Nature of Existence* version are quite significant. Certainly the latter is not just a re-written text of the former. Rochelle's formula, according to which the "Unreality of Time" paper "[f]orms a substantial part" of *The Nature of Existence* chapter, is closer to the facts.[4] For instance, the so-called "C series", the discussion of which McTaggart clearly saw as playing an important role in the overall argument of the 1908 paper, is introduced only in the last paragraphs of the 1927 "Time" chapter, the topic then recurring, with embellishments, in later chapters of the volume. In the 1927 chapter, there is an extended analysis directed against Russell's treatment of time in his 1903 book *The Principles of Mathematics*, entirely missing in the 1908 paper. More importantly, the 1927 chapter contains a five-page discussion of the criticism C. D. Broad levelled, in his 1923 book *Scientific Thought*, at McTaggart's 1908 position. To mention one more example, while in the 1908 paper the hypothesis that "there might be several independent time-series in reality" is introduced as a possibility raised by Bradley, and the implication that under such conditions "no time would be *the* time – it would only be the time of a certain aspect of the universe" is rejected with reference to the fact that "the theory of a plurality of time-series is a mere hypothesis" and "no reason has ever been given why we should believe in their existence", in the 1927 chapter the name of Bradley is missing, and the observation that under the conditions discussed "no time would be *the* time – it would only be the time of a certain aspect of the universe" is not followed by the remark that no reason has ever been given for the hypothesis in question. Why the change? Might it not be Einstein, after all, who haunts McTaggart here? Might not, by the 1920s, the news about the special theory of relativity, against all the odds, have reached him? But I am

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[2] J. Ellis McTaggart, "The Unreality of Time", *Mind: A Quarterly Review of Psychology and Philosophy*, N.S., no. 68, October 1908, pp. 457–474.

[3] Cf. the "Editor's Preface", p. v, in John McTaggart Ellis McTaggart, *The Nature of Existence*, vol. II, ed. by C. D. Broad, Cambridge: Cambridge University Press, 1927.

[4] Gerald Rochelle, *The Life and Philosophy of J. McT. E. McTaggart, 1966-1925*, Lewiston, NY: Edwin Mellen, 1991, p. 234.

getting ahead of myself. I said McTaggart's paper exists in two-plus-a-bit versions; I managed to list the first two; I am now coming to the plus-a-bit one. This is the reprint of "The Unreality of Time" in the volume *Philosophical Studies*, a 1934 collection of McTaggart's essays.[5] I am calling it a plus-a-bit version, because although it is indeed a reprint, it is supplemented by a number of notes by the editor S. V. Keeling, indicating the places where the *Nature of Existence* text contains significant additions to the 1908 one. Even if not conveying the full extent of the differences between the first two versions, these notes are interesting. Interesting, or rather, telling, is also the chapter "The Relation of Time and Eternity" in *Philosophical Studies*, following upon the "Unreality of Time" chapter. This is the text of a talk delivered by McTaggart before the Philosophical Union of the University of California on August 23, 1907. I am tempted to call it version zero of the 1908 *Mind* paper, giving a feel, as it were, of the *weltanschauung* behind the latter. As McTaggart here put it: "All existence which presents itself as part of our ordinary world of experience presents itself as temporal. But … we have reason to believe that some reality which exists, exists timelessly – not merely in the sense that its existence endures through unending time, but in the deeper sense that it is not in time at all. … I do see a possibility of showing that the timeless reality would be, I do not say unmixedly good, but very good, better than anything which we can now experience or even imagine. I do see a possibility of showing that all that hides this goodness from us – in so far as it is hidden – is the illusion of time."[6] This passage, glaringly mystical and devoid of analytic rigour, might give us a foretaste of McTaggart's arguments in "The Unreality of Time". It is an inventory of these arguments I now turn to.

I am speaking of "arguments" in the plural, since I believe that McTaggart's essay cannot be seen – contrary to what standard summaries take for granted – as proceeding along a single train of thought. It consists, rather, of a number of sometimes overlapping, sometimes frayed and only loosely connected, threads – stipulations, arguments, half-arguments, and asides. Attempting to take stock of them here, I cannot avoid repeatedly quoting McTaggart's text directly. Commenting on McTaggart's favourite formula that if an historical event is ever earlier than another, then it always was and will be earlier, Miss Cleugh in her 1937 book *Time and Its Importance in Modern Thought* says that this is "an unsatisfactory way of expressing" whatever McTaggart wishes to convey, "and one which is perilously near nonsense".[7] My impression is that McTaggart's wordings are almost always perilously near nonsense, not yielding to meaningful and yet faithful paraphrase; hence my preference for direct citations. Let me first quote the string of stipulations McTaggart begins his essay with. "Positions in time", writes McTaggart, "as time appears to us *prima facie*, are distinguished in two ways. Each position is Earlier than some, and Later than some, of the other positions. And each position is either Past, Present, or Future. The distinctions of the former class are permanent, while those of the latter are not. If M is ever earlier than N, it is always earlier. But an event, which is now present, was future and will be past." McTaggart then goes on to refer to "the series of positions running from the far past through the near past to the present, and then from the present to the near future and the far future, as the A series"; the "series of positions

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[5] J. McTaggart Ellis McTaggart, *Philosophical Studies*, ed., with an introduction, by S. V. Keeling, London: Edward Arnold, 1934.

[6] *Ibid*., p. 135.

[7] M. F. Cleugh, *Time and Its Importance in Modern Thought*, London: Methuen, 1937, p. 153.

which runs from earlier to later" he calls "the B series"; and he concludes the passage with the stipulations "[t]he contents of a position in time are called events", and "[a] position in time is called a moment".[8] With this passage – let me list it as THE A AND B SERIES STIPULATION – the stage is set; by accepting it as a point of departure, the reader accepts an idiosyncratic – namely *timeless* – way of speaking about temporal phenomena. McTaggart now continues by pressing the point that "the A series is essential to the nature of time". As he puts it, "a B series without an A series" will not suffice to "constitute time", and, consequently, if "the distinction of past, present and future" is an illusion, then *time* must be an illusion, too. He puts forward here what might be taken as his first attempted proof of the unreality of time – I am listing it as the EVENTS NEVER CHANGE argument. This is how it runs: "It would, I suppose, be universally admitted", writes McTaggart, "that time involves change. ... A universe in which nothing whatever changed ... would be a timeless universe. – If, then, a B series without an A series can constitute time, change must be possible without an A series. Let us suppose that the distinction of past, present and future does not apply to reality. Can change apply to reality? What is it that changes?" McTaggart insists that what *cannot* change are events. "An event", as he puts it, "can never cease to be an event. ... it will always be, and has always been, an event, and cannot begin or cease to be an event." On the other hand, indicates McTaggart, events change in the sense that future events become present events, and present events become past events. I am citing an oft-quoted passage: "Take any event – the death of Queen Anne, for example – and consider what change can take place in its characteristics. That it is a death, that it is the death of Anne Stuart, that it has such causes, that it has such effects – every characteristic of this sort never changes. … in every respect but one it is … devoid of change. But in one respect it does change. It began by being a future event. It became every moment an event in the nearer future. At last it was present. Then it became past, and will always remain so, though every moment it becomes further and further past." Now this kind of change, McTaggart tells us, can only be posited if we assume there to be an "A series". No time without change, and no change without the "A series".[9]

The next step to follow is the introduction of the "C series", a series that is "not temporal, for it involves no change, but only an order".[10] McTaggart puts forward an argument that purports to show that "the A series, together with the C series, is sufficient to give us time. … It is", he writes, "when the A series, which gives change and direction, is combined with the C series, which gives permanence, that the B series can arise."[11] I do not wish to spend time on this argument here – let me call it the A PLUS C MAKE B argument – but let me just remark, however, that it is quite usual for commentaries not to take note of it, nor even of the "C series" as such. Alexander Gunn in his classic *The Problem of Time*[12] does not; Gregory Currie in his 1992 essay "McTaggart at the Movies"[13] does not; Runggaldier in his 2005 paper "Are There 'Tensed' Facts (A-Series)?"[14] does not;

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[8] McTaggart, "The Unreality of Time", *Mind*, 1908, p. 458.

[9] *Ibid*., pp. 458–461.

[10] *Ibid*., p. 462.

[11] *Ibid*., pp. 463 f.

[12] J. Alexander Gunn, *The Problem of Time: An Historical and Critical Study*, New York: Richard R. Smith, 1930, pp. 345–349.

[13] *Philosophy*, vol. 67, no. 261 (July 1992), pp. 343–355.

[14] In F. Stadler and M. Stöltzner (eds.), *Time and History*, Frankfurt/M.: ontos verlag, 2006, pp. 77–84.

Kanzian in his 2005 paper "Warum McTaggarts Beweis für die Unwirklichkeit der Zeit fehlschlägt"[15] does not; Katalin Farkas in her recent *Synthese* paper "Time, Tense, Truth"[16] does not; Richard Gale in *The Blackwell Guide to Metaphysics*[17] does not. Indeed Gale in his reader *The Philosophy of Time*[18] prints McTaggart's 1927 "Time" chapter with the last pages – the pages where the "C series" are introduced – left out. McTaggart might have believed that his arguments add up to a cohesive whole, but many of his commentators clearly thought otherwise. They were right. Upon the A PLUS C MAKE B argument there follows, in the 1908 text, the digression on the possible plurality of time-series[19] I have referred to above – let me list it as THE MULTIPLE TIMES ASIDE; then comes an entirely obscure passage which I shall christen THE A SERIES ARE RELATIONS OF EVENTS half-argument, and which McTaggart concludes with the words, "[t]he relations which form the A series … must be relations of events and moments to something not itself in the time-series. What this something is might be difficult to say"[20]; and upon this half-argument then follows what might be regarded as the main argument of the essay "The Unreality of Time" – I will call it the IMPOSSIBILITY OF THE A SERIES argument.

Presenting this argument I must, again, quote McTaggart at some length. "Past, present, and future", he writes, "are incompatible determinations. Every event must be one or the other, but no event can be more than one. … If M is past, it has been present and future. If it is future, it will be present and past. If it is present, it has been future and will be past. Thus all the three incompatible terms are predicable of each event, which is obviously inconsistent with their being incompatible…" Now it might be objected, McTaggart says, that this is only a seeming incompatibility. An adversary might point out that "our language has verb-forms for the past, present, and future, but no form that is common to all three. It is never true, the answer will run, that M *is* present, past and future. It *is* present, *will be* past, and *has been,* future. Or it *is* past, and *has been* future and present, or again *is* future and *will be* present and past. The characteristics are only incompatible when they are simultaneous, and there is no contradiction to this in the fact that each term has all of them successively."[21] McTaggart retorts, and purports to prove in some detail, that this objection involves a vicious circle – let me, then, list the passages involved as the VICIOUS CIRCLE argument. I must admit that I am unable to follow him here; that I am glad every time I encounter a commentary refuting the VICIOUS CIRCLE argument; but that, generally speaking, I am not able to follow those refutations either. However, I think I am able to follow, and I take pleasure in, the remaining two arguments, or semi-arguments, that the "Unreality of Time" essay offers. These are, first, the SPATIAL MOVEMENT METAPHOR FOOTNOTE, and, secondly, the SPECIOUS PRESENT argument.

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[15] In F. Stadler and M. Stöltzner (eds.), *Time and History: Papers of the 28th International Wittgenstein Symposium*, Kirchberg am Wechsel: ALWS, 2005, pp. 131–133.

[16] *Synthese*, vol. 160, no. 2 (January 2008), pp. 269–284.

[17] Cf. Richard M. Gale, "Time, Temporality, and Paradox", in R. M. Gale (ed.), *The Blackwell Guide to Metaphysics*, Oxford: Blackwell Publishers, 2002, pp. 66–86.

[18] Richard M. Gale (ed.), *The Philosophy of Time: A Collection of Essays* (1967), London: Macmillan, 1968.

[19] "The Unreality of Time", p. 466.

[20] *Ibid*., p. 468.

[21] *Ibid*.

In the SPATIAL MOVEMENT METAPHOR FOOTNOTE, there are unmistakable echoes of Bradley. One is reminded of the *Principles of Logic* passage, "the present is no time[;] … it is a point we take within the flow of change";[22] or of the *Appearance and Reality* passages, "[i]t is usual to consider time under a spatial form. It is taken as a stream, and past and future are regarded as parts of it… It is natural to set up a point in the future to-wards which all events run, or from which they arrive, or which may seem to serve in some other way to give direction to the stream. … We think forward, one may say, on the same principle on which fish feed with their heads pointing up the stream."[23] This is how the SPATIAL MOVEMENT METAPHOR FOOTNOTE runs, and I am not quoting the passage in full: "It is very usual to present Time under the metaphor of a spatial movement. But is it to be a movement from past to future, or from future to past? … If the events are taken as moving by a fixed point of presentness, the movement is from future to past, since the future events are those which have not yet passed the point, and the past are those which have. If presentness is taken as a moving point successively related to each of a series of events, the movement is from past to future. Thus we say that events come out of the future, but we say that we ourselves move towards the future. For each man identifies himself especially with his present state, as against his future or his past, since the present is the only one of which he has direct experience. And thus the self, if it is pictured as moving at all, is pictured as moving with the point of presentness along the stream of events from past to future."[24] I take the SPATIAL MOVEMENT METAPHOR FOOTNOTE to be understood by McTaggart as a third proof of the unreality of time, further supporting, as it were, the IMPOSSIBILITY OF THE A SERIES argument and the VICIOUS CIRCLE argument. If the passage of time were real, McTaggart must have thought, the direction of time's flow would be unambiguously given. The fact that time appears to us as a movement both "from past to future" and "from future to past" proves that that movement is, indeed, mere appearance. However, I might think of a second, rather more interesting, reading of the SPATIAL MOVEMENT METAPHOR FOOTNOTE. On this reading, Bradley, and subsequently McTaggart, have discovered what later, in the 1980s, became one of the important find-ings of conceptual metaphor theory, namely that there are two related, but apparently dif-ferent, ways to conceptualize time: the "time-moving" and the "ego-moving" metaphors. As I will attempt to show in the last section of my talk, this finding could play a signifi-cant role in a philosophical strategy designed to demonstrate the *reality* of time. Just now, however, by way of concluding the present section, let me discuss, very briefly, McTag-gart's SPECIOUS PRESENT argument.

The term "specious present" was coined by E. R. Clay in 1882, and made more precise by William James in his *The Principles of Psychology*, published in 1890. As James in an oft-cited passage puts it, "the practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a *duration*…"[25] To express it in a nutshell, the notion of the specious present is the empirically supported alternative to the age-old speculative notion of the present as a fleeting, momentary boundary between the future and the past. McTaggart of course can-

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[22] F. H. Bradley, *The Principles of Logic*, London: Oxford University Press, 1883, Bk. I, p. 53.

[23] F. H. Bradley, *Appearance and Reality*, London: Swan Sonnenschein, 1893, pp. 39 and 214.

[24] "The Unreality of Time", p. 470.

[25] William James, *The Principles of Psychology*, New York: Henry Holt, 1890, vol. I, p. 609.

not accept this latter notion, since he does not believe either in the future or in the past; while he does accept the experience of the specious present as an empirical fact. However, as he points out, "the 'specious present' varies in length according to circumstances, and may be different for two people at the same period. The event M may be simultaneous both with X's perception Q and Y's perception R. At a certain moment Q may have ceased to be part of X's specious present. M, therefore, will at that moment be past. But at the same moment R may still be part of Y's specious present. And, therefore, M will be present, at the same moment at which it is past. This", McTaggart says, "is impossible."[26] What the phenomenon of the specious present according to McTaggart demonstrates is, precisely, that time is illusory; accepting the reality of time, he tells us again by way of conclusion, leads to paradoxical results.

## 2. Refuted and Ridiculed

At the very beginning of his 1908 paper, McTaggart has some lines explaining that the doctrine of the unreality of time is not at all an unheard-of one; in fact "in all ages" it has been "singularly attractive" – or "singularly persistent", as he puts it in the 1927 version, in which these lines are repeated with some slight changes only. McTaggart refers to the philosophy, religion, theology and the mysticism of the East and West; mentioning, in particular, the philosophers Spinoza, Kant, Hegel, Schopenhauer, and Bradley. He could also have referred to, say, Parmenides, Zeno of Elea, Augustine, or, among the moderns, Leibniz. In fact, the view that time is somehow real has always been a minority position in philosophy,[27] defended, with reservations, by Aristotle, and postulated, rather than demonstrated, by Newton. Time was real, indeed it was the ultimate reality, for Henri Bergson, writing at the turn of the nineteenth and twentieth centuries; but Bergson had, for understandable reasons, almost no impact on analytically minded philosophers. Russell even wrote a pamphlet against him in 1914. But he did influence C. D. Broad; and William James of course adored him. Be that as it may, McTaggart might well have been unaware of Bergson in 1908, and even in later years. And he was entirely right when depicting the doctrine of the unreality of time as a mainstream one. Also, he was right in maintaining that his own arguments – or his own "reasons", as he puts it[28] – for the denial of the reality of time were different from those employed by other philosophers. But he was mistaken in believing that his arguments were sound. I am now coming to the criticism that C. D. Broad, in the 1920s and 1930s, has levelled at McTaggart.

In his "Intellectual Autobiography", Broad recalls his student days at Cambridge, roughly at the time McTaggart published his *Mind* essay. McTaggart was one of the teachers "from whose lectures and personal instruction [he] gained most". However, apparently it was easier to venerate McTaggart than to build on his work. As Broad writes: "No one could fail to be impressed by his extraordinary dialectical power, his wit, and his amazing quickness in discussion; but, though he had many admirers, he had hardly any disciples. For all practical purposes Moore and Russell held the philosophical field and

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[26] "The Unreality of Time", p. 472.
[27] Cf. the section "A Nutshell History of the Philosophy of Time", in my paper "Time and the Mobile Order", in Kristóf Nyíri (ed.), *Mobile Studies: Paradigms and Perspectives*, Vienna: Passagen Verlag, 2007, pp. 103–105.
[28] "The Unreality of Time", p. 457.

continued to do so for many years."[29] After teaching at St. Andrews, Dundee, and Bristol, Broad became McTaggart's successor at Trinity College in 1923. The same year, he published his book *Scientific Thought*. In this book, he takes up "the alleged difficulty that every event is past, present, and future; that these characteristics are incompatible; and that there is no way of reconciling them which does not either involve an infinite regress, in which the same difficulty recurs at every stage, or a vicious circle. This argument", Broad writes, "has been used by Dr M'Taggart as a ground for denying the reality of Time. It is certainly the best of the arguments which have been used for this purpose; since it really does turn on features which are peculiar to Time, and not, like most of the others, on difficulties about continuity and infinity which vanish with a knowledge of the relevant mathematical work on the subject."[30] May I just interject, though the issue has no direct bearing on our present topic, that Broad is here victim to a widespread error; as Whitrow in his magnificent book *The Natural Philosophy of Time* explains, Cantor did not solve Zeno's problem.[31] But back to McTaggart. Broad goes on by referring to the EVENTS NEVER CHANGE argument, citing the "example of the death of Queen Anne, as an event which is supposed to combine the incompatible characteristics of pastness, presentness, and futurity". Broad's comment is momentous. "[F]uturity", he says, "is not and never has been literally a characteristic of the event which is characterised as the death of Queen Anne. Before Anne died, there was no such event as Anne's death, and 'nothing' can have no characteristics." [32] The criticism levelled at McTaggart, as Broad here advances it, must be seen against the background of the latter's own philosophy of time and change. According to this philosophy, it of course makes sense to speak of the changes of *things*, but not of the changes of events.[33] "When an event, which was present, becomes past", writes Broad, "it does not change or lose any of the relations which it had before; in simply acquires in addition new relations which it *could* not have before, because the terms to which it now has these relations were then simply non-entities. – It will be observed", Broad continues, "that such a theory as this accepts the reality of the present and the past, but holds that the future is simply nothing at all. Nothing has happened to the present by becoming past except that fresh slices of existence have been added to the total history of the world." This increase in "the sum total of existence" is what Broad calls *becoming*.[34] "[T]he laws of logic", Broad maintains, "apply to a fixed universe of discourse… But the universe of actual fact is continually increasing through the becoming of fresh events; and changes in truth, which are mere increases in the *number of truths* through this cause, are logically unobjectionable." Contrary to what McTaggart believed, Broad says, "no event ever does have the characteristic of futurity", and it is because of this that the law of the excluded middle does not apply to future events.[35]

Broad repeats these same critical observations in greater detail, and in rather harsher terms, in the second volume of his book *Examination of McTaggart's Philosophy*,

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[29] In *The Philosophy of C. D. Broad*, ed. by P. A. Schilpp, New York: Tudor Publishing, 1959, p. 50.

[30] C. D. Broad, *Scientific Thought*, London: Kegan Paul, Trench, Trubner & Co., 1923, p. 79.

[31] G. J. Whitrow, *The Natural Philosophy of Time*, London: Thomas Nelson, 1961, pp. 135 and 145–148.

[32] Broad, *Scientific Thought*, pp. 79 f.

[33] *Ibid*., pp. 62 ff.

[34] *Ibid.*, pp. 66 f. Any "complete analysis of the qualitative changes of things", Broad here points out, "is found to involve the coming into existence of events" (*ibid*., p. 67).

[35] *Ibid*., pp. 83 and 81.

published in 1938.[36] The text he there analyzes, in the chapter "Ostensible Temporality", is the 1927 version of McTaggart's paper; but his remarks fully apply to the 1908 version, too. He dwells at some length on McTaggart's attempt to replace all temporal copulas by a single non-temporal one. Referring to the EVENTS NEVER CHANGE argument, and to the McTaggarian formula that if an historical event *ever* precedes another historical event by a given interval, than it *always* precedes the latter by exactly that interval, Broad says that "[n]o one but a philosopher doing philosophy" would use the verb "precedes" in this seemingly non-temporal sense. "Such phraseology", points out Broad, "would suggest that the two events are particulars which (*a*) somehow *coexist* either timelessly or simultaneously, and yet (*b*) stand timelessly or sempiternally in a certain *temporal* relation of precedence. This must be nonsense, and it is most undesirable to use phrases which inevitably suggest such nonsense. I cannot help suspecting", writes Broad, "that there is some muddle of this kind at the back of McTaggart's mind when he says that events cannot be annihilated or generated because this would be incompatible with the fact that they *always* stand in the determinate temporal relation in which they do stand to each other."[37] Coming to the end of the chapter "Ostensible Temporality", Broad sums up McTaggart's main argument against the reality of time as nothing but "a philosophical 'howler' " – a logical blunder "of the same kind as the Ontological Argument for the Existence of God".[38]

Broad's criticism of McTaggart has been very influential. It is exploited in Alexander Gunn's 1930 monograph, with its references to "the reality of changing objects", and to that "fundamental becoming" of the universe which "brings new events into being";[39] and its impact is still, or again, fully there in John Perry's paper "How Real Are Future Events?", given at the 2005 *Time and History* Kirchberg symposium.[40]Also, I would like to single out specifically the influence Broad had on Sellars. Recalling his time in Oxford in the mid-thirties, Sellars comes to compare G. E. Moore with Broad. "I had long felt", he tells us, "that, although C. D. Broad might not be clearer than Moore, nevertheless he had a more adequate grasp of the problems they shared. I now think", Sellars says, "that this can be traced to Broad's awareness of, and technical competence in, the scientific background of these problems."[41] My impression is that, to some measure at least, it was under Broad's influence that Sellars developed his substantialist ontology of change, opposing the view that "when *S* changes from being *φ* to being *ψ*, *S* must *really* consist of an event which is *φ* and an event which is *ψ* to be the terms for the relation *earlier than*". As Sellars saw the matter, "[t]hings couldn't *consist* of events, because events were the changes of things".[42]

Let me conclude this section by briefly referring to an overlapping, but somewhat different, variety of anti-McTaggart argumentation – the ordinary-language variety – rather well represented by David Pears' 1956 essay "Time, Truth, and Inference". As

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[36] Cambridge: Cambridge University Press, 1938. The first volume appeared in 1933.

[37] Broad's "Ostensible Temporality" chapter I am here quoting fom Richard M. Gale (ed.), *The Philosophy of Time*, p. 131.

[38] *Ibid.*, p. 142.

[39] Gunn, *The Problem of Time*, pp. 346 f.

[40] John Perry, "How Real Are Future Events?", in F. Stadler and M. Stöltzner (eds.), *Time and History / Zeit und Geschichte*, Frankfurt/M.: ontos verlag, 2006, pp. 13–30.

[41] Wilfrid Sellars, "Autobiographical Reflections", p. 284.

[42] *Ibid*., pp. 281 f.

Pears sees the matter, the paradoxes to which McTaggart's way of thinking about time leads are "the revenge which time takes on philosophers who deprive it of its proper means of expression, temporal verbs".[43] Focussing on the death of Queen Anne example, Pears discusses the EVENTS NEVER CHANGE argument, finding that what McTaggart actually does is to turn, as it were, "the timeless shadows of the future (and the past) into contemporary things". McTaggart achieves this by making the timeless present tense, as Pears puts it, "refer to any time when really it refers to no time".[44] McTaggart's move relies on the misconception of *the eternity of truth*, a bizarre misconception which, Pears believes, might perhaps be psychologically explained by "a strong desire to know the future",[45] but is, nonetheless, logically untenable. There are no eternal truths, and there are no non-temporal facts. McTaggart was unable, or unwilling, to realize that "temporal predicates are unlike nontemporal predicates and that events are unlike things";[46] he was unwilling to yield to "the natural tendency of ordinary people to use temporal verbs". Had he done so, writes Pears, "his conclusion would have been not the unreality of time, but the unreality of timelessness".[47]

### 3. Spurious Respectability

As Broad wrote, and indeed as Wittgenstein again and again lamented, philosophers, when doing philosophy, tend to be attracted to phoney language. Even so, the magic of McTaggart's systematically skewed syntax by itself can hardly explain the continuing influence his position exerts. As I suggested by way of introduction, the explanation is, rather, that this position has become systematically conflated with the Einstein–Minkowski conception of space-time, winning, thereby, undeserved esteem. There are innumerable places where McTaggart on the one hand, and relativity theory on the other, are mentioned in one breath; let me single out just a few. In the Einstein volume in the series *The Library of Living Philosophers*, published in 1949, the chapter by Kurt Gödel begins with a note referring to McTaggart's *Mind* paper. Peter Geach in his 1965 essay "Some Problems about Time" feels it his task to indicate that there is no *real* parallel between, on the one hand, the metaphysical genius McTaggart's conviction that time is an illusion, and on the other, the "view of time that is now widely held in one form or another. In its crudest form, this view makes time out to be simply one of the dimensions in which bodies are extended; bodies have not three dimensions but four. … Since Einstein", Geach adds, "this sort of view has been very popular with philosophers who try to understand physics and physicists who try to do philosophy."[48] Again, Hugh Mellor in his 1998 book *Real Time II* finds it necessary to argue against, as he puts it, the often-voiced falsehood that McTaggart's so-called "*B*-theory explains, and may even be entailed by, a key implication of Einstein's special theory of relativity, namely that the four dimensions of space-

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[43] David F. Pears, "Time, Truth, and Inference", in Antony Flew (ed.), *Essays in Conceptual Analysis*, London: Macmillan, 1956, p. 228.

[44] *Ibid*., p. 232.

[45] *Ibid*.

[46] *Ibid*., p. 230.

[47] *Ibid*., p. 235.

[48] P. T. Geach, "Some Problems about Time", in P. F. Strawson (ed.), *Studies in the Philosophy of Thought and Action*, London: Oxford University Press, 1968, pp. 175 f.

time are in reality all alike".[49] Physicist Julian Barbour in his book *The End of Time*, published in 2000, aimed at demonstrating that time is but an illusion, notes that some ideas in McTaggart match his own thinking, although of course the latter's arguments "are purely logical and make no appeal to physics".[50] Very telling is the way Sider begins his 2001 book, bearing the subtitle *An Ontology of Persistence and Time*, by announcing that it "articulates and defends four-dimensionalism: an ontology of the material world according to which objects have temporal as well as spatial parts. … The philosophy of time defended is the B-theory, the so-called 'tenseless theory of time'. … The advent of Minkowski spacetime", writes Sider, "seems to have inspired much interest in [four-dimensionalism], although some versions of the doctrine predate Minkowski spacetime."[51] And to name a very recent publication: Sattig in his book *The Language and Reality of Time* opens by introducing in immediate succession first the McTaggartian notions of "A series" and "B series", and secondly the Minkowski–Einstein idea of spacetime.[52]

It is an historical coincidence that McTaggart's paper on "The Unreality of Time", published in the October 1908 issue of *Mind*, followed so closely upon Minkowski's famous *Raum und Zeit* talk, given at Cologne on September 21, 1908. But it is no more than a coincidence, having neither symbolic, nor indeed factual import. In his book *The Life and Philosophy of McTaggart*, Gerald Rochelle suggests that Einstein was aware of McTaggart's work.[53] This might easily be true, since Einstein probably had a look at Gödel's chapter in the volume I mentioned some two-three minutes ago. But Rochelle also suggests that McTaggart kept himself "in touch with major scientific thinking", and "was most interested in Einstein's work on relativity"[54]. Rochelle offers no evidence for this, and I find it hard to believe. Rather, it is Broad who convinces me. This is what he writes in the 1933 "Preface" of his *Examination of McTaggart's Philosophy*: "I am inclined to think that McTaggart's complete lack of acquaintance with contemporary natural science was in certain respects a great advantage to him as a philosopher. The recent advances in physical theory have been so important and spectacular that they have only too obviously 'gone to the heads' of some eminent physicists, and have encouraged them and the public to believe that their pronouncements on technical philosophical problems, for which they have no special training or aptitude, are deserving of serious attention."

So the alleged McTaggart–Einstein connection is spurious. McTaggart's own logic is spurious. I think it is time for us to realize that McTaggart has, indeed, become a thing of the past. When did he become that? If I had the courage of my convictions, I would say that this happened as early as 1908, when he formulated, in the first passages of his *Mind* paper, THE A AND B SERIES STIPULATION. But certainly it happened by 1923 at the latest, when Broad's *Scientific Thought* saw the light of day. Or if you think that is still too harsh, then let us say it happened in 2005, when several papers at the Kirchberg *Time and History* symposium, most notably the neo-Broadian one given by John Perry,

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[49] D. H. Mellor, *Real Time II* (1998), London: Routledge, 2006, p. 47.

[50] Julian Barbour, *The End of Time: The Next Revolution in Our Understanding of the Universe* (1999), London: Phoenix, 2000, p. 343.

[51] Theodore Sider, *Four-Dimensionalism: An Ontology of Persistence and Time*, Oxford: Clarendon Press, 2001, pp. xiii and 3.

[52] Thomas Sattig, *The Language and Reality of Time*, Oxford: Clarendon Press, 2006, pp. 19–22.

[53] Rochelle, *The Life and Philosophy of J. McT. E. McTaggart*, p. xi.

[54] *Ibid*., p. 186.

offered some decisive criticisms of McTaggart's position. And if you think I am too parti-san, then let us look again, but this time from a different angle, at our much-discussed parallel, between McTaggart on the one hand, and Einstein–Minkowski on the other.

Wilfrid Sellars, in his 1962 paper "Time and the World Order", made the follow-ing remark: "The non-perspectival structure which, as realists, we conceive to underlie and support perspectival temporal discourse is, as yet, a partially covered promissory note the cash for which is to be provided not by metaphysics (McTaggart's C-series), but by the advance of science (physical theory of time)".[55] May I here make three comments. First, I do not think physics by itself can give us a theory of time; metaphysics, or more broadly, philosophy, will always play a role in synthesizing the concepts with which sci-ence grasps reality. Secondly, major discoveries in science evidently influence the way philosophers think: should the notion of time become really superfluous in science, the philosophy of time would clearly not remain unaffected. Thirdly, the "partially covered promissory note" Sellars refers to, today looks increasingly unlikely to be cashed; the sci-entific proof of a non-temporal universe does not seem to be forthcoming. The subject of physics, forgive me the pun, is indeed a dark matter today. *Time* may yet have a future.

## 4. A Future for Time?

Leaving physics aside, but not losing sight of the metaphysical issue, let me now, by way of conclusion, enter the field of psychology, or, rather, of cognitive science.[56] Doubt as to the reality of time can arise because, in contrast to our sense of vision, hear-ing, touch, and so on, we do not seem to have a *sense of time*. A magisterial presentation of the issue was provided by William James in his *The Principles of Psychology*. "Let one sit with closed eyes", he wrote, "and, abstracting entirely from the outer world, attend exclusively to the passage of time". What do we perceive? Not, as it were, a "pure series of durations", but "[o]ur heart-beats, our breathing, the pulses of our attention, fragments of words and sentences that pass through our imagination".[57] Now heartbeats, breathing, attention, etc. all involve, as James learnt from Hugo Münsterberg in 1889, the play of muscular tension and relaxation. According to Münsterberg, it is feelings in the muscles of the eye, the ear, and also muscles in the head, neck, etc., by which we estimate lengths of time. These perceptions of tension, "triggered off by real muscular contractions or by memories of the same", amount to *a direct sense of time*[58] – a physical encounter with time, we might say. As James puts it, "muscular feelings can give us the object 'time' as well as its measure".[59]

There exists a substantial research tradition which has demonstrated that to mus-cular sensations there correspond images of one's posture – schematic bodily images.

[55] Wilfrid Sellars, "Time and the World Order", in Minnesota Studies in the Philosophy of Science, vol. III: *Scientfic Explanation, Space, and Time*, ed. by Herbert Feigl and Grover Maxwell, Minneapolis: University of Minnesota Press, 1962, p. 593.

[56] For a more detailed presentation of the argument of the present section see my paper "Film, Metaphor, and the Reality of Time" (2008), *New Review of Film and Television Studies*, vol. 7, no. 2 (June 2009), pp. 109–118.

[57] James, *The Principles of Psychology*, vol. I, pp. 619 f.

[58] Hugo Münsterberg, *Beiträge zur experimentellen Psychologie*, Heft 2: *Zeitsinn – Schwankungen der Aufmerksamkeit – Augenmass – Raumsinn des Ohres*, 1989, p. 20.

[59] James, *op. cit.*, p. 637.

And since the 1980s conceptual metaphor theory invites ever more detailed descriptions of how kinesthetic experiences give rise to so-called *image schemas*. An image schema, as Mark Johnson defines it, is "a recurring, dynamic pattern of our perceptual interactions and motor programs".[60] Now it is image schemata that give rise to a great number of fundamental metaphors. Recall that according to conceptual metaphor theory, metaphor is only incidentally "a device of poetic imagination and the rhetorical flourish", its essence consists in "*understanding and experiencing one kind of thing in terms of another*"[61]. Time is a much-discussed topic in conceptual metaphor theory. The essential finding is that "[m]ost of our understanding of time is a metaphorical version of our understanding of motion in space".[62] Earlier in my talk I have referred to the "time-moving" and "ego-moving" metaphors. As Lakoff and Johnson point out, these metaphors are "*figure-ground reversals of one another*".[63] *Figure-ground reversal*: this brings us to gestalt psychology – and to film theory. In the 1930s, German-born psychologist Karl Duncker made the following discovery with respect to "figure" and "ground" in moving visual gestalts: the "figure" tends to move, the "ground" to stand still. When observers, say, stand on a bridge and look at the moving water, their perceptions will be veridical; but when they fixate the bridge, they and the bridge may be seen as moving along the river. Duncker explained the phenomenon by pointing out that "the object fixated assumes the character of the 'figure', whereas the nonfixated part of the field tends to become ground".[64] Film theorist Rudolf Arnheim exploits this explanation to come to terms with a trivially well-known phenomenon in film. "[T]he setting photographed by the traveling camera", Arnheim points out, "is seen as moving across the screen, mostly because the viewer receives the kinesthetic information that his body is at rest. Only in extreme cases, e.g., when enough of the entire environment is seen as moving, will the visual input overrule the kinesthetic." Normally however, when our "muscular experiences" tell us that we are at rest, it is "the street [that] is seen as moving. It appears to be actively encountering the spectator as well as the characters in the film, and assumes the role of an actor among actors."[65]

There is a very clear analogy here between, on the one hand, the time-moving metaphor and film's moving road, and, on the other, the ego-moving metaphor and the spectator's perception of moving along in the film's environment. Thinking of time as passing, and seeing the road pass by on the screen, appear to have the same motor background. And the perception of time passing is no more of an illusion than the perception of the road moving towards us, or receding behind us, on film. Our everyday metaphors of the flow of time are grounded in kinesthetic image schemata depicting reality. Contrary to what McTaggart believed, the common-sense view of the reality of time can be vindicated.

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[60] Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*, Chicago: The University of Chicago Press, 1987, p. xiv.

[61] George Lakoff and Mark Johnson, *Metaphors We Live By*, Chicago: University of Chicago Press, 1980, pp. 3 and 5.

[62] George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, New York: Basic Books, 1999, p. 139.

[63] *Ibid*., p. 149.

[64] I am here quoting Duncker from Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye* (1954), exp. and rev. ed., Berkeley: University of California Press, 1974, p. 380.

[65] *Ibid*., pp. 379 and 381.

**Kristóf Nyíri**

## *Film, Metaphor, and the Reality of Time*

2008 marks the hundred-year anniversary of both McTaggart's essay on the unreality of time,[1] and Minkowski's famous lecture introducing the notion of a unified space-time.[2] Both McTaggart and Minkowski doubt the aptness of the common-sense metaphors of the "passage" of time, a doubt that has become almost paradigmatic in twentieth-century mainstream philosophy and science. From the perspective of my present talk, the formulations applied by contemporary physicist Julian Barbour, an influential heir to the Minkowski tradition, are particularly instructive. As he puts it, time does not really flow, it is the brain that "plays a movie" for us: "the brain in any instant always contains, as it were, several stills of a movie. … when we think we are seeing actual motion, the brain is interpreting all the simultaneously encoded images and, so to speak, playing them as a movie."[3] In my talk, in the first section "Spurious Arguments, False Starts", I will suggest that neither McTaggart, nor indeed Minkowski and those in his wake, have made a compelling case for a static universe; that, at the same time, the findings in recent neurophysiology to the effect that the brain does in fact construct a movie for us do not put in doubt the reality of time, since the movie we see is certainly not illusionistic; and that realist philosophies of film go a long way towards making us receptive to, even if not actually providing, arguments for the reality of time. I am setting the stage for such an argument in the second, brief, section of my talk, where under the heading "The River of Time Metaphor" I point to the common-sense experience of the flow of time as reflected upon in the history of philosophy. The argument itself I will attempt to outline in the third, somewhat more extended, final section, "The Pressure of Time".

### Spurious Arguments, False Starts

McTaggart's argument in his 1908 *Mind* paper is notoriously elusive, and has been subjected to some devastating criticisms in the course of the past hundred years. However, convincing refutations notwithstanding, the argument does still gain adherents. The obvious reason for this is that McTaggart's position has become mixed up with, and won undeserved respectability from, the Einstein–Minkowski conception of space-time. It would be as easy as it would be boring to list a great number of places where McTaggart on the one hand, and relativity theory on the other, are mentioned in one breath; let me single out just three. In the Einstein volume in the series *The Library of Living Philosophers*, the chapter by Kurt Gödel begins with a note referring to McTaggart; Mellor's

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[1] John Ellis McTaggart, "The Unreality of Time", *Mind* 17 (1908), pp. 456–473.

[2] Hermann Minkowski, *Raum und Zeit* [Space and Time], talk given at Cologne, September 21, 1908. English translation in H. A. Lorentz, A. Einstein, H. Minkowski and H. Weyl, *The Principle of Relativity: A Collection of Original Memoirs on the Special and General Theory of Relativity* (1923).

[3] Julian Barbour, *The End of Time: The Next Revolution in Our Understanding of the Universe* (1999), London: Phoenix, 2000, p. 29.

1998 book *Real Time II* argues against, as he puts it, the often-voiced falsehood that McTaggart's so-called "*B*-theory explains, and may even be entailed by, a key implication of Einstein's special theory of relativity, namely that the four dimensions of spacetime are in reality all alike";[4] and Barbour himself notes that some ideas in McTaggart certainly match his own thinking, although of course the latter's arguments "are purely logical and make no appeal to physics".[5] Now not just *any* appeal to physics will amount to a valid statement about the nature of reality; the appeals to physics by Barbour, Minkowski, or say Hermann Weyl, another famous German mathematician continuing the Minkowski–Einstein tradition, on closer examination turn out to be spurious. I have analyzed the case of Minkowski and Weyl elsewhere;[6] time is pressing, so let me here just single out Barbour, who concedes that his the-brain-plays-a-movie-for-us formula is merely a metaphor, the real argument behind which comes, or rather might one day come, from some very abstract mathematics. As he puts it: "can the strong impression of time emerge from timelessness? It is a logical possibility, but the real test must await mathematical advances."[7] And there is a philosophical background to the mathematical hypotheses: "Heraclitan flux", says Barbour at the very beginning of his book, "may well be nothing but a well-founded illusion."[8] Or, as spelled out somewhat later: "I … think", he writes, "that Plato was right when he said that Being … is real, but that Becoming is an illusion".[9]

Now Barbour's backing down notwithstanding, the brain, as neurophysiology tells us, does indeed play a movie for us. The story is extremely complicated, the research ongoing, and I am certainly not in a position to be able to summarize the details, many of which are still controversial anyway. However, the essentials seem to be straightforward. The actual two-dimensional images projected onto our retinas, changing hundreds of times every second, by themselves add up to just a mess, with things made worse by asynchronous input from other sensory modalities. The images in fact reaching our brains have to be continuously edited, so as to make sense of the world before our eyes, conforming to the requirements of gestalt psychology, obeying the laws of Newtonian physics, happening in space and time. And what we hear, what we touch, as well as our motor sensations have to be added to our visual experience in temporal rhythms that, so to speak, re-create our sensory world in the image of the real world out there.

The world out there, happening in space and time, is the world, according to the realist tradition in film theory, that film captures. We can say, with Panofsky, that "the medium of the movies is physical reality as such",[10] and also, more specifically, with Pudovkin, that "filmic space and filmic time" are created by "utilizing the pieces of real space and

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[4] D. H. Mellor, *Real Time II* (1998), London: Routledge, 2006, p. 47.

[5] Barbour, *op. cit*., p. 343.

[6] See my "Visualization and the Limits of Scientific Realism" (2008), http://www.hunfi.hu/nyiri/Nyiri_VLSR.pdf.

[7] Barbour, *op. cit.*, p. 54.

[8] *Ibid.*, p. 1.

[9] *Ibid*., p. 45.

[10] Erwin Panofsky, "Style and Medium in the Motion Pictures" (1934), repr. in Daniel Talbot (ed.), *Film: An Anthology*, New York: Simon and Schuster, 1959, p. 31.

real time";[11] or with Bazin, that "cinema is objectivity in time… …. Now, for the first time, the image of things is likewise the image of their duration."[12] We can say, with Walton, that what we see in a photograph or motion picture is not simply a representation of the object, but the object itself.[13] And we can say, with Currie, that "there is no illusion of movement in cinema; there is real movement, really perceived… … film does, or can, represent space and time realistically", and that "time, or the passage of time, is one of the things film represents".[14] Indeed we can say, with Deleuze, and here I am quoting a formulation by Wartenberg: "what is distinctive about cinema is that it enables us to reflect on time and movement as a whole: this is because cinema allows us to imagine movement and time *itself*."[15]

But does realist film theory in fact bring us closer to proving the philosophical point that time is real? I have come, with Currie, to doubt this. Currie concedes that "[a] substantive theory of space and time … might be true",[16] but stresses that this has no relevance for the filmmaker; he has published a paper with the title "McTaggart at the Movies", but insists that what he has to say is really "independent of the whole issue of the reality of time",[17] and indeed makes it clear that he has no intention of deciding "between 'three dimensionalism' and 'four dimensionalism' ".[18] Now I cannot imagine four-dimensionalism – the idea that reality has no genuine time dimension – will hold. But suppose it does: what a realist film theory then actually amounts to is just a position according to which the illusion of a world happening in time is faithfully mirrored by film. To move beyond this impasse requires an altogether different strategy.

**The River of Time Metaphor**

The idea of the "Heraclitan flux", assumed by Barbour to be an illusion, has come down to us primarily through Plato's *Cratylus*, and the two oft-quoted Heraclitan fragments "everything flows and nothing stays" and "you can't step twice into the same river". The sources of both of these quotes are unreliable; but in the context of my present paper it does not matter a great deal whether they were formulated by Heraclitus in the late 6th century A.D., or by commentators some centuries closer to our age: they capture a primordial experience of the world. You hear echoes of it in Augustine, when he says that God's years "neither go nor come, but our years pass and others come after them, so that they all may come in their turn" and that "all time past is forced to move on by the incoming

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[11] V. I. Pudovkin, "Film Technique" (1929), repr. in Talbot (ed.), *Film: An Anthology*, p. 278.

[12] André Bazin, "Cinematic Realism" (1958–62), repr. in Thomas E. Wartenberg and Angela Curran (eds.), *The Philosophy of Film: Introductory Text and Readings*, Malden, MA: Blackwell Publishing, 2005, p. 60.

[13] Cf. Kendall L. Walton, "Transparent Pictures: On the Nature of Photographic Realism", *Critical Inquiry*, vol. 11, no. 2 (Dec. 1984). My wording here exploits Richard Allen's "Looking at Motion Pictures", *Film-Philosophy*, vol. 5, no. 25, August 2001 (http://www.film-philosophy.com/vol5-2001/n25allen).

[14] Gregory Currie, *Image and Mind: Film, Philosophy and Cognitive Science*, New York: Cambridge University Press, 1995, pp. 34 and 79.

[15] "Do We Need Film Theory?", in Wartenberg and Angela Curran (eds.), *The Philosophy of Film*, p. 7.

[16] *Op. cit.*, p. 92.

[17] *Ibid.*, p. 206.

[18] *Ibid.*, pp. 36 f.

future".[19] You hear echoes of it, more than two thousand years later, in Wittgenstein's remarks "The immediate finds itself in a constant flux [Fluß]. (It has in fact the form of a stream [Strom])",[20] and, "The stream of life, or the stream of the world, flows on and our propositions are so to speak verified only at instants".[21] These remarks were jotted down in 1929; to the first one Wittgenstein even attached a drawing. Also, the time chapter of
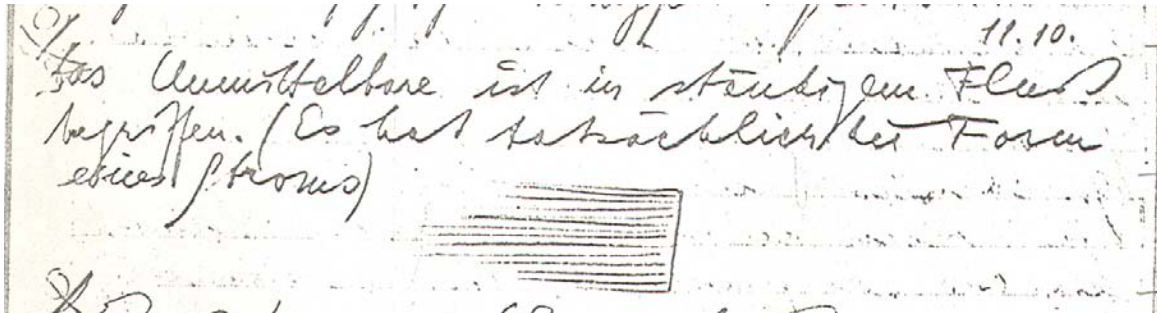


Augustine's *Confessions* had an extraodinary, albeit ambiguous, impact on Wittgenstein, trying hard to fight off the experience of the passage of time. "It is strange", he wrote in 1930, "that in ordinary life we are not troubled by the feeling that the phenomenon is slipping away from us, the constant flux of appearance, but only when we philosophize. … The feeling we have is that the present disappears into the past without our being able to prevent it. And here we are obviously using the picture of a film strip remorselessly moving past us, that we are unable to stop. But it is of course just as clear that the picture is misapplied: that we cannot say 'Time flows' if by time we mean the possibility of change."[22] By 1934, when Wittgenstein began to dictate the so-called *Brown Book*, he felt he had escaped the "allurement" of the question of the passage of time. "It is clear", he said, "that this question most easily arises if we are preoccupied with cases in which there are things flowing by us, – as logs of wood float down a river. … We then use this situation as a simile for all happening in time and even embody the simile in our language, as when we say 'the present event passes by' (a log passes by), 'the future event is to come' (a log is to come). We talk about the flow of events; but also about the flow of time – the river on which the logs travel."[23] I assume it was partly under the influence of the *Brown Book* that J. J. C. Smart wrote his classic 1949 paper "The River of Time". This is how the paper begins: "There are certain metaphors which we commonly feel constrained to use when talking about time. We say that we are advancing through time, from the past into the future, much as a ship advances through the sea into unknown waters. Sometimes, again, we think of ourselves as stationary, watching time go by, just as we may stand on a bridge and watch leaves and sticks float down the stream underneath us. … Thus instead of speaking of our advance through time we often speak of the flow

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[19] Augustine, *Confessions*, Book XI.
[20] Ludwig Wittgenstein, MS 107, p. 159 (10 November 1929).
[21] Ludwig Wittgenstein, *Philosophical Remarks* (1930), transl. by R. Hargreaves and R. White, Chicago: The University of Chicago Press, 1975, § 48 (cf. MS 107, p. 222, 1 December 1929).
[22] *Ibid*., § 52.
[23] Ludwig Wittgenstein, *The Blue and Brown Books*, Oxford: Basil Blackwell, 1958, pp. 107 f.

of time. … These metaphorical ways of talking are philosophically important in a way in which most metaphorical locutions are not. They … are, in some way, *natural* to us; at first sight, at any rate, it seems difficult to see how we could avoid them."[24] Difficult or not, Smart did his best to demonstrate the alleged spuriousness of these common-sense metaphors. By contrast, I believe we should strive to build up a philosophical strategy which in fact vindicates them. It is to the sketching of such a strategy I now turn.

**The Pressure of Time**

Doubt as to the reality of time can arise because, in contrast to our sense of vision, hearing, touch, and so on, we do not seem to have a *sense of time*. A magisterial presentation of the issue was provided by William James in his paper "The Perception of Time", published in 1887. "Let one sit with closed eyes", he wrote, "and, abstracting entirely from the outer world, attend exclusively to the passage of time". What do we perceive? Not, as it were, a "pure series of durations", but "[o]ur heart-beats, our breathing, the pulses of our attention, fragments of words and sentences that pass through our imagination".[25] Now heartbeats, breathing, attention, etc. all involve, as James learnt from Hugo Münsterberg in 1889, the play of muscular tension and relaxation. According to the future Harvard psychologist Münsterberg – still studying and teaching in Germany in the 1880s, by 1916 he came to write *Photoplay*, the first serious book in film theory – it is feelings in the muscles of the eye, the ear, and also muscles in the head, neck, etc., by which we estimate lengths of time. These "Spannungsempfindungen", *perceptions of tension*, "ausgelöst durch wirklich erfolgende Muskelkontraktionen oder durch die Erinnerung an solche", *triggered off by real muscular contractions or by memories of the same*, amount to an "unmittelbares Zeitgefühl", *a direct sense of time*[26] – a physical encounter with time, we might say. As James puts it, "muscular feelings can give us the object 'time' as well as its measure".[27]

One does not need laboratory conditions to experience the muscular tensions signaling our struggle against time. In his 2006 book *The Secret Pulse of Time*, Stefan Klein gives a vivid description of the sort of situation we are all familiar with. "You are sitting in a taxi on your way to the airport", writes Klein. "Your taxi is caught in the morning rush hour, stopped at a red light. … Green. 'Drive', you bark to the taxi driver, even though you know full well that he can't. – … You would now be prepared to jump out of the taxi and run. … people do not react only to what they perceive; they also envision the future. … Even a glance at the calendar and a passing thought about everything that needs to get done before your vacation starts is enough to drive you into a full-fledged state of panic."[28] Even a glance at the calendar makes you experience specific muscular sensations. Rudolf Arnheim, in his 1954 book *Art and Visual Perception* – a work no less relevant to film theory than his 1932 classic *Film als Kunst*, "Film as Art" – gave a masterly sum-

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[24] J. J. C. Smart, "The River of Time", *Mind*, vol. 58, no. 232 (Oct. 1949), p. 483.

[25] Cf. William James, *The Principles of Psychology*, New York: Henry Holt, 1890, pp. 619 f.

[26] Hugo Münsterberg, *Beiträge zur experimentellen Psychologie*, Heft 2: *Zeitsinn – Schwankungen der Aufmerksamkeit – Augenmass – Raumsinn des Ohres*, 1989, p. 20.

[27] James, *op. cit.*, p. 637.

[28] Stefan Klein, *The Secret Pulse of Time: Making Sense of Life's Scarcest Commodity*, New York: Marlowe & Co., 2007, pp. 195 f.

mary of a substantial research tradition which has demonstrated that to muscular sensations there correspond images of one's posture, schematic bodily images. And since the 1980s conceptual metaphor theory invites ever more detailed descriptions of how kinesthetic experiences give rise to so-called image schemas.

An image schema, as Mark Johnson defines it, is "a recurring, dynamic pattern of our perceptual interactions and motor programs"[29]; image schemata function as "abstract structures of images"[30]. Such a schema, for instance, is the COMPULSIVE FORCE schema. Johnson stresses that the concept "force" emerges from our *bodily experience* of force,

FORCE ————————→ □ – – – – – →

COMPULSION

from our encountering obstacles that exert force on us, from "the experience of being moved by external forces, such as wind, water, physical objects, and other people",[31] the experience that, say, "[w]hen a crowd starts pushing, you are moved … by a force you seem unable to resist",[32] and from our experience that we too can exert force on, in some cases even penetrate through, the objects resisting us. Force "is always experienced through *interaction*", force has a "directionality", and forces have "*degrees of power or intensity*".[33] Now it is image schemata that give rise to a great number of fundamental metaphors. Recall that according to conceptual metaphor theory, metaphor is only incidentally "a device of poetic imagination and the rhetorical flourish"[34], its essence consists in "*understanding and experiencing one kind of thing in terms of another*"[35]. Exploiting the structure of the COMPULSIVE FORCE schema, Johnson arrives, for instance, at the metaphor SEXUAL APPEARANCE IS PHYSICAL FORCE. Building on what I have said in the foregoing, I suggest that a plausible metaphor to associate with the COMPULSIVE FORCE schema might be this one: THE PASSAGE OF TIME IS A PHYSICAL FORCE.

Time is a much-discussed topic in conceptual metaphor theory; let me single out, besides the names of Georg Lakoff and Mark Johnson, those of Joseph Grady, Lera Boroditsky, Mark Turner and Gilles Fauconnier,[36] and Vyvyan Evans.[37] The essential finding is that "[m]ost of our understanding of time is a metaphorical version of our understanding of

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[29] Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*, Chicago: The University of Chicago Press, 1987, p. xiv.

[30] *Ibid*., p. xix.

[31] *Ibid*., p. 45.

[32] *Ibid*.

[33] *Ibid*., p. 43.

[34] George Lakoff and Mark Johnson, *Metaphors We Live By*, Chicago: University of Chicago Press, 1980, p. 3.

[35] *Ibid*., p. 5.

[36] See esp. their "Rethinking Metaphor", in Ray Gibbs (ed.), *Cambridge Handbook of Metaphor and Thought*, Cambridge: Cambridge University Press, to appear in November 2008.

[37] See his *The Structure of Time: Language, Meaning and Temporal Cognition*, Amsterdam: John Benjamins, 2004.

motion in space".[38] Another major insight is that, as Smart already realized, and as Lakoff and Johnson analyze in great depth in their book *Philosophy in the Flesh*, there are two related, but apparently rather different, ways to conceptualize time: first, by the "Moving Time" metaphor, and secondly, by the "Moving Observer, or Time's Landscape" metaphor. In conceptual metaphor theory, these are also mentioned as the "time-moving" and the "ego-moving" metaphors. Joseph Grady refers to them as the MOMENTS IN TIME ARE OBJECTS IN MOTION ALONG A PATH metaphor on the one hand (example: "Time flies"), and as the EXPERIENCE IN TIME IS OUR OWN MOTION ALONG A PATH one on the other (ex-



L. Boroditsky / Cognition 75 (2000) 1–28          5
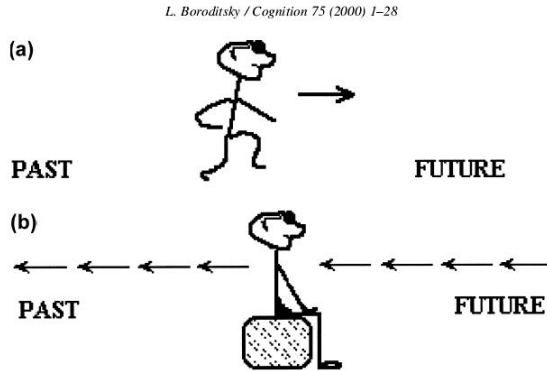
Fig. 1. (a) Schematic of the ego-moving schema used to organize events in time. (b) Schematic of the time-moving schema used to organize events in time.

From Lera Boroditsky, "Metaphoric Structuring: Understanding Time through Spatial Metaphors", *Cognition* 75 (2000)

ample: "Let's hope for the best as we enter the new year"). Lakoff and Johnson point out that these "two metaphors are, strictly speaking, inconsistent with each other: In one, times are objects that move past a stationary observer; in the other, times are locations in a landscape that an observer moves over. But these are actually minimally differing variants[,] … *figure-ground reversals* of one another." *Figure-ground reversal*: this brings us back to gestalt psychology, to Rudolf Arnheim – and to film theory.

In his *Art and Visual Perception*, Arnheim refers at some length to the work of German-born psychologist Karl Duncker, who made the following discovery with respect to "figure" and "ground" in moving visual gestalts: the "figure" tends to move, the "ground" to stand still. The frames of reference are the observers themselves. When they, say, stand on a bridge and look at the moving water, their perceptions will be veridical; but when they fixate the bridge, they and the bridge may be seen as moving along the river. Duncker explained the phenomenon by pointing out that "the object fixated assumes the character of the 'figure', whereas the nonfixated part of the field tends to become ground".[39] Arnheim exploits this explanation to come to terms with a trivially well-known phenomenon in film. "[T]he setting photographed by the traveling camera", Arnheim points out, "is seen as moving across the screen, mostly because the viewer receives the kinesthetic

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[38] George Lakoff and Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, New York: Basic Books, 1999, p. 139.

[39] Rudolf Arnheim, *Art and Visual Perception: A Psychology of the Creative Eye* (1954), exp. and rev. ed. Berkeley: University of California Press, 1974, p. 380.

information that his body is at rest. Only in extreme cases, e.g., when enough of the entire environment is seen as moving, will the visual input overrule the kinesthetic."[40] Normally however, when our "muscular experiences" tell us that we are at rest, it is "the street [that] is seen as moving. It appears to be actively encountering the spectator as well as the characters in the film, and assumes the role of an actor among actors."[41]

But let me here add the obvious. Film is not just images in motion; it is also the unfolding of a story, of a fascinating, arresting, moving, exciting story. Let me quote once more from Pudovkin. "In American films", as he puts it, but of course this was written in 1929, "the final section is constructed from the simultaneous rapid development of two actions, in which the outcome of one depends on the outcome of the other[,]… to create in the spectator a maximum tension of excitement… Will they be in time? Will they be in time?"[42] Surely Panofsky's "series of visual sequences held together by an uninterrupted flow of movement in space",[43] as he defines film, is here punctuated with muscular contractions and relaxations; the road can rush towards us with threatening speed, or drag towards us as the characters in the film drag forwards; or again flow smoothly backwards, as seen from the rear window, as the pressure, indeed the pressure of time, eases.

There is a very clear analogy here between, on the one hand, the time-moving metaphor and film's moving road, and, on the other, the ego-moving metaphor and the spectator's perception of moving along in the film's environment. Is it just an analogy? I believe it is more than that, but the demonstration would stand in need of empirical – psychophysical – verification, involving the recording of motor reactions. My threefold hypothesis is: first, that there are identifiable, varying patterns of muscle tensions involved in perceiving, on film, the specific dynamics of, and obstacles on, the road passed, as well as in perceiving the specific dynamics of the smooth or delayed progress of the characters in the film; secondly, that there are identifiable, varying patterns of muscle tensions involved in thinking about time's welcome or depressing passage, as well as about our leisurely or frustrated progress in time; and thirdly, that significant correspondences can be established between these patterns of muscle tensions. Thinking of time as passing and seeing the road pass by on the screen, then, have the same motor background. And the perception of time passing is no more of an illusion than the perception of the road moving towards us, or receding behind us, on film. Our everyday metaphors of the flow of time are grounded in kinesthetic image schemata depicting reality.

That the passage of time is a physical force was a central idea of Bergson's, a philosopher James held in very high esteem, and whom Wittgenstein had an ambivalent relation to. "[I]f time is not a kind of force", Bergson wrote in his *Creative Evolution*, "why does the universe unfold its successive states with a velocity which, in regard to my consciousness, is a veritable absolute? Why with this particular velocity rather than any other? Why not with an infinite velocity? Why, in other words, is not everything given at once,

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[40] *Ibid*., p. 379.
[41] *Ibid.*, p. 381.
[42] Pudovkin, *op. cit*., pp. 233 f.
[43] Panofsky, *op. cit*., p. 20.

as on the film of the cinematograph?"[44] Bergson was the first philosopher to use the movie metaphor; what he tried to convey by it, however, was precisely that reality is *not* like a film, made up of static pictures. Our mind, for practical reasons, takes "snapshots … of the passing reality",[45] Bergson wrote, but thereby transfigures it; there is, as he put it in *An Introduction to Metaphysics*, published in 1903, a deeper consciousness "we have of our own self in its continual flux", a consciousness of "motor habits" and "virtual actions".[46] As the author of the prefatory essay to the 1949 English edition of *An Introduction to Metaphysics* put it: "The intellect treats the world as though it were fundamentally static and immobile. … the intellect is bound to misunderstand the fact of motion and change. Like a camera, it can only form a picture of a process by transforming the latter into a static image or series of images. … Absolute reality as revealed by metaphysical intuition is the ever-rolling stream of time." What I have attempted to show in the present paper is that metaphysical intuition, supplemented by cognitive linguistics, psychology, and indeed the philosophy of film, might go a long way towards vindicating Bergson.

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[44] Henri Bergson, *Creative Evolution* (1907), transl. Arthur Mitchell (1911), new ed. Mineola, NY: Dover Publications, 1998, p. 339.

[45] *Ibid*., p. 306.

[46] Henri Bergson, *An Introduction to Metaphysics*, transl. by T. E. Hulme (1912), repr. by Hackett Publishing Company, Indianapolis, IN, 1999, pp. 49 f. and 25.

# Time As a Figure of Thought and As Reality

*Kristóf Nyíri*

## 0. Figures of Thought: A Preliminary Outline

Although the term "figure of thought" has come to be very much in vogue, it seems to lack any clear definition.[1] I am not attempting to provide such a definition here, but I do endeavour to offer a concise characterization: I conceive of figures of thought as *mediating* between *different dimensions* of experience, thinking, and communication; such as the motor, the visual, the verbal, and even the musical.

Let me, by way of introduction, present some figures of thought selected in this spirit. First, a metaphor. I believe any live metaphor would do, but, to make my point, I am choosing a specific metaphor you have possibly not yet encountered, a metaphor coined by cognitive scientist Allan Paivio. It is a metaphor designed to show that processing a metaphor relies on processing mental images. This is how it runs: "for the student of language and thought, metaphor is a solar eclipse". The meaning Paivio intended to convey is that in a metaphor, just as in an eclipse, something is obscured; but also, that both a metaphor and an eclipse enlighten while they obscure. Paivio has put this metaphor to test subjects, and found that in order to understand it they first, indeed, had to *visually imagine* the eclipsed sun.[2] To understand a live metaphor, then, means to move from words to images, and then back from images to words. A second figure of thought I am offering: a saying conveyed via a depiction. Some hundred such depictions can be found in Pieter Brueghel the Elder's 1559 painting *Netherlandish Proverbs*. Take the saying "Big fish eat little fish". In the painting, you can spot the tiny bit rendering this very saying in pictorial form. That bit is a figure of thought, it is the result of a movement from the verbal to the visual, and itself of course triggers a reverse movement from the pictorial to the verbal, namely the proverbial. The proverb is about powerful people or institutions defeating the less pow-

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1    Some main approaches to the topic, and the wide divergences they display, were impressively summarized in the October 2010 call for papers for the workshop "Was sind Denkfiguren? Figurationen unbegrifflichen Denkens in Metaphern, Diagrammen und Kritzeleien". The workshop took place on February 25–26, 2011, at the Freie Universität Berlin, where I had the privilege to read a somewhat modified version of the present paper.

2    See Allan Paivio – Mary Walsh, "Psychological Processes in Metaphor Comprehension and Memory", in Andrew Ortony (ed.), *Metaphor and Thought* (1979), rev. second edition, Cambridge: Cambridge University Press, 1993.

erful ones; understanding the proverb involves forming mental images; and those mental images seem not only to picture the literal meaning of the proverb, but also to help one grasp its broader, idiomatic meaning. And a third figure of thought: a caricature. Almost any caricature would do, but let me choose the famous sequence Ernst Gombrich reprints in his *Art and Illusion*, a sequence
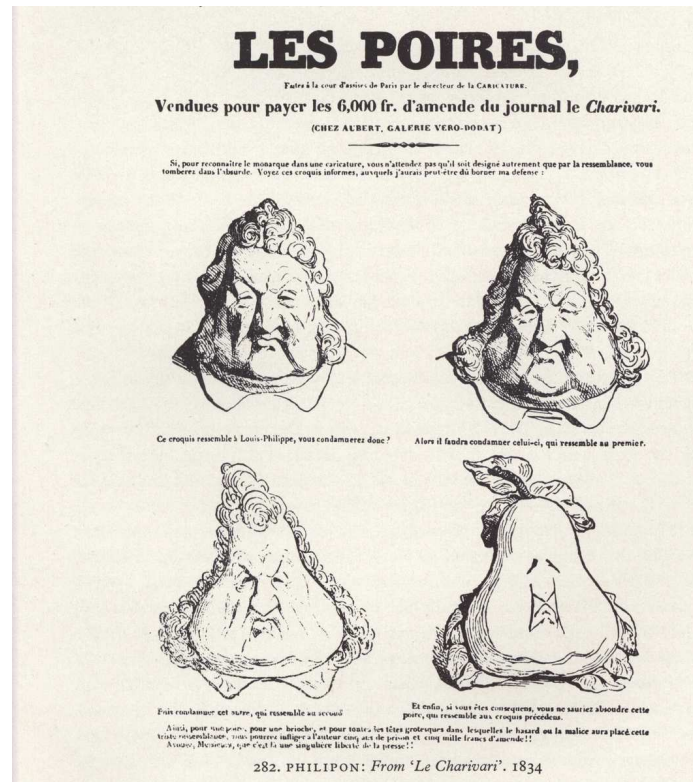


*Figure 1:      Caricature of Louis Philippe, by Philipon (1834)*

published in a satirical paper in France in 1834, demonstrating how a portrait of Louis Philippe can be transformed into the picture of a pear, *poire* meaning "fathead" (Figure 1).[3] This is a pictorial metaphor with the meaning *the king is a fathead*; a figure of thought, leading from the verbal to the visual.

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3    Ernst H. Gombrich, *Art and Illusion: A Study in the Psychology of Pictorial Representation* (1960), London: Phaidon Press, 1962, p. 291.

## 1. Death, Music, and Time:
## Scribbles by Wittgenstein, Scribbles by Arnheim

To this day, the dominant image of Wittgenstein is that of a philosopher of language. Actually, he was a visual thinker:[4] as much a philosopher of pictorial as of linguistic meaning, with diagrams and drawings abounding in his manuscripts and in the notes taken by his students. Let me first single out a scribble printed in the *Lectures and Conversations* edited by Barrett. Wittgenstein discusses the conditions under which someone can, or cannot, meaningfully speak about having an idea of something. The example introduced is the idea of death, with Wittgenstein insisting that for anyone's idea of death to be meaningful, the application of that idea must have public criteria. "If what he calls his 'idea of death' is to become relevant", Wittgenstein says, "it must become part of our game. – 'My idea of death is the separation of the soul from the body' – if we know what to do with these words. He can also say: 'I connect with the word "death" a certain picture – a woman lying in her bed' – that may or may not be of some interest. – If he connects" – and now comes a scribble (see Figure 2) –



*Figure 2:      "Death" – scribble by Wittgenstein*

"with death, and this was his idea, this might be interesting psychologically."[5] To be sure, this scribble is not an established element of our language-game – hence the qualification "psychologically" – but it can certainly serve as a basis for making points about the idea in question. Our imagination, as Wittgenstein wrote, is a "complicated formation out of heterogeneous components – words, pictures" (this is a formula he again and again used);[6] scribbles distil such compounds into the purely visual, and in turn give rise to verbal formulae describing what we come to see.

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4    A recent summary of mine on the topic can be found in the paper "Image and Metaphor in the Philosophy of Wittgenstein", in E. Nemeth et al., *Image and Imaging in Philosophy, Science and the Arts*, Proceedings of the 33rd International Ludwig Wittgenstein Symposium, vol. 1, Heusenstamm bei Frankfurt: ontos Verlag, 2011.

5    Ludwig Wittgenstein, *Lectures and Conversations on Aesthetics, Psychology and Religious Belief*, edited by Cyril Barrett, Berkeley: University of California Press, 1967, p. 69.

6    Cf. e.g. Ludwig Wittgenstein, *Philosophical Grammar*, translated by Anthony Kenny, Berkeley: University of California Press, 1974, p. 162.

Another of Wittgenstein's scribbles I will show here occurs in a brief memoir written by his student John King. King had a gramophone at his student room in Cambridge, and in the early 1930s Wittgenstein visited him several times to listen to music. "I once put on", King writes, "the second, third and fourth movements of Beethoven's Quartet in C sharp minor, *op.* 131. … [Wittgenstein] was rapt in his attention and most excited at the end of the playing. He jumped up as if something had suddenly struck him and said, 'How easy it is to think that you understand what Beethoven is saying' (and here he seized a pencil and a piece of paper) 'how you think you have understood the projection' (and he drew two-thirds of a circle) 'and then suddenly' (and here he added a bulge) you realize that you haven't understood anything at all'."[7] (See Figure 3.)
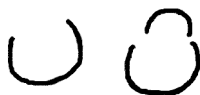


*Figure 3:      "What Beethoven is saying" – scribble by Wittgenstein*

I doubt if this scribble, or pair of scribbles, actually expresses some important insight by Wittgenstein.[8] As you of course know, op. 131 occupies a special, keystone, place in Beethoven's oeuvre. It consists of seven movements to be played without a break, the fourth movement, the central one, being a set of seven variations on a simple theme. I assume it is a sound strategy to concentrate on this theme when trying to make sense of Wittgenstein's scribbles, and I submit that unless one takes them to allude to the fact that the basic theme is built up by an interplay of the two violins – a rather trivial allusion – they do not convey anything essential as regards the quartet in question. However, they convey the important fact that, although Wittgenstein was usually quite explicit on the dangers of attempting to describe the musical in non-musical terms,[9] still, on

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7    John King, "Recollections of Wittgenstein", in Rush Rhees (ed.), *Recollections of Wittgenstein*, rev. ed., Oxford: Oxford University Press, 1984, pp. 69–70.

8    Thus I am not convinced, although very much impressed, by what Katrin Eggers in this connection suggests in her paper, "Form und Inhalt in der Musik – Wittgensteins Beitrag zu einem zentralen musikphilosophischen Problem", in *Image and Imaging in Philosophy, Science, and the Arts,* edited by Elisabeth Nemeth, Richard Heinrich and Wolfram Pichler, 33rd International Wittgenstein Symposium, Kirchberg am Wechsel: ALWS, 2010, pp. 74 f.

9    In the *Brown Book*, Wittgenstein talks about the "illusion" that "possesses us", when "repeating a tune to ourselves and letting it make its full impression on us, we say 'This tune says *something*', and it is as though I had to find *what* it says. And yet I know that it doesn't say anything such that I might express in words or pictures what it says. And if, recognizing this, I resign myself to saying 'It just expresses a musical thought', this

at least one occasion he could not but yield to the urge to express a musical impression visually; could not but yield to the urge, in his excited state, to turn to a figure of thought.

A third, and last, drawing by Wittgenstein I want to display here concerns the problem of the flow of consciousness and/or the flow of time. This is not, strictly speaking, a scribble; it is, rather, a drawing representing a conventional metaphor in visual form; indeed, viewed from Wittgenstein's perspective, it amounts to an attempt to *draw* something one cannot *say* (Figure 4).
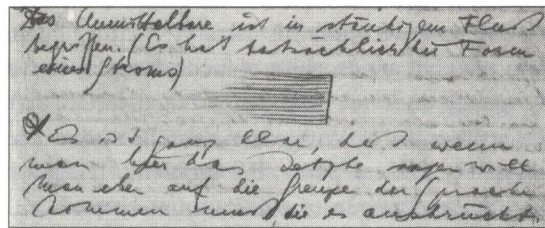


Figure 4:     *"The immediate finds itself in a constant flux.(It has in fact the form of a stream.)" – Scribble by Wittgenstein, MS 107 (1929)*

I believe that Wittgenstein's perspective is wrong, and I will come back to this drawing in the concluding section of my talk. Just now I will turn to a different set of scribbles having to do with time, scribbles published in Rudolf Arnheim's 1969 book *Visual Thinking*.

Arnheim, of course, is well known as the pioneering central figure in the counter-attack on the linguistic turn in twentieth-century philosophy and psychology. As he put it in his seminal 1969 book: "What makes language so valuable for thinking … cannot be thinking in words. It must be the help that words lend to thinking while it operates in a more appropriate medium, such as visual imagery."[10] This is, incidentally, the passage Lakoff quotes by way of introduction, when recounting, in a 2006 essay, the formative and then suppressed influence Arnheim's *Visual Thinking* had on him in the 1970s.[11] In his book, Arnheim dwells at length on the connection between abstract concepts, mental images, and drawings. "The prototype of drawings I have in mind", he writes, "are those diagrammatic scribbles drawn on the blackboard by teachers and lecturers in order to describe constellations of one kind or another – physical or social,

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would mean no more than saying 'It expresses itself'." (Ludwig Wittgenstein, *Preliminary Studies for the "Philosophical Investigations": Generally Known as the Blue and Brown Books*, edited by Rush Rhees [1958], Oxford: Basil Blackwell, 1964, p. 166.)

10 Rudolf Arnheim, *Visual Thinking*, Berkeley: University of California Press, pp. 231–32.

11 George Lakoff, "The Neuroscience of Form in Art", in Mark Turner (ed.), *The Artful Mind: Cognitive Science and the Riddle of Human Creativity*, Oxford University Press, 2006, p. 154.

psychological or purely logical."[12] In several experiments, Arnheim asked his students to produce spontaneous scribbles representing specific concepts. One group was instructed to draw *Past, Present, and Future*. Here I reproduce three of the drawings, the first two with explanations added by Arnheim (Figure 5).
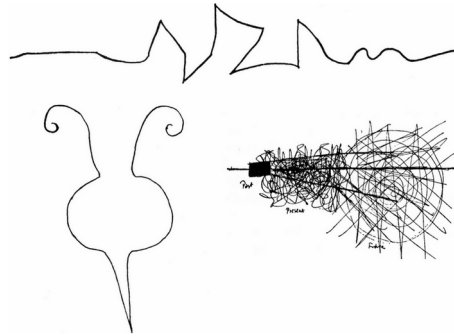


*Figure 5:       "Time" – scribbles conveyed by Arnheim*

First, a continuous line. It indicates, Arnheim writes, "a straight and perhaps empty past, large and articulate shapes for the present, and some smaller and vaguer ones for the future. … the whole of life is represented as an unbroken flow of time." Second, a pattern showing, as Arnheim interprets it, "gradual expansion, starting with the moment of birth". There is a break maintained "between past and present …, but the largeness of the present is understood in part as a result of the preceding growth. The undirected roundness of the present interrupts the channeling of time, and yet this static situation in the middle of the drawing is … traversed by a current of movement initiated in the past and carried further into the open future, as a river flows through a lake." Third, a structurally very different drawing, with the explanation given by the young draftsman himself: "The *past* is solid and complete, but still influences the present and the future. – The *present* is complex and not only a result of the past and leading to future, thus overlapping both, but is an entity in itself (black dot). – The *future* is least limited but influenced by both, past and present. – One line runs through for all have one common element – time."[13]

## 2. Arnheim on Gestures and Scribbles

According to Arnheim, far from being arbitrary drawings, scribbles express the very essentials of our thought processes. The argument he offers consists of two basic steps. In the first step, Arnheim relates line drawings to their "forerun-

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12    Arnheim, *op. cit.*, p. 116.

13    *Ibid.*, pp. 120 ff.

ners", namely descriptive gestures. He points out that "the portrayal of an object by gesture rarely involves more than some one isolated quality or dimension... By the very nature of the medium of gesture, the representation is highly abstract. ... Often a gesture is so striking because it singles out one feature relevant to the discourse." In the second step, Arnheim suggests that what a descriptive gesture pictures is not primarily a mental image, but rather the motor experience underlying that image. As he writes: "Gestures enact pushing and pulling, penetration and obstacle… the perceptual qualities of shape and motion are present in the very acts of thinking depicted by the gestures and are in fact the medium in which the thinking itself takes place. These perceptual qualities are not necessarily visual or only visual. In gestures, the kinesthetic experiences of pushing, pulling, advancing, obstructing, are likely to play an important part."[14] What Arnheim here says is, I believe, of paramount importance, since it implies not only that our verbal constructs – direct designations, idioms, metaphors – are meaningful because they convey mental images, but also that those images are given rise to by bodily, physical experiences, by our physical contact with reality. Scribbles depicting the flow of time are telling us something about what time really is. This goes very much beyond the position Lakoff and his school ever ventured to take.

## 3. Image and Time in Conceptual Metaphor Theory

The locution "figure of thought" is not a household phrase in the Lakoff school. However, the idea of images mediating between words is of course quite central to conceptual metaphor theory.[15] The notion of *image schemas*, not yet present in the book *Metaphors We Live By*, but assuming an essential role by 1987 both in Johnson's *The Body in the Mind*[16] and in Lakoff's *Women, Fire, and Dangerous Things*,[17] is presented as an explicitly Kantian one,[18] linking perception and reason.[19] Image schemas are abstract visual/conceptual structures, not to be confused, as Johnson and Lakoff again and again emphasize, with full-fledged men-

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14  *Ibid.*, pp. 117 f.

15  I am deeply indebted to Zoltán Kövecses for enlightening conversations on the topic of image and metaphor.

16  Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*, Chicago: The University of Chicago Press, 1987.

17  George Lakoff, *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*, Chicago: University of Chicago Press, 1987.

18  See *The Body in the Mind*, pp. 21 and 24, and *Women, Fire, and Dangerous Things*, p. 453.

19  See esp. *Women, Fire, and Dangerous Things*, p. 440.

tal images, actual mental *pictures*. But these latter images also play an increasingly important part in the Lakoff–Johnson approach. In *Metaphors We Live By*, the authors come to discuss what they call "two subcases" of the TIME PASSES US metaphor. In one case, they write, "we are moving and time is standing still; in the other, time is moving and we are standing still." These two metaphors, as they put it, "are not consistent (that is, they form no single image)", but they are nonetheless *coherent*, they "fit together".[20] The idea that metaphors can evoke visual images,[21] but that "a single consistent concrete image"[22] will not necessarily emerge when several "coherent but not consistent" metaphors overlap,[23] is a recurrent one in *Metaphors We Live By*; but no attempt is made here to establish a systematic connection between metaphor and imagery. By contrast, the topic of images very much comes to the fore in *Women, Fire, and Dangerous Things*, most notably in a discussion of what Lakoff calls *imageable idioms*, idioms relying on "conventional images". Lakoff provides an elaborate analysis of the idiom *to keep someone at arm's length*. "I have asked hundreds of people", he writes, "if they have an image associated with this idiom. Almost everyone does, and it is almost always the same image".[24] Then in the 1989 Lakoff–Turner volume *More than Cool Reason* there appears the notion of an "image metaphor". Quoting André Breton's lines "My wife … Whose waist is an hourglass"[25], the authors refer to "a superimposition of the image of an hourglass onto the image of a woman's waist by virtue of their common shape. … the metaphor is conceptual; it is not in the words themselves. … the locus of the metaphor is [a] mental image."[26] The 1999 Lakoff–Johnson book *Philosophy in the Flesh* has a sub-chapter on "Metaphorical Idioms and Mental Imagery", describing a cognitive pattern where words evoke images that carry specific, conventional knowledge;[27] metaphorical idioms as imageable idioms are, no doubt, fundamental figures of thought. The book *Philosophy in the Flesh* is also where we encounter Lakoff and Johnson's most elaborate treatment of the philosophical problem of time. As they sum up the issue, "it is virtually impossible for us

20 George Lakoff – Mark Johnson, *Metaphors We Live By*, Chicago: University of Chicago Press, 1980, p. 44.

21 Cf. e.g. *ibid.*, p. 168.

22 *Ibid.*, p. 105.

23 *Ibid.*, p. 94.

24 *Women, Fire, and Dangerous Things*, p. 447.

25 Translation by David Antin.

26 George Lakoff – Mark Turner, *More than Cool Reason: A Field Guide to Poetic Metaphor*, Chicago: The University of Chicago Press, 1989, p. 90, cf. p. 93.

27 George Lakoff – Mark Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*, New York: Basic Books, 1999, pp. 67 ff.

to conceptualize time without metaphor. … Most of our understanding of time is a metaphorical version of our understanding of motion in space."[28] Hence "spatial metaphor for time" is part of our "cognitive unconscious" that structures, Lakoff and Johnson write, "not only the way we conceptualize the relationship between events and time but the very way we experience time".[29] However, the authors do not seem to have the courage of their convictions. They conclude that "we cannot take the commonsense understanding of time at face value from a cognitive perspective", and that the question "does time exist independent of minds?" should be rejected, rather than answered along the lines common-sense metaphors would suggest.[30] It is this conclusion I venture to take issue with.

## 4. The Reality of Time

In their 1980 book, Lakoff and Johnson had already emphasized that the ultimate source of our fundamental metaphors are the experiences we have with physical objects, especially the experiences relating to our own bodies.[31] By 1987, their stress on the role of the kinesthetic, the motor, had become even more pronounced. Lakoff, in *Women, Fire, and Dangerous Things*, points out that "much of mental imagery is kinesthetic – that is, it is independent of sensory modality and concerns awareness of many aspects of functioning in space: orientation, motion, balance, shape judgments, etc.", and that the same holds even more for "image schemas, which are sufficiently general in character to be prime candidates for having a kinesthetic nature".[32] Johnson, in *The Body in the Mind*, defined image schemas as "recurring, dynamic pattern[s] of our perceptual interactions and motor programs",[33] offering, as an example, the COMPULSIVE FORCE schema, underlining that the concept "force" emerges from our *bodily experience* of force, from our encountering obstacles that exert force on us, from "the experience of being moved by external forces, such as wind, water, physical objects, and other people",[34] the experience that, say, "[w]hen a crowd starts pushing, you are moved … by a force you seem unable to resist",[35] and from our experience that we too can exert force on, in some cases even

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28  *Ibid.*, p. 139.
29  *Ibid.*, p. 153.
30  *Ibid.*, pp. 154 and 167.
31  *Metaphors We Live By*, p. 25.
32  *Women, Fire, and Dangerous Things*, p. 446.
33  *The Body in the Mind*, p. xiv.
34  *Ibid.*, p. 45.
35  *Ibid.*

penetrate through, the objects resisting us. I believe that our experience of *the passing of time*, too, amounts to an experiencing of some external force. We are all acquainted with what can without exaggeration be called the feeling of brute muscular tensions when struggling against time.[36] I suggest that a plausible metaphor to associate with the COMPULSIVE FORCE schema might be this one: THE PASSAGE OF TIME IS A PHYSICAL FORCE.

The passage of time means that the present becomes past, and that the future becomes present. However, the second part of this formula is misleading. The future, strictly speaking, does not exist. Instead of saying that the future becomes present, we should say that ever new presents come into being, or, still more precisely, that so far as the course of our own life is involved, ever new presents are created by us. Creating new presents is what struggling with time means. Metaphorically speaking, creating the future requires physical force.

Let us now come back to Wittgenstein's drawing of the flow of consciousness and/or the flow of time. Another of his remarks may help us interpret this drawing. "It is strange", he wrote in 1930, "that in ordinary life we are not troubled by the feeling that the phenomenon is slipping away from us, the constant flux of appearance, but only when we philosophize. … The feeling we have is that the present disappears into the past without our being able to prevent it."[37] What we see in the drawing, then, is the present represented as a vertical line, with the horizontal lines, moving to the left, representing the present as changing into an ever more distant past. The later Wittgenstein became increasingly unhappy with the flow of time metaphor; he came to see it as an instance of the sickness of language that philosophy amounts to. I believe he was wrong. I very much agree with what Walter Mesch says: "talk about the passage of time is in no way restricted to philosophers ..., but is in many variants an element of everyday language... This would hardly be understandable if it would not express experiences one can make in everyday life".[38]

So what are these experiences? I am coming to the conclusion of my paper. Let me sum up my argument by saying that the metaphor of the flow of time is a

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36   I have treated this issue in some detail in my paper "Film, Metaphor, and the Reality of Time", *New Review of Film and Television Studies*, vol. 7, no. 2 (June 2009), pp. 109–118.

37   Ludwig Wittgenstein, *Philosophical Remarks*, § 52.

38   "[D]ie Rede vom Vergehen der Zeit [ist] keineswegs auf Philosophen beschränkt …, sondern [findet] in der gewöhnlichen Sprache in vielen Varianten Verwendung… Dies dürfte kaum zu verstehen sein, wenn darin nicht Erfahrungen Ausdruck verliehen wäre, die man im gewöhnlichen Leben machen kann." (Walter Mesch, "Wittgenstein über das Vergehen der Zeit", in Uwe Meixner and Peter Simons [eds.], *Metaphysik im postmetaphysischen Zeitalter: 22. Internationales Wittgenstein Symposium*, Kirchberg am Wechsel: ÖLWG, 1999, vol. 2, p. 47.)

specific, complex, figure of thought, synthesizing the experience of the passage of time as a physical force on the one hand, and the experience of the present as gradually receding into the past on the other. Both these experiences are veridical. The metaphor of the *flow of time* is a figure of thought expressing, in a unique way, an aspect of reality itself.

# Images in Conservative Education

*Kristóf Nyíri*

Conservatism is a perennial human attitude and a constantly present cultural factor. As a consciously held theory it was however not formulated before the eighteenth century, and the expression "conservatism" itself was not in use before the 1830s. In the second section of this paper, under the heading "The Meaning of Conservatism", I will attempt both to convey a general idea of conservatism as well as to give a brief characterization of its three main historical phases: premodern, modern, and postmodern. Especially in its modern and postmodern phases, conservatism is tormented by paradoxes. My ultimate aim in the paper will be to show that these paradoxes dissolve once the dominance of, and the exclusive focus on, verbal communication is supplanted by allotting a proper role to the pictorial – to mental and physical images, and to visual thinking. Setting the stage for my argument, in the first section below I offer some glimpses of the vastly rich literature, extending well back into the nineteenth century, on the visual mind – the visual as accompanying, or even serving as the basis of, the verbal, and as accompanied, or even based on, the motor. In the third section, drawing in particular on the ideas of the liberal-conservative thinker F. A. von Hayek, I will describe the main dimensions of what might be called a conservative concept of knowledge, characterizing knowledge as local, dispersed, and embedded in practice. The implications of such a concept of knowledge for the educational system under modern/postmodern conditions are spelled out in the fourth section. The fifth section, "Images and Conservatism", is divided into three subsections. In the first subsection, I strive to show that the pictorial as such tends to be conservative, basically because it provides a stable and rich representation of reality. The epistemological stance of conservatism is that of common-sense realism; common-sense realism assumes, correctly in my view, that images, in principle, convey what there really is. And it is by displaying what there really is that images, as I attempt to demonstrate in the second subsection, can successfully take over the role of verbally formulated traditions, spurious verbal formulas telling us what there once supposedly was, and telling us unconvincingly that that is how it should always be. In the third, last, subsection I explain why I believe that, from the point of view of postmodern conservatism, the image, namely the moving image, can fulfil a special role. The postmodern condition is one of fundamental uncertainty. Simulations bringing together vast

amounts of data in an easily understandable animation are today our best instruments for dealing with a radically uncertain future.

## 1. Visual Thinking

In my chapter in the first volume of our VISUAL LEARNING series I already had occasion to quote a central passage by psychologist and art theorist Rudolf Arnheim, from his book *Visual Thinking*: "What makes language so valuable for thinking … cannot be thinking in words. It must be the help that words lend to thinking while it operates in a more appropriate medium, such as visual imagery."[1] Some pages earlier in the same book Arnheim relates images – mental images as well as a type of drawings expressing them – to *gestures*, pointing out that in gestures the visual is intrinsically bound up with motor, with "the kinesthetic experiences of pushing, pulling, advancing, obstructing".[2] Arnheim was a leading later-generation representative of the Gestalt school of psychology, adhering to the founding generation's view that one cannot experience images without experiencing the patterns of forces they embody and convey. He was, also, very much aware of the pioneering role of the German philosopher-psychologist Theodor Lipps here;[3] while on the broader topic of the visual mind he essentially drew on the work of Galton, Ribot, Binet, and Titchener.

Ribot, Galton, Binet, and in no small measure William James, were all impressed by the fact that thought processes obviously occur even in cases where they are paralleled neither by language, nor by conscious imagery.[4] It was the unconscious or half-consious underlying motor dimension Hippolyte Taine alluded to when in 1870 he wrote: "beneath the incomplete image a dull agitation

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1   Cf. Kristóf Nyíri, "Time As a Figure of Thought and As Reality", in András Benedek and Kristóf Nyíri (eds.), *Images in Language: Metaphors and Metamorphoses* (series VISUAL LEARNING, vol. 1), Frankfurt: Peter Lang, 2011, p. 61. The reference is to Rudolf Arnheim, *Visual Thinking*, Berkeley: University of California Press, 1969, pp. 231 f.

2   Arnheim, *op. cit.*, p. 118.

3   As Arnheim wrote: "Lipps anticipated the Gestalt principle of isomorphism for the relationship between the physical forces in the observed object and the psychical dynamics in the observer" ("The Gestalt Theory of Expression", in Rudolf Arnheim, *Toward a Psychology of Art: Collected Essays*, Berkeley: University of California Press, 1966, p. 58).

4   For a brief discussion see pp. 142 f. in my chapter "Visualization and the Horizons of Scientific Explanation", in András Benedek and Kristóf Nyíri (eds.), *The Iconic Turn in Education* (series VISUAL LEARNING, vol. 2), Frankfurt: Peter Lang, 2012.
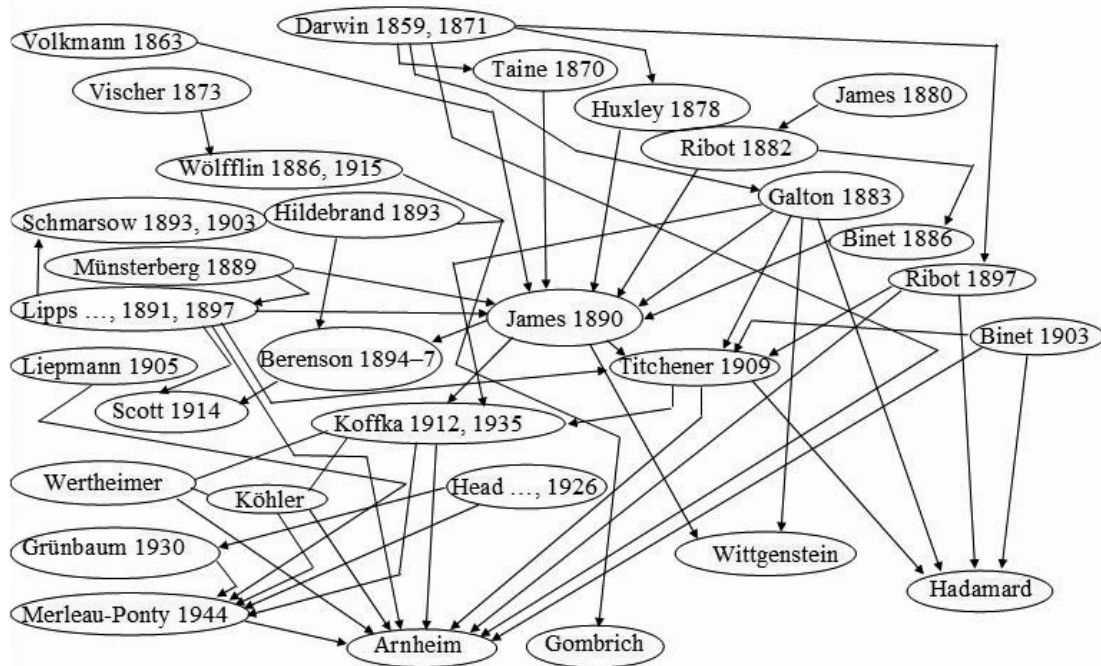
*Figure 1:     The visual and the motor. A network of influences in intellectual history*

is going on, and as it were, a swarm of feeble impulses which usually sum them-selves up in an expressive gesture, a metaphor, a visible summary".[5] And Binet, in the concluding passage of his 1903 essay "Imageless Thought", must have re-ferred, again, to the motor level when saying:

> I suppose that the word, like the sensory image, gives precision to the thought which, without these two aids – that of the word and that of the image – would remain very vague. – I even presume that it is the word and the image which con-tribute the most to making us conscious of our thoughts. Thought is an unconsious act of the mind which, to become fully conscious, necessitates words and images. No matter what difficulty we have in depicting a thought which is imageless – and it is only for this reason that I say thought is unconscious – it nevertheless exists. Thought constitutes, if one wishes to define it by its function, a directing organizing force which I would willingly compare (this is probably only a metaphor) to the vital force which, directing the physical-chemical properties, models the shape of beings and leads to their evolution…[6]

It is clearly impossible in the present brief sketch to give even a rudimentary overview of the intellectual history of the subject, but Figure 1 perhaps captures at least the most essential nodes and links. Coming back to Arnheim and to Ger-

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5     Hippolyte Adolphe Taine, *De l'intelligence* (1870), here quoted from the English trans-lation: *On Intelligence*, New York: Henry Holt, 1875, vol. I, p. 89.

6     Alfred Binet, "La pensée sans images", here quoted from the English translation in *The Experimental Psychology of Alfred Binet*, ed. by Robert H. Pollack and Margaret J. Brenner, New York: Springer, 1969, p. 221.

man-language scholarship, let me here make just three more references. First, to Robert Vischer, who first elevated the term "Einfühlung" (subsequently elaborated by Lipps, and rendered as "empathy" by Titchener) into a technical term. "Stimuli in the thought domain", wrote Vischer, "can create sensitive as well as motor stimuli in the lower organs, and also the other way round. … It is the whole body that is involved, the whole human body is seized", *der ganze Leibmensch wird ergriffen*.[7] Certainly the theory of the embodied mind is not a twentieth-century invention. Secondly, to a passage from Adolf Hildebrand's seminal 1893 book: "It is due to our vertical position with respect to the ground, and on the other hand to the horizontal position of our two eyes, that the vertical and the horizontal directions, as fundamental directions underlying all the others, are innate in us."[8] Thirdly, to the neurologist Grünbaum stressing, in 1930, that "'*pure' motoricity already possesses the capacity to elementary sense-giving …, sense-giving as such goes back to motor connections*".[9] This might be, then, one of the contexts of intellectual history in which to see Arnheim when he makes, for instance, the observation: "the cross form as such can symbolize the conjunction of
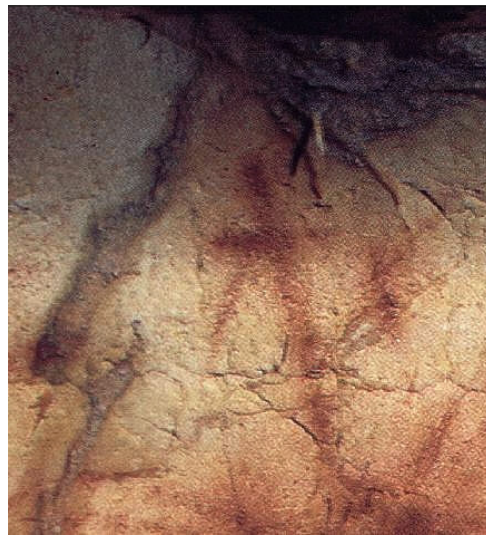


*Figure 2:        Cross symbol in Chauvet cave. Source: Chauvet et al.*

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7    Robert Vischer, *Über das optische Formgefühl: Ein Beitrag zur Ästhetik*, Leipzig, Hermann Credner, 1873, sect. 2.

8    Adolf von Hildebrand, *Das Problem der Form in der bildenden Kunst* (1893), 3rd., rev. ed., Strassburg: Heitz, 1901, p. 68.

9    A. A. Grünbaum, "Aphasie und Motorik", *Zeitschrift für die gesamte Neurologie und Psychiatrie*, vol. 130, nos. 1–3 (Berlin: Julius Springer, 1930), p. 394, italics in the original.

opposites, the action of centrifugal or centripetal forces, … crossroads, the relation of vertical striving to horizontal stability, and so on."[10] Just like in the case of so many other age-old conventional symbols, stresses Arnheim, the cross as a perceptual pattern is the primary carrier of a broader meaning, while its conventional senses are narrower, and dependent on the former. A telling example, one Arnheim could not have been aware of at the time he wrote this remark, is the cross in Chauvet cave (Figure 2), a painting some 30 000 years old, discovered in 1994.[11] We recognize it as a symbol, and can give it an interpretation, without knowing what it precisely meant to the culture that created it.

## 2. The Meaning of Conservatism

Although he had a keen sense for the achievements and promises of modern art and architecture, Arnheim was no doubt a conservative. His conservatism was made up of two very different dimensions, an unusual and inspiring one, to which I will return shortly, and the customary backward-harking one, deploring contemporary "social conditions that atomize the human community into a mere aggregate of individuals or small groups", "the chaos of our present way of life", our "individualistic civilization".[12] It is this latter type of conservatism the Austrian novelist and essayist Robert Musil rejected when writing in 1923: "Having freed himself from all the old bonds, man is recommended to subject himself to them anew: faith, … austerity, … sense of national community, a concept of civic duty, and abandonment of capitalist individualism and all its attitudes. … –

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10    Rudolf Arnheim, *The Dynamics of Architectural Form* (1977), Berkeley: University of California Press, 2009, p. 209.

11    Jean-Marie Chauvet – Eliette Brunel Deschamps – Christian Hillaire, *Dawn of Art: The Chauvet Cave. The Oldest Known Paintings in the World* (1995). Epilogue by Jean Clottes. Foreword by Paul G. Bahn. Translated from the French by Paul G. Bahn. New York: Harry N. Abrams, 1996.

12    *The Dynamics of Architectural Form*, pp. 17 and 67. The passage on p. 17 begins with Arnheim complaining about "the visual, functional, and social chaos of modern life"; on p. 206 he refers, again, to "the prevailing individualism of our civilization". The term "civilization" to Arnheim's German ears clearly suggested something of the opposite of "culture", just as it did, say, to Thomas Mann, Oswald Spengler, or Ludwig Wittgenstein. In English of course the two terms are more often than not used as synonyms, cf. e.g. Franz Rauhut, "Die Herkunft der Worte und Begriffe 'Kultur', 'Civilisation' und 'Bildung'" (1951), *Germanisch-Romanische Monatsschrift* 34 (1953), pp. 81–91, and especially Wolfgang Schmidt-Hidding et al., *Kultur und Zivilisation (Europäische Schlüsselwörter*, vol. III), München: Max Hueber, 1967, see in particular pp. v–vi, 180 ff., 196 and 313 f.

The belief is that a decay has to be cured. – … I can think of hardly any account which conceives of our present condition as a problem, a new sort of problem, and not as a solution that has miscarried."[13]

What Musil here points to is one of the fundamental paradoxes of conservatism as usually conceived. The demand that people should give up their present patterns of life, and return to the ways of some earlier age, is actually a revolutionary one, in need of argument or at least persuasion. If on the other hand conservatism is understood as the teaching that one should strive to preserve whatever norms and social conditions one happens to live under, we are again faced with a paradoxical doctrine indeed, one preaching different values according to different times and places. And yet another set of paradoxes emerges when conservatism is equated, as it almost invariably is, with "traditionalism". Traditions in the strict sense of the term are, as twentieth-century scholarship has exhaustively established, mechanisms for *preserving knowledge* – practices, techniques, as well as verbal knowledge – *in preliterate cultures*.[14] It is simply misleading to speak of traditionalism where conditions of alphabetic literacy obtain. Hence it is misleading, too, to define conservatism, as Karl Mannheim does, as "primarily nothing more than traditionalism become conscious".[15] Mannheim chooses not to regard conservatism as "a phenomenon universal to all mankind".[16] When looking for a designation of the "general psychological attitude" ultimately underlying modern conservatism, he prefers Max Weber's term "traditionalism" to Lord Hugh Cecil's formula "natural conservatism".[17]

By contrast, as I indicated at the beginning of this chapter, one might well try to understand conservatism precisely as a perennial endeavour. I am coming back to Arnheim. In an essay written in 1969 he noted a contrast between, on the one hand, "British empiricist philosophy … proudly asserting the dominion of the individual's views and judgments over the environment", and, on the other hand, the Gestalt view manifesting "respect for the structure of the physical

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13   Robert Musil, "Der deutsche Mensch als Symptom" (1923), in Robert Musil, *Gesammelte Werke*, ed. by Adolf Frisé, vol. 8, Reinbek bei Hamburg: Rowohlt, 1978, p. 1382, here quoted from the English translation in Kristóf [J. C.] Nyíri (ed.), *Austrian Philosophy: Studies and Texts*, München: Philosophia Verlag, 1981, p. 185.

14   For a survey, see my "Introduction: Notes towards a Theory of Traditions", in Kristóf [J. C.] Nyíri (ed.), *Tradition*, Wien: IFK, 1995, pp. 7–32 (accessible online at www.hunfi .hu/nyiri/Notes_towards_a_Theory_of_Traditions.pdf).

15   *From Karl Mannheim*, ed. by Kurt H. Wolff, New Brunswick: Transaction Publishers, 1993, p. 288. The quoted passage is from Mannheim's "Conservative Thought", an English translation based on his 1925 Heidelberg dissertation.

16   From Karl Mannheim, p. 280.

17   *Ibid.*, pp. 280 f.

world as it impinges upon the nervous system" and "affirming that it [is] man's task to find his own humble place in the world and to take the cues for his conduct and comprehension from the order of that world[,] … demand[ing] of the citizen that he derive his rights and duties from the objectively ascertained functions and needs of society".[18] Humility, one's recognition of one's "humble place in the world" is, I take Arnheim to imply, a defining conservative stance. It is also, one should observe, a posture with a religious tinge.

Another point emerging from what Arnheim in this passage says is that one can in fact identify a constant task conservatism invariably faces. It is to comprehend the world as given, to acquire objective knowledge. Indeed it can be maintained that what conservatism in any historical age first and foremost strives to conserve is actually *knowledge*, specifically the knowledge necessary to protect the life chances of future generations. However, such knowledge varies greatly, depending on the dominant information and communication technology of the age. In a preliterate culture, what society knows is limited to what people remember. Words, in a preliterate culture, are exclusively spoken or heard; knowledge has to be memorized through frequent repetition of texts the truth of which is taken to be indubitable due the fiction that they are passed down unchanged from generation to generation, with an ultimately divine origin. This, then, is the age of traditions, spanning the whole of premodernity, including also the centuries of manuscript culture, still dominantly oral.[19] Premodern conservatism struggles to safeguard the life of future generations by seeking to ensure the survival of the customs and beliefs of former generations. Modern conservatism by contrast, conservatism in the age of the printed press, cannot but recognize that change is inevitable. It attempts to slow it down, reduce its risks, by taking on the role of defending evolutionary social growth against the devastating influence of speculative theories. It emphasizes the knowledge embedded in the institutions and practices of society. This is Burke's line. Now postmodern conservatism, conservatism in the age of online networked communication, faces not only incessant inevitable change, but has to cope with shifts that are rapid and might be entirely unforeseeable. Postmodern conservatism, tormented by the paradox of preparing for what it cannot predict, has the task of continuously mobilizing, and keeping in readiness, the whole array of human knowledge. To be able to manage this, it has to have an adequate notion of what human knowledge really is like.

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18  Rudolf Arnheim, "Wertheimer and Gestalt Psychology" (1969), in Arnheim, *New Essays on the Psychology of Art*, Berkeley: University of California Press, 1986, p. 34.

19  For a more detailed discussion see my volume *Tradition and Individuality*, Dordrecht: Kluwer, 1992, esp. pp. 75 ff., compare also the prefatory passages on p. ix, *ibid*.

## 3. The Conservative Concept of Knowledge

Burke's late-eighteenth-century views on knowledge as embedded in the institutions and practices of society were taken up and elaborated by Hayek in the 20th century. What Hayek has shown was that the knowledge necessary for society in order to maintain its economy, even in the case of a large-scale modern economy, emerges from, indeed is essentially upheld by, the practical experience society's individual members have with local conditions. It is knowledge distributed among individual market actors, mediated by the movement of prices, knowledge impossible to centralize. Now what holds for knowledge in the world of production, commerce, and services, appears to hold for knowledge generally, too. John Gray wrote of

> Hayek's … insight that all our theoretical, propositional or explicit knowledge presupposes a vast background of tacit, practical and inarticulate knowledge. Hayek's insight here parallels those of Oakeshott, Ryle, Heidegger, and Polanyi; like them he perceives that the kind of knowledge that can be embodied in theories is not only distinct from, but also at every point dependent upon, another sort of knowledge, embodied in habits and dispositions to act. Some of this practical knowledge is found in rules of action and perception imprinted in the nervous system and transmitted by genetic inheritance. But much of the significant part of the practical knowledge expressed in our dealings with each other is passed on mimetically, in the cultural transmission of traditions or practices…[20]

Let me note that when Gray uses the the word "mimetic", he does not thereby allude to *visual* imitation. The issue of visuality, not to mention the idea of pictoriality, did not play a role in the history of conservative thought from Burke to Hayek. It is of course present in Burke's *Philosophical Inquiry into the Origin of Our Ideas of the Sublime and Beautiful*,[21] but even there visuality is deemed to be of secondary importance in comparison with the verbal. When Burke wrote that "poetry and rhetoric do not succeed in exact description so well as painting does; their business is, to affect rather by sympathy than imitation"[22], his point was not to highlight the power of pictorial representation, but to refute the position that words signify by depending on, or giving rise to, mental im-

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20  John Gray, "Hayek as a Conservative", first published in *Salisbury Review* in 1983, reprinted in John Gray, *Post-liberalism: Studies in Political Thought*, London: Routledge, 1993, the quoted passage on p. 34. To Michael Polanyi's notion of "tacit knowledge" Gray repeatedly refers here. Our "explicit knowledge", he writes, "is only the visible surface of a vast fund of tacit knowing" (*ibid.*).

21  See e.g. the discussion "Why Visual Objects of Great Dimensions Are Sublime", *The Works of the Right Honourable Edmund Burke*, in twelve volumes, vol. 1, London: John C. Nimmo, 1887, pp. 217 f.

22  *Ibid.*, p. 257.

ages.[23] Hayek, who as a young man had contemplated to become a psychologist rather than an economist, in 1952 published the book *The Sensory Order*, expressing views that came close to some of the tenets held by the Gestalt school.[24] However, he did share neither the school's focus on the visual,[25] nor its episte-

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23  As he for instance puts it: "the most general effect" of words "does not arise from their forming pictures of the several things they would represent in the imagination" (*ibid*., pp. 251 f.), and "in the ordinary course of conversation we are sufficiently understood without raising any images of the things concerning which we speak" (*ibid.*, p. 253). I have referred to Burke's theory of imageless thought in my talk "Tradition and Practical Knowledge" (1985), in Kristóf [J. C.] Nyíri and Barry Smith (eds.), *Practical Knowledge: Outines of a Theory of Traditions and Skills*, London: Croom Helm, 1988, pp. 26 f.

24  Thus one of Hayek's starting points is: "We all readily recognize as the same tune two different series of tones, or as the same shape or figure structures of different size and colour. In all these instances groups of stimuli which individually may be altogether different do yet as groups evoke the same sensory quality or are classified by our senses as the same gestalt." (F. A. Hayek, *The Sensory Order: An Inquiry into the Foundations of Theoretical Psychology*, Chicago: The University of Chicago Press, 1952, p. 13.) Also, Hayek of course accepts the insight that "in perception we do not merely add together given sensory elements", and that "complex perceptions possess attributes which cannot be derived from the discernible attributes of the separate parts" – but cannot resist commenting that this "most general aspect of the problem of gestalt" had been discerned "even before the rise of the gestalt school", and "is by now recognized by practically all schools of psychology", *ibid*., p. 76. Further, he arrives at the conclusion ("again in agreement with the views of the gestalt school", as he remarks in brackets) "that there is no substantial difference between the acts of 'sensation' and of 'perception'" (*ibid.*, p. 78). Finally, Hayek was strongly attracted, as was also the Gestalt school, to the motor approach to perception. As he puts it: "practically all sensory impulses are evaluated in the light of, or corrected for, simultaneous muscular activities"; there are "motor responses to sensory stimuli which … might almost be described as part of the act of perception" – for example "the classical instance of the kinesthetic sensations connected with the focusing of the eye". Also, Hayek adds, "the "proprioceptive reports of the body postures and movements designed to help perception" serve "as a sort of indispensable background for the proper evaluation of the stimulus" (*ibid.*, pp. 93 and 92).

25  Actually there are very few passages in the book which touch on visuality. Let me single out the one on p. 144, *ibid*.: "some people of the eidetic type appear to be able by recalling vivid images to discover details in them which they had not noticed at the time of the original experience". Hayek here adds the important remark: "But the memory images need not always to be more 'abstract' than current perceptions. … there … exists little justification for any sharp distinction between the 'concrete' picture supplied by sense perception and the 'abstractions' which are derived from the former by the higher mental processes (or between the complete picture of a unique situation built up by the 'senses' from fixed elements, and the abstract features which the 'intellect' singles out from the picture which is supposed to be given prior to any abstraction)."

mological realism.[26] Also, he was apparently quite unaware of the function fulfilled by mental images and pictorial communication[27] in the constitution of knowledge as inherently bound up with practice.

Postmodern conservatism by contrast, committed to understanding the nature of knowledge in the digital networked age, clearly cannot avoid, and of course has access to the technological means, to come to terms with the issue of the pictorial. It has to come to terms, also, with the very issue of knowledge networks. In his recent book on conservatism, Kieron O'Hara notes that the World Wide Web is "a liberal idea – it is designed to allow information to flow easily. Its very structure makes it harder for authoritarian regimes to retain control of those areas of life that have migrated online." However, as O'Hara puts it, the web "has many conservative properties. … it is not laid down by a central authority".[28] Now the point that the workings of the internet can indeed suggest the plausibility of a broadly conservative perspective on knowledge and society has been given a much stronger formulation by the Hungarian-born physicist Albert-László Barabási. The internet is made up of billions of nodes with just a few links, and a relatively small number of "hubs" with a great many links. It is through the hubs that smooth and swift communication is maintained between the rest of the nodes. In the harsh words of Barabási, there is a "*complete* absence of democracy" and of "egalitarian values" on the web. [29] The "vast majority of documents are hardly visible, since a highly popular minority has all the links". We do indeed have free speech on the web, writes Barabási. The chances are, however, that "our voices are too weak to be heard".[30]

## 4. Conservatism and Education

Educating for a postmodern society from a conservative point of view, then, first of all demands raising a sophisticated awareness for the nature of online net-

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26  The perception of Gestalt qualities does not, for Hayek, amount to a direct acquaintance with the structure of reality. His typical term is "approximation": a "gradual evolution of the mental order involves … a gradual approximation to the order which in the external world exists between the stimuli evoking the impulses which 'represent' them in the central nervous system", *ibid.*, p. 107.

27  In a telling passage Hayek speaks of "communication by language proper, as distinguished from communication by gestures, facial expression, etc." (*ibid.*, p. 135).

28  Kieron O'Hara, *Conservatism*, London: Reaktion Books, 2011, p. 268.

29  Albert-László Barabási, *Linked: The New Science of Networks*, Cambridge, MA: Perseus Publishing, 2002, p. 56.

30  *Ibid.*, p. 174.

works – a respect for their spontaneous growth, but also an ability to harness the possibilities they offer. Sustained success in coping with the net presupposes informal life-long learning. Informal learning is clearly a form of learning that accords with the fact that it is impossible to centralize knowledge. Conservatives should encourage informal learning, but should maintain, or call for, decentralization in the domain of formal learning, too. As O'Hara puts it, "the conservative will be pleased to see the development of a strong autonomous school sector where decision-making about curricula and standards is devolved to the lowest possible level". A "good education system" should not be there "to fill perceived gaps in the workforce". Education, writes O'Hara, "needs to provide knowledge about the world" in the sense of offering "deep knowledge" of the *context*s of problems.[31] Such education cannot but be "challenging and testing", will not "at any cost" avoid putting pressure on children – but, points out O'Hara, "there is no evidence that children thrive educationally in environments that they themselves shape".[32]

An important instance readily coming to mind here is the issue of digital texts vs. hardcopy ones. Young people today will tend to move almost exclusively in the world of digital documents, ever less attracted to the printed book, and thumbing in notes, or punching away on the keyboard when it comes to longer texts, without taking care of printouts. Now while there are a great many wonderful new vistas opening up in the digital world, still, leaving hardcopy documents entirely behind seems in some respects like stepping back into a pre-literate culture. The position I summed up some twenty years ago does not appear to have lost its validity:

> Just as speaking, as a rule, is less coherent than writing, a text composed on screen tends to be less coherent than a text composed in handwriting or on the typewriter. The reason for this is obvious. Maintaining coherence is a matter of comparing texts with each other, as well as of comparing one bit of a text with other bits of the same text. On screen such comparisons can be executed to a very limited extent only. Depending on the system used and the kind of display available, one, two, or even more documents can be viewed simultaneously; but of each document only a small segment will be exposed at a time.[33]

Conservative educationists should strive to preserve a level of hardcopy culture amidst the tide of a rising and promising digital culture. And – to come to the main and last point of my paper – they should ecourage exploiting the resources

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31  O'Hara, *op. cit.*, pp. 139 and 137.

32  *Ibid.*, p. 138.

33  Kristóf [J. C.] Nyíri, "Thinking with a Word Processor", in R. Casati (ed.), *Philosophy and the Cognitive Sciences*, Vienna: Hölder-Pichler-Tempsky, 1994, pp. 63–74, this passage on p. 70 (paper accessible online at www.hunfi.hu/nyiri/KRB93_TLK.htm).

of the digital medium for the production and dissemination of visual images as the ultimate foundations of conservative practice and theory.

## 5. Images and Conservatism

### 5. 1. Images Conservative

Although images can be radically subversive, they have indeed been used, throughout history, as instruments for preserving the status quo. In his book *Augustus and the Power of Images* Paul Zanker provides a fascinating description of the way the penetration of Roman society by Greek art, from the 2nd century BC onward, played a part in dissolving traditional conditions; but he shows, also, how the new visual world that emerged at the time of Octavian's rule contributed to the permanent peace of the empire.[34]

Secondly, images are conservative in the sense that they preserve, in unchanging form, pictorial knowledge. To recall a very early instance: cave paintings served not only the purposes of ritual, religion, or art; they came into being as an answer to the felt need of storing and communicating knowledge. Discussing the tool-making revolution of the Upper Palaeolithic, John Pfeiffer refers to the enormous increase in complexity of the social world, to a veritable information explosion, which rendered inevitable the renewing of the "tribal encyclopedia".[35] And with the advent of the mechanical image – the photograph, the film – even some details became stored the recording of which had not been purposely intended. In fact, thirdly, as I suggested in the introductory passage of the present paper, and again when citing Arnheim's "Wertheimer and Gestalt Psychology" essay,[36] the pictorial as such is conservative in the sense that it tends to show the world as given, the world as it really is. Images can be experienced, also, as expressing what might be called a higher reality – expressing meanings additional to, and beyond, their straightforward pictorial ones, meanings they

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34   Paul Zanker, *Augustus und die Macht der Bilder*, München: Beck, 1987.

35   John E. Pfeiffer, *The Creative Explosion: An Inquiry into the Origins of Art and Religion*, Ithaca, NY: Cornell University Press, 1982, see esp. pp. 121 ff. and 185 ff. The expression "tribal encyclopedia" was coined by Eric Havelock; Pfeiffer's work, focussing on memory and the visual, in fact complements Havelock's theory of traditions (on Havelock see my "Introduction: Notes towards a Theory of Traditions", cf. note 14 above).

36   Cf. above, pp. 191 and 197.

point to, but do not display.[37] A famous example is Caspar David Friedrich's painting "The Wanderer above the Sea of Fog" (Figure 3). The painting shows a lonely figure confronting nature in what appears to be deep reverence.
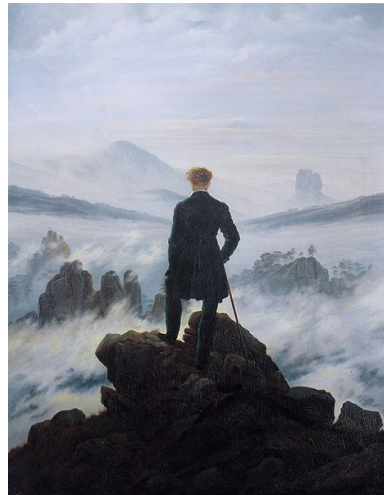


*Figure 3:    Caspar David Friedrich, "The Wanderer above the Sea of Fog" (1818)*

Giving expression to reverence by indirect visual means is a topic Arnheim repeatedly returns to in his *The Dynamics of Architectural Form.* A notable passage: "the very nature of religion and its tasks are now so open to question that their external expression is no longer governed by reliable standards. … all the more rewarding [are] those examples of church architecture that succeed in translating dignity and spiritual devotion into twentieth-century idioms". Even the late-modern architect, suggests Arnheim, might achieve a "reinforcing [of] deep-seated spiritual connotations".[38] A piece of architecture Arnheim apparently regarded as a gratifying example is Le Corbusier's Chapel of Notre Dame du Haut (Figure 4).[39] And definitely so a church in Mogno, Switzerland (Figure 5): "In religious architecture", Arnheim wrote, "a good designer such as Mario Botta gave up most of the literal applications of tradition, not to ignore them but to probe once again the deeper core of human feeling and thought".[40]

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37  Compare my paper "Images in Natural Theology", in Russell Re Manning (ed.), *The Oxford Handbook of Natural Theology*, Oxford: Oxford University Press, 2013, esp. pp. 586 ff.

38  Arnheim, *The Dynamics of Architectural Form*, pp. 206 and 210.

39  Cf, *ibid.*, pp. 106 f.

40  See Rudolf Arnheim, "Notes on Religious Architecture" (1993), in Rudolf Arnheim, *The Split and the Structure: Twenty-eight Essays*, Berkeley, CA: The University of California Press, 1996, p. 61. I am indebted to Arnheim expert Ian Verstegen for drawing my attention to this essay, and for a number of insightful comments.

*Figure 4:*     *Le Corbusier's Chapel of Notre Dame du Haut, Ronchamp*



*Figure 5:*     *Mario Botta's church in Mogno, Switzerland*

## 5. 2. From Traditions to Images

Some thirty or forty years ago I have put together a theory of traditions which I thought was based on the philosophy of the later Wittgenstein.[41] With hindsight, I today realize that it was based, rather, on a one-sided interpretation of that philosophy, an interpretation doubtlessly made possible by the state of Wittgenstein editions as we had them at that time, presenting Wittgenstein straightforwardly as a linguistic philosopher.[42] The argument I was most comfortable with when

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41   Suggesting, way back in 1976, not only that "Wittgenstein's so-called later philosophy is the embodiment of a conservative-traditionalist view of history", but also that "this philosophy in fact provides a logical foundation for such a view" (Kristóf [J. C.] Nyíri, "Wittgenstein's New Traditionalism", *Acta Philosophica Fennica*, vol. 28, nos. 1–3, pp. 503–512, this passage on p. 503).

42   Referring to his *Philosophical Investigations* as we then knew it, I felt it was possible to ascribe to Wittgenstein the view: "language-games, i.e. forms of life, have to be accept-

advancing Wittgenstein as a persuasive traditionalist pertained to the domain of elementary mathematics. Believing to speak for Wittgenstein, I wrote:

> Two and two are four, and the only explanation we can give here is that *this is the way we count*. Arithmetical knowledge is based on a conformity in behaviour that is not replaceable by any kind of insight. More generally, traditionalism as here conceived maintains that in the absence of indubitable truths of fact and value there can be no communication, argumentation, or discussion, that society is *held together* by the uniform acceptance of such truths; and that it is education in the family and in the school that has to confer the proper authority upon these truths.[43]

A similar formulation I attempted:

> The concept of … the human subject acting in accordance with the light of his reason, sovereign within his own mental world, reveals itself as absurd in the face of the realization that the meaning of a word is not a mental image, but the use to which the word is put; thinking, believing, expecting, hoping, and so on, are not private mental processes; mathematical insight is grounded in exercise, in drill… [As] Wittgenstein wrote: "Counting (and that means: counting like *this)* is a technique that is employed daily in the most various operations of our lives. And that is why we learn to count as we do: with endless practice, with merciless exactitude; that is why it is inexorably insisted that we shall all say 'two' after 'one', 'three' after 'two', and so on" [Wittgenstein, *Remarks on the Foundations of Mathematics*, Part I, § 4]. This conception of mathematical insight and of the ways in which arithmetic is learned, is rooted in the same psychological attitude as Wittgenstein's general conception of education. The latter may be illustrated, for example, by his remark: "When you say NO to a child, you should be like a wall and not like a door".[44]

Clearly, Wittgenstein did see a connection between rote learning and the acquisition of the ability to count. The error I have made was not to realize that he saw a very different kind of connection, too: the one holding between arithmetical truths and their visualizations. The error, indeed the blunder, easy to make at the time, was not to open my eyes to Wittgenstein's philosophy of images. Wittgenstein's manuscripts contain innumerable drawings and diagrams, most

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ed, … they are what is *given*… In any endeavour to criticize a given linguistic tradition, only another linguistic tradition can serve as a standard" ("Wittgenstein's New Traditionalism", p. 509).

43   Kristóf Nyíri, "Szabadpiac és tekintélyelvű társadalom: Angolszász liberális-konzervatív elméletek" [The free market in an authoritarian society: Anglo-Saxon liberal-conservative theories], *Világosság*, August–September 1981, pp. 534–540, the translated passage on p. 540.

44   Quoted from the chapter "Wittgenstein 1929–31: Conservatism and Jewishness", in my volume *Tradition and Individuality* (cf. note 19 above), pp. 15 and 117. The chapter was based on a paper I originally published in German in 1982.

of them in fact illustrating points he made in the domain of the philosophy of mathematics, but only a fraction of them published in the printed volumes edited by his literary executors.[45] A particularly interesting example (Figure 6):
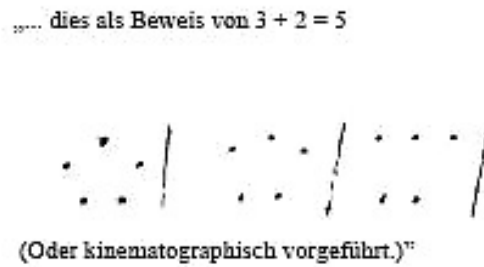


„... dies als Beweis von 3 + 2 = 5

(Oder kinematographisch vorgeführt.)"

*Figure 6:      Visual proof of 3 + 2 = 5. From Wittgenstein's MS 118, p. 65r (1937)*

Wittgenstein here suggests a way to prove the equation 3 + 2 = 5. The proof would consist in drawing a series of pictures, or in the "cinematographic" presentation of the same series – an *animation*. No wonder this idea did not make it into the printed editions. In mathematics, the first half of the twentieth century was still very much characterized by the visualization Angst that had emerged in the nineteenth.[46] Today this fear is receding. Here, again, Arnheim was well ahead of his time. In his book *Visual Thinking* he stressed that not only "self-evident geometry", but also arithmetics and algebra have a thoroughly perceptual basis, that "[c]ounting is preceded by the perceptual grasp of groups", and that "[n]umbers are perceptual entities, visual and to some extent tactual and auditory".[47] It is not tradition but perceptual grasp that can best teach us the fundamentals of mathematics; and it is not tradition but perception – most importantly visual cognition – that tells us what reality is like.

### 5. 3. Images and the Unknown Future

The task of postmodern conservatism is to create conditions in which the knowledge necessary to maintain the life of future generations is optimally preserved. However, the postmodern conservative is painfully aware of the fact that the fu-

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45   See e.g. my paper "Wittgenstein's Philosophy of Pictures" (2001), in Alois Pichler and Simo Säätelä (eds.), *Wittgenstein: The Philosopher and his Works*, Frankfurt a.M.: ontos verlag, 2006, pp. 322–353 (paper accessible online at http://www.hunfi.hu/nyiri/nyiri_bergen_tlk.htm).

46   See my paper "Visualization and the Horizons of Scientific Explanation" (cf. note 4 above), esp. pp. 146 f.

47   *Visual Thinking* (cf. note 1 above), pp. 221 f., 211 and 213.

ture cannot be predicted. Now both our inner mental imagery and the visible world surrounding us consist of *moving* images – still images being extreme cases of moving ones. The moving image preserves and shows, tells, narrates, but also foreshadows. In an animation the unknown future can, experimentally, be brought to life; an animation built on millions of data can well prove to be a successful simulation. It is the image that solves the paradox of modern conservatism, and it is the moving image that appears to be the most effective cognitive device to alleviate the paradox of postmodern conservatism.

# Image and Time in the Theory of Gestures

As I indicated in the first chapter of my volume *Meaning and Motoricity*, in the subsection "The Visual and the Motor", as well as in the section "Visual Thinking" in the sixth chapter of that volume, towards the end of the nineteenth century there emerged a psychological position according to which it is the whole body, the entire motor system, including facial expressions and bodily gestures, that underlies not just emotions, but also abstract thought. Meaning, both emotional and cognitive, should be conceived of as primordially grounded, and ultimately embodied, in the motor dimension. This psychological perspective was definitely conducive to inspiring the late-nineteenth-century and early-twentieth-century interest in the language of gestures, an interest that is today once more vivid.

One can speak about gestures, and about languages of gestures, in at least four, partly of course overlapping, senses. First, as referring to the natural language of deaf-mutes, today forming the basis of a great number of officially recognized sign languages, such as ASL (American Sign Language), or DGS (Deutsche Gebärdensprache). Secondly, in the sense of the hypothesis – an hypothesis to which observations on the language of deaf-mutes, too, might lead – that the original language of humankind was a language of gestures preceding vocal language. Thirdly, the past few decades have witnessed the emergence of increasingly extended research on the interplay of talk and spontaneous gesture. And fourthly, we are acquainted with various cultures of handed-down, conventional gestures, such as that of the Neapolitans, or of North American Indians, or say of the language of gestures of the Cistercians.

My first attempt to come to terms with the issue of gestures was in a paper I wrote in 2002.[1] I there relied in particular on a formulation by the neurologist Macdonald Critchley, going back to 1939, according to which there is a " 'natural sign-language' of the deaf and dumb [which] is largely unfamiliar to outsiders and indeed many are unaware of its very existence. ... Even very young deaf-mutes communicate freely with each other and the presence of this natural sign-language at an age prior to their receiving systematic instruction points to an 'instinctive' or at least a primitive type of symbolization."[2] I took over from

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[1] Kristóf Nyíri, "Pictorial Meaning and Mobile Communication", in Kristóf Nyíri, ed., *Mobile Communication: Essays on Cognition and Community*, Vienna: Passagen Verlag, 2003, pp. 157–184.

[2] Macdonald Critchley, "Kinesics; Gestural and Mimic Language: An Aspect of Non-Verbal Communication" (a paper based in part on Critchley's 1939 book *The Language of Gesture*,

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Critchley some photos, too, illustrating universal gestures of deaf-mutes on the one hand (Figure 1), and culturally specific, conventional gestures on the other (Figure 2). Also, I referred at some length to William Stokoe, who at the time was perhaps the best-known representative of the position arguing for a priority of the language of gestures. In his last book, *Language in Hand*, published in 2001, Stokoe summarized his earlier arguments. One of his fascinating theses was that not only the *semantics* of verbal languages (the word meanings they carry), but also their *syntax*, in particular the subject–predicate structure, is pre-figured in gestures. Handshapes (motionless, or with small, repeated motions) function as names, *moving* handshapes function as verbs. Together, they amount to *sentences*.[3]
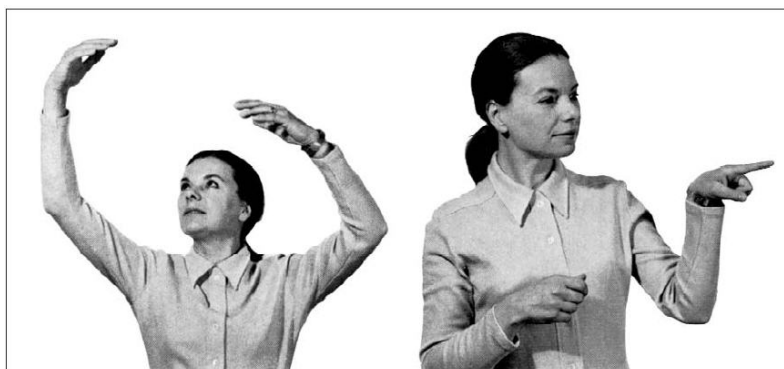


*Figure 1: The natural gesture language of the deaf and dumb.*
*Sign on the left indicates "heaven", on the right "over there".*
*(After Critchley)*
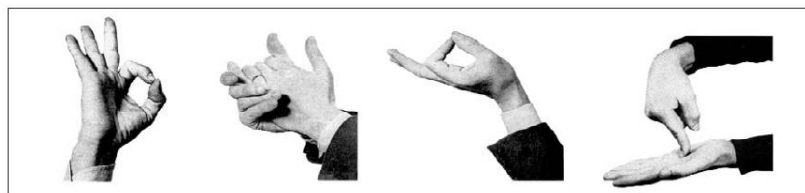


*Figure 2: Italian gestures*
*Approval      Contentment      Excellent!      I insist*
*(After Critchley)*

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London: Arnold, 1939), in his collection *Aphasiology and Other Aspects of Language*, London: Edward Arnold, 1970, pp. 305 f. – Among the earlier studies Critchley specifically refers to in his "Kinesics..." paper is David Efron, *Gesture and Environment*, New York: King's Crown, 1941. Efron's book has in the meantime become one of the classics of the topic (new ed. 1972: *Gesture, Race and Culture*, The Hague: Mouton).

[3] William C. Stokoe, *Language in Hand: Why Sign Came Before Speech*, Washington, D.C.: Gallaudet University Press, 2001, pp. xiii and 12 f.

# The Theory of Gestures: A Nutshell History

Now a minimally complete history of the theory of gestures – a history of which I will, here too, provide an only very rudimentary sketch – should clearly begin with Plato's *Cratylus*, referring to the lines: "Suppose that we had no voice or tongue, and wanted to communicate with one another, should we not, like the deaf and dumb, make signs with the hands and head and the rest of the body? … We should imitate the nature of the thing; the elevation of our hands to heaven would mean lightness and upwardness; heaviness and downwardness would be expressed by letting them drop to the ground."[4] Next I assume I would have to quote Quintilian as saying: "though the peoples and nations of the earth speak a multitude of tongues, they share in common the universal language of the hands"[5] – then taking a leap to the 17th century, making a detour round George Dalgarno,[6] but pausing briefly to recall the understandable interest Leibniz had in the language of gestures as a possible universal sign language.[7] By contrast, a more detailed narrative should be allotted to the 18th century. Not perhaps because of Vico, whose *Scienza nuove*, first published in 1725,[8] for a long time "went virtually unnoticed outside of Naples"[9], due not least to what has been called "the obscurity of his message"[10] – the message, in the case of our present topic, amounting to just two passages (repeated twice with slight variations) in the course of the entire book: "Mutes make themselves understood by gestures

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[4] *Cratylus*, 422e–423a, transl. by Benjamin Jowett.

[5] Quintilian, *Institutio oratoria*, XI, 3, 87, transl. H. E. Butler.

[6] Author of *Didascalocophus, or the Deaf and Dumb Man's Tutor*, Oxford: 1680.

[7] Cf. e.g. Garrick Mallery, "Sign Language among North American Indians Compared with that among Other Peoples and Deaf-Mutes", First Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1879–1880, Washington: Government Printing Office, 1881, pp. 288, 349 f. and 360; Karl Sittl, *Die Gebärden der Griecher und Römer*, Leipzig: Teubner, 1890, p. 5; Wilhelm Wundt, *Völkerpsychologie: Eine Untersuchung der Entwicklungsgesetze von Sprache, Mythus und Sitte*, vol. I: *Die Sprache*, 2., rev. ed., Leipzig: Engelmann, 1904, p. 151. The chapter of Wundt's work discussing gestures has been published in an English translation: Wilhelm Wundt, *The Language of Gestures*, The Hague: Mouton, 1973, the reference to Leibniz here find on p. 70.

[8] The third edition – the final one in Vico's lifetime – being published in 1744. This is the edition that served as the basis of the first ever English translation: Giambattista Vico, *The New Science*, Ithaca, N.Y.: Cornell University Press, 1948.

[9] Marcel Danesi, *Vico, Metaphor, and the Origin of Language*, Bloomington: Indiana University Press, 1993, p. viii.

[10] Bertrand Russell, *The Wisdom of the West: A Historical Survey of Western Philosophy in Its Social and Political Setting*, Garden City, N.Y.: Doubleday, 1959, p. 207. It should be pointed out however that the text of *Wisdom of the West* was actually drafted by the editor Paul Foulkes, on the basis of Russell's *A History of Western Philosophy*. Russell read it in proof, cf. Carl Spadoni, "Who Wrote Bertrand Russell's *Wisdom of the West*?", *Papers of the Bibliographical Society of America*, vol. 80, no. 3 (1986). The *History of Western Philosophy* makes no reference to Vico.

or objects that have natural relations with the ideas they wish to signify", and: "Since it has been demonstrated that the first gentile nations were all mute in their beginnings, they must have expressed themselves by gestures or by physical objects having natural relations with their ideas".[11] Nor has Rousseau contributed that much to the theory of gestures. Corballis is of course right when he finds the passage "Words would seem to have been necessary to establish the use of words"[12] an important formulation of the paradox bedevilling any theory that wants to explain the emergence of language without having recourse to the significance of gestures. But the conclusion Rousseau draws from this paradox in his *Origin of Languages*, namely that "Although the language of gesture and spoken language are equally natural, still the first is easier and depends less upon conventions",[13] is a rather pale one, and at any rate the essay was never published by him.

It was the philosopher Condillac and the educationalist de l'Épée whose work made the 18th century into a turning point in the history of the theory of gestures. Condillac's *Essai sur l'origine des connaissances humaines*, published in 1746, with a first English translation (*An Essay on the Origin of Human Knowledge*) appearing in 1756, formulates a detailed hypothesis on how a language of gestures could have preceded vocal language.[14] A brief parallel argument was put forward by Thomas Reid in 1764, in his *Inquiry into the Human Mind*. As Reid wrote, "if mankind had not a natural language, they could never have invented an artificial one… For all artificial language supposes some compact or agreement to affix a certain meaning to certain signs… but there can be no compact or agreement without signs, nor without language; and therefore there must be a natural language before any artificial language can be invented". The elements of the "natural language of mankind", Reid continued, are "modulations of the voice, gestures, and features", adding: "Where speech is natural, it will be an exercise, not of the voice and lungs only, but of all the muscles of the body; like that of dumb people and savages".[15]

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[11] *The New Science*, §§ 225 and 434 (Engl. transl. pp. 68 and 127), see also §§ 401 and 431 (Engl. transl. pp. 114 and 125).

[12] This is the translation Corballis himself gives of the wording "la parole paraît avoir été fort nécessaire, pour établir l'usage de la parole", in Rousseau's *Discours sur l'origine et les fondements de l'inégalité parmi les hommes* (1754), see Michael C. Corballis, *From Hand to Mouth: The Origins of Language*, Princeton, NJ: Princeton University Press, 2002, p. 42. The translation by G. D. H. Cole, as also the recent one by Johnston, seems to miss the essential point.

[13] Jean-Jacques Rousseau, *Essay on the Origin of Languages*, transl. by John H. Moran, New York: F. Ungar, 1966, p. 6.

[14] Corballis provides an appreciative description of Condillac's main argument in his *From Hand to Mouth*, pp. 64, 102 f. and 126 f.

[15] Thomas Reid, *Inquiry into the Human Mind: On the Principles of Common Sense* (1764), 3rd ed., London: Cadell–Longman, 1769, pp. 73–75.

Dumb people… The Abbé de l'Épée from the 1750s onward became the founder, specifically, of a unique teaching method for deaf children, based on their own common-spontaneous gestural language, "a natural sign language", as l'Épée saw it in his 1776 book *L'institution des sourds et muets*.[16] In the book l'Épée referred specifically to gestures signalling the passage of time – the past, the present, and the future. For instance, he found that "the pupils he encountered signified that an action or event was past by throwing the hand back beside the shoulder once or repeatedly".[17] A similar gesture with a similar meaning one encounters today say in DGS, the recognized German sign language. I will come back to this topic in the final section of the present chapter.

L'Épée and his school – one should here name, in particular, his immediate successor, the Abbé Sicard – soon gained wide influence both in Europe (most importantly perhaps in Germany) and in North America.[18] Still, in the 19th century, which I have now arrived at with my rudimentary narrative, the position that the language of gestures historically precedes vocal language, and that the former might take on a new pedagogical role, was far from having become a majority one. To be sure, in 1832 there appeared, and soon became rather widely known, the work *Gesture in Naples and Gesture in Classical Antiquity* by Andrea de Jorio, in which the author argues, if not for the priority, but at least for the unique expressive value, and a continuity throughout the centuries, of the south Italian gesture language.[19] In 1838 there was published the wide-ranging and deep study *Ueber die Taubstummen und ihre Bildung* by Eduard Schmalz,[20] in 1853 the book *Ueber Taubstumme, Taubstummen-Bildung und Taubstummen-Anstalten* by Otto Friedrich Kruse,[21] and in 1865 Tylor's seminal work *Researches into the Early History of Mankind*, referring to Sicard as well as both to Schmalz and Kruse, and in great detail to "the Berlin Deaf-and-Dumb Institu-

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[16] Charles Michel de l'Épée, *L'institution des sourds et muets, par la voie des signes méthodiques*, Paris: Nyon l'aîné, 1776, p. 126: "la langue naturelle des signes", see also the expression "Signes naturels" on the title page of the book.

[17] William C. Stokoe, "Sign Language Structure: An Outline of the Visual Communication Systems of the American Deaf" (1960), reprinted in the *Journal of Deaf Studies and Deaf Education*, vol. 10, no. 1 (2005), pp. 3–37, the quoted passage on p. 5.

[18] Roch-Ambroise Sicard wrote the important book *Cours d'Instruction d'un sourd-muet de naissance* (Paris: Le Clere, 1803). On l'Épée, Sicard, and their impact in America see the classic 1960 paper by Stokoe, referred to in the previous note.

[19] *La mimica degli antichi investigata nel gestire napoletano*. The English translation, with an excellent introduction by the translator Adam Kendon, has been recently published: Andrea de Jorio, *Gesture in Naples and Gesture in Classical Antiquity*, Bloomington: Indiana University Press, 2002.

[20] Eduard Schmalz, *Ueber die Taubstummen und ihre Bildung*, Dresden und Leipzig: Arnoldische Buchhandlung, 1838.

[21] Otto Friedrich Kruse, *Über Taubstumme, Taubstummen-Bildung und Taubstummen-Anstalten: Nebst Notizen aus meinem Reisetagebuche*, Schleswig: Bruhn, 1853.

tion"[22], discussing in the first three chapters "the gesture-language", and in the next two the topics of "gesture-language and word-language" and "picture-writing and word-writing".

Let me here quote at some length from Tylor. This is how he introduces the issue:

> The mother-tongue (so to speak) of the deaf-and-dumb is the language of signs. The evidence of the best observers tends to prove that they are capable of developing the gesture-language out of their own minds without the aid of speaking men. Indeed, the deaf-mutes in general surpass the rest of the world in their power of using and understanding signs, and for this simple reason, that though the gesture-language is the common property of all mankind, it is seldom cultivated and developed to so high a degree by those who have the use of speech, as by those who cannot speak, and must therefore have recourse to other means of communication.[23]

Tylor then cites Schmalz as pointing out that there are "many signs which we indeed do not use in ordinary life, but which the deaf-and-dumb child uses, having no means of communicating with others but by signs. These signs consist principally in drawing in the air the shape of objects to be suggested to the mind, indicating their character, imitating the movement of the body in an action to be described, or the use of a thing, its origin, or any other of its notable peculiarities."[24] Tylor entirely endorses the view that the basis of deaf-mute communication is pantomimic. Also, he assumes, even if the formulation he uses is a restrained one, that there is no thinking without communication, "without some means of outward expression" – while of course the deaf-mute can very well think without speech in the sense of "articulate sounds".[25] Tylor's unequivocal, radical, even if not explicitly stated conclusion: we clearly encounter thinking built up solely by movements and images of movements. A second obvious conclusion however, that of the historical priority of the language of gestures, is one Tylor clearly abstains from. "The idea that the Gesture-Language represents a distinct separate stage of human utterance, through which man passed before he came to speak, has no support from facts", he writes.[26]

The fundamental argument for this obvious conclusion – the argument foreshadowed by Rousseau's paradox quoted above with a reference to Corballis – was memorably formulated by the American political figure Amos Kendall in his speech at the inauguration of the College for the Deaf and Dumb in Wash-

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[22] Edward B. Tylor, *Researches into the Early History of Mankind and the Development of Civilization* (1865), Boston: Estes & Lauriat, 1878, p. 20.

[23] *Ibid.*, pp. 17 f.

[24] *Ibid.*, p. 18. Tylor is here translating a passage from p. 267 of the book by Schmalz.

[25] *Ibid.*, p. 14.

[26] *Ibid.*, p. 15. Tylor returned to the topic of gesture-languages in his book *Anthropology: An Introduction to the Study of Man and Civilization*, London: Macmillan and Co., 1881.

ington DC, in 1864. "We read", said Kendall, "that Adam named the beasts and birds. But how could he give them names without first pointing them out by other means? How could a particular name be fixed upon a particular animal among so many species without some sign indicating to what animal it should thereafter be applied?"[27] In the course of human phylogeny, Kendall indicated, it was the language of gestures, and not verbal language, which introduced conceptual order into the episodic imagery of pre-linguistic thought. The reference to Adam, five years after the publication of Darwin's *The Origin of Species*, I rather take to be an ironical one.

*Darwin on the Expression of Emotions*

Darwin himself markedly contributed to the theory of bodily and facial gestures with his 1872 book *The Expression of the Emotions in Man and Animals*. The book's main proposition: gestures have an evolutionary basis, they originate in concrete bodily reactions to events in the surrounding environment, to danger, threat, and so on. Let me here focus on gestures of affirmation and negation. In an introductory passage of his book, in the first chapter, Darwin cites with approval the observation that "[a] man … who vehemently rejects a proposition, will almost certainly shut his eyes or turn away his face; but if he accepts the proposition, he will nod his head in affirmation and open his eyes widely. The man acts in this latter case as if he clearly saw the thing, and in the former case as if he did not or would not see it."

In the chapter dealing with disdain, contempt, disgust, and affirmation and negation, Darwin quotes Tylor's *Researches into the Early History of Mankind* to explain how the gesture "snapping one's fingers", indicating contempt, becomes intelligible once "we notice that the same sign made quite gently, as if rolling some tiny object away between the finger and thumb, or the sign of flipping it away with the thumb-nail and forefinger, are usual and well-understood deaf-and-dumb gestures, denoting anything tiny, insignificant, contemptible". It seems, Tylor concludes, "as though we had exaggerated and conventionalized a perfectly natural action, so as to lose sight of its original meaning". Some passages later Darwin offers an interim summary. "We have now seen that scorn, disdain, contempt, and disgust are expressed in many different ways, by movements of the features, and by various gestures; and that these are the same throughout the world. They all consist of actions representing the rejection or exclusion of some real object which we dislike or abhor…". A few pages further there follows the section "*Signs of affirmation or approval, and of negation or*

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[27] I am quoting after David F. Armstrong – Sherman E. Wilcox, *The Gestural Origin of Language*, New York: Oxford University Press, 2007, p. 8.

*disapproval: nodding and shaking the head.*" He was "curious to ascertain", Darwin here writes,

> how far the common signs used by us in affirmation and negation were general throughout the world. These signs are indeed to a certain extent expressive of our feelings, as we give a vertical nod of approval with a smile to our children, when we approve of their conduct; and shake our heads laterally with a frown, when we disapprove. With infants, the first act of denial consists in refusing food; and I repeatedly noticed with my own infants, that they did so by withdrawing their heads laterally from the breast, or from anything offered them in a spoon. In accepting food and taking it into their mouths, they incline their heads forwards. … It deserves notice that in accepting or taking food, there is only a single movement forward, and a single nod implies an affirmation. On the other hand, in refusing food, especially if it be pressed on them, children frequently move their heads several times from side to side, as we do in shaking our heads in negation. Moreover, in the case of refusal, the head is not rarely thrown backwards, or the mouth is closed, so that these movements might likewise come to serve as signs of negation.

Three remarks. First, that Darwin's explanatory pattern, the tracing back of an emotion to the actual behaviour on which it is based, unmistakably anticipates the James–Lange theory of emotions. As the classic summary formula given by James runs: "*the bodily changes follow directly the perception of the existing fact, and … our feeling of the same changes* IS *the emotion*".[28] Secondly, that I am here mainly concerned with preparing the ground for what I will attempt to claim when I come to the topic gestures of time in the last section of the present chapter: natural gestures allow us to infer that what they embody is the experiencing of something real. Thirdly, that obviously there are numerous different patterns of behaviour from which gestures of affirmation and negation can emerge, patterns linked to each other by family resemblances. Garrick Mallery, in his fundamental, very extensive study "Sign Language among North American Indians Compared with that among Other Peoples and Deaf-Mutes", published in 1881,[29] provides a wide variety of illustrations; similarly Karl Sittl, in his 1890 book *Die Gebärden der Griecher und Römer*.[30] Nor are the corresponding signs in today's gesture languages of the deaf restricted to a mere nodding or shaking of the head.

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[28] William James, *The Principles of Psychology* (1890), London: Macmillan & Co., 1901, vol. II, p. 449. A source of inspiration for James here is Carl Georg Lange, *Über Gemüthsbewegungen: Eine Psycho-physiologische Studie*, Leipzig: Verlag Theodor Thomas, 1887.

[29] Cf. note 7 above.

[30] Cf. note 7 above, see esp. p. 82 in Sittl's book.

*From Wundt to Corballis*

I have now, with this rudimentary history of the theory of gestures, at long last arrived at the 20th and 21st centuries. Volume I of Wilhelm Wundt's *Völkerpsychologie*, published in 1900, contains an absolutely brilliant discussion of the subject. For Wundt, gesture language has "an originality and naturalness such as speech neither possesses today nor has ever had in any forms hitherto uncovered by linguistics"; he highlights the merits of the view according to which "gestural communication is the original means of communication. This would mean that gesture, as the natural aid of communication, preceded spoken language";[31] but points out, too, that "systems of signs that have arisen in spatially separate environments and under doubtlessly independent circumstances are, for the most part, very similar or indeed closely related; this, then, enables communication without great difficulty between persons maing use of gestures. Such is the much-lauded universality of gestural communication."[32] Wundt can conceive of a mental makeup where "all powers of consciousness are concentrated on thought in terms of gestural images only".[33] And it is not only concrete, but also symbolic gestures that "will reach back in the earliest, if not the beginning stages of the system. The over-all character of the symbolic gesture … consists of transmitting the concept to be communicated from one field of perception to another"[34]. The basic idea of today's conceptual metaphor theory, including this theory's attention to visual metaphors, is clearly there in Wundt's work. The issue of gesture languages was very much present in Ogden and Richards' classic 1923 volume, *The Meaning of Meaning*. "Words, whenever they cannot directly ally themselves with and support themselves upon gestures", they wrote, "are at present a very imperfect means of communication."[35] A magnificent attempt at a synthesis of the theories of meaning, motoricity and gestures is Merleau-Ponty's *Phénoménologie de la perception*, published in 1945. Let me just quote two passages from this work. The first, on emotion and gesture: "Faced with an angry or threatening gesture, I have no need, in order to understand it, to recall the feelings which I myself experienced when I used these gestures on my own account. … I do not see anger or a threatening attitude as a

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[31] Wundt, *The Language of Gestures* (cf. note 7 above), p. 56.

[32] *Ibid*., p. 58 f.

[33] *Ibid*., p. 60.

[34] *Ibid*., p. 74, and let me here quote the second part of the passage in the original German, too: "Der allgemeine Charakter der symbolischen Gebärde besteht … darin, daß sie die auszudrückenden Vorstellungen aus einem Anschauungsgebiet in ein anderes überträgt". – Wundt's work on gestures was extensively discussed by George Herbert Mead, see his *Mind, Self and Society*, Chicago: The University of Chicago Press, 1934 (a posthumous volume based on lecture notes; Mead himself published two papers on Wundt early in the century).

[35] C. K. Ogden – I. A. Richards, *The Meaning of Meaning: A Study of the Influence of Language upon Thought and of the Science of Symbolism*, London: Routledge & Kegan Paul, 1923, ch. I.

psychic fact hidden behind the gesture, I read anger in it. The gesture *does not make me think* of anger, it is anger itself."[36] The second, a version of the argument we have already encountered in the formulations of Rousseau and Kendall:

> was not the communication of the elements of language between the "first man to speak" and the second necessarily of an entirely different kind from communication through gesture? This is what is commonly expressed by saying that gesture or emotional pantomime are "natural signs", and the word a "conventional sign". But conventions are a late form of relationship between men; they presuppose an earlier means of communication, and language must be put back into this current of intercourse.[37]

A new interest in the language of gestures emerges in the humanities from the 1960s onward. The literature is vast, and I can certainly not attempt to give a survey of it here.[38] Outstanding is the book *From Hand to Mouth: The Origins of Language* by Michael Corballis, published in 2002. Corballis unambiguously sides with the thesis that "human language evolved first as a system of manual gestures", with "communicative gestures emerg[ing] from actions on the physical world and … then adapted and conventionalized".[39] Referring to Merlin

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[36] Maurice Merleau-Ponty, *Phenomenology of Perception*, London: Routledge & Kegan Paul, 1962, p. 184.

[37] *Ibid*., p. 187. The English edition has "natural convention" instead of "conventional sign" ("signe conventionnel") – clearly a slip of the typewriter.

[38] But let me at least mention some of the most notable ones, before coming (or coming back to, cf. notes 12 and 14 above) to Corballis. To Stokoe's 1960 paper and 2001 book I have referred to in notes 17 and 3 above, to the Armstrong–Wilcox book in note 27, an essential item belonging to this cluster is David F. Armstrong – William C. Stokoe – Sherman E. Wilcox, *Gesture and the Nature of Language*, Cambridge: Cambridge University Press, 1995. Adam Kendon, author of the introduction to the English translation of de Jorio's book (cf. note 19 above), has published the two seminal essays, "Some Relationships between Body Motion and Speech" (in A. Siegman and B. Pope, eds., *Studies in Dyadic Communication*, New York: Pergamon, 1972, pp. 177–210) and "Gesticulation and Speech: Two Aspects of the Process of Utterance" (in Mary Ritchie Key, ed., *The Relationship of Verbal and Nonverbal Communication*, The Hague: Mouton, 1980). A crucially important paper, singled out by Corballis, too, is Gordon G. Hewes, "Primate Communication and the Gestural Origin of Language", *Current Anthropology*, vol. 14, no. 1–2 (February–April 1973), pp. 5–24. Two influential books by David McNeill, on the interdependence of vocal language and spontaneous gesturing, are *Hand and Mind: What Gestures Reveal about Thought* (Chicago: The University of Chicago Press, 1996) and *Gesture and Thought* (Chicago: The University of Chicago Press, 2005). An important collection is Alan Cienki – Cornelia Müller, eds., *Metaphor and Gesture* (Amsterdam: John Benjamins, 2008). Jürgen Streeck's *Gesturecraft: The Manu-facture of Meaning* (Amsterdam: John Benjamins, 2009) is an inspiring book on "gestural understanding" as the "perhaps most ancient mode of human communication", and on "gesture as conceptual action", but eventually appears to yield to the lure of Goodman's subjectivism.

[39] Corballis, *op. cit.*, pp. 32 and 52.

Donald's notion of a "mimetic stage" in human evolution,[40] Corballis writes: "The actions involved in making or using tools could have come to represent the tools themselves, or perhaps the hands and arms were used to depict the actual shapes of things." Gestures were primordially iconic, but tended to condense into symbols. Today, too, "[s]tudies of deaf children inventing their own home-sign … suggest that signs are initially coined for their resemblances to what they represent but are later adapted to a more arbitrary form. … it is the early gestures", runs the answer Corballis offers to Rousseau's challenge, "that provide the basis for reference, identifying the objects and actions to which names must be attached".[41] How were, Corballis earlier in his book asks, "links formed between those arbitrary sounds we call words and the stuff of the real world – a real world made available to us largely through vision and touch, rather than through sound? It seems almost inevitable that those links involved *gesture.*"[42] Now Corballis on the one hand assumes that "early gestural language would have included vocal elements, although dominated by gesture", but on the other hand takes vocal language itself as made up of "articulatory gestures", of "gestures of the mouth". "It has been suggested", writes Corballis, "that spoken words might themselves be better understood as gestures, rather than as collections of phonemes. Some phonemes, at least, have little acoustic reality at all and may even be an artificial product of literacy. … It may be more appropriate to think of speech, not in terms of combinations of those phantom entities called phonemes, but rather as combinations of sound 'gestures' that we can make by the deployment of six independent 'articulators' in the vocal tract. These are the lips, the blade of the tongue, the body of the tongue, the root of the tongue, the velum (or soft palate), and the larynx."[43]


## The "Mouth-Gesture" Theory

The idea that vocal language might have imitative traits, and not just in the case of those very few words which in fact mimic voices and sounds, but quite generally, and for functional reasons, is generally dismissed with ridicule, keeps however returning ever since Plato formulated it in his *Cratylus*. The point Plato wants to make is perhaps best brought out by the passage where he suggests that "the letter rho" – that is, the Greek consonant "r" – appears to be "an excellent instrument for the expression of motion", and is "frequently use[d] … for this purpose". Among the examples Plato mentions are the words *rein* (to stream) and *roe* (current). His explanation is "that the tongue [is] most agitated and least

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[40] Cf. Merlin Donald, *Origins of the Modern Mind: Three Stages in the Evolution of Culture and Cognition*, Cambridge, MA: 1991.
[41] Corballis, *op. cit.*, pp. 99, 112 and 109.
[42] *Ibid.*, p. 43.
[43] *Ibid.*, pp. 109, 99, 153 and 118 f..

at rest in the pronunciation of this letter, which [is] therefore used in order to express motion".[44] Lazarus Geiger, in his book on the origins on language, published in 1869, defended Plato precisely by focussing on this aspect of his argument. Geiger argued that "language is an imitation by movement, a mimicking with the organs of speech".[45] Geiger's work must have come too late to influence Friedrich Nietzsche, whose (posthumously published) essay "Die dionysische Weltanschauung" was written in 1870. Nietzsche here experiments with what might be regarded as a version of the mouth-gesture theory. "The most intimate and frequent fusion of a kind of gestural symbolism with sound", he writes, "is called *language*. In the tone and cadence of a word, by the strength and rhythm of its sound, the essence of a thing is symbolized, by the gesture of the mouth the accompanying representation is shown, the image, the appearance of its essence."[46] In 1881 it was no less a person than Darwin's comrade-in-arms and rival Alfred Russel Wallace who took the side of a mouth-gesture theory of the origin of language. In a review of Tylor's *Anthropology*[47] Wallace calls attention to "the wide and far-reaching character" of "imitative words", giving the examples of such words as "*sticky*, *flicker*, *flutter*, *hurry*, *flurry*, *stumble*, *hobble*, *wobble*. Here we have", Wallace writes, "not only sound, but motion and quality, represented by the arrangement of letters and syllables". The words "*slide*, *glide*, and *wave* imply slow and continuous motion, the movement of the lips while pronouncing the latter word being a perfect double undulation". In other cases, Wallace continues, "the motion of the breath gives an indication of meaning; *in* and *out*, *up* and *down*, *elevate* and *depress*, are pronounced with an inspiration and expiration respectively, the former being necessarily accompanied with a raising, the latter with a depression, of the head".[48] Wallace returned to this topic in his more extensive 1895 paper "The Expressiveness of Speech, Or, Mouth-Gesture as a Factor in the Origin of Language". As he here puts it by

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[44] *Cratylus*, 426c–e, transl. by Benjamin Jowett. This is a passage Critchley pauses to discuss with obvious pleasure in his paper "A Survey of Our Conceptions as to the Origins of Language", see pp. 100 f. in *Aphasiology and Other Aspects of Language* (cf. note 2 above).

[45] Lazarus Geiger, *Der Ursprung der Sprache*, Stuttgart: J. G. Cotta, 1869, p. 180.

[46] "The Dionysiac World View", in Raymond Geuss and Ronald Speirs, eds., *The Birth of Tragedy and Other Writings*, transl. by Ronald Speirs, Cambridge: Cambridge University Press, 1999, p. 137. The translation has "gestural language" for *Geberdensymbolik*, I have changed this to "gestural symbolism". Nietzsche's term for "the gesture of the mouth" is *Mundgeberde*. On Nietzsche's views on language see Sybille Krämer, "Sprache, Stimme, Schrift: Zur impliziten Bildlichkeit sprachlicher Medien", in Arnulf Deppermann and Angelika Linke, eds., *Sprache intermedial: Stimme und Schrift, Bild und Ton*, Berlin: de Gruyter, 2010, cf. esp. pp. 21–23; an earlier important paper is Hans-Martin Gauger, "Nietzsche: Zur Genealogie der Sprache", in Joachim Gessinger and Wolfert von Rahden, eds., *Theorien vom Ursprung der Sprache*, vol. 1, Berlin: de Gruyter, 1988, pp. 585–606; informative is the book by Rudolf Fietz, *Medienphilosophie: Musik, Sprache und Schrift bei Friedrich Nietzsche*, Würzburg: Verlag Königshausen & Neumann, 1992.

[47] Cf. note 26 above.

[48] Alfred Russel Wallace, "Tylor's 'Anthropology'", *Nature*, 14 July 1881, pp. 243 f.

way of introduction, "a considerable number of the most familiar words are so constructed as to proclaim their meaning more or less distinctly, sometimes by means of imitative sounds, but also, in a large number of cases, by the shape or the movements of the various parts of the mouth used in pronouncing them, and by peculiarities in breathing or in vocalisation, which may express a meaning quite independent of mere sound-imitation". Though "to us words are for the most part mere conventions", Wallace stresses, "they were not so to primitive man. He had, as it were, to struggle hard to make himself understood, and would, therefore, make use of every possible indication of meaning afforded by the positions and motions of mouth, lips, or breath, in pronouncing each word". Among the many illuminating examples Wallace here presents is, once more, the "up"/"down" one. As he writes: "in *down* we have a quick downward movement of the lower jaw, which is very characteristic, since the word cannot be spoken without it; while in *up* the quick movement is upward, after having opened the mouth as slowly as we please".[49]

Mead, in his discussion of Wundt, paid particular attention to "vocal gestures".[50] In the 1920s Ernst Cassirer, too, tended to accept the principle of *Lautnachahmung*, "vocal imitation".[51] Merleau-Ponty in his turn stressed that "spoken language is significant not only through the medium of individual words, but also through that of accent, intonation, gesture and facial expression".[52] *Gestural meaning,* he wrote, "is immanent in speech". And: "The spoken word is a genuine gesture, and it contains its meaning in the same way as the gesture con-

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[49] Alfred Russel Wallace, "The Expressiveness of Speech, Or, Mouth-Gesture as a Factor in the Origin of Language", *Fortnightly Review*, 1 October 1895, pp. 528, 530 and 531.

[50] As he wrote: "The vocal gesture … has an importance which no other gesture has. We cannot see ourselves when our face assumes a certain expression. If we hear ourselves speak we are more apt to pay attention" (*Mind, Self and Society* [cf. note 34 above], p. 65).

[51] Cf. "Der Begriff der symbolischen Form im Aufbau der Geisteswissenschaften", in *Vorträge der Bibliothek Warburg*, 1921–1922, Leipzig: B. G. Teubner 1923, pp. 11–39. – Especially Geiger and Cassirer might have provided the historical context in which the Hungarian playwright and critic Béla Balázs could write, in his 1924 film theory book *Der sichtbare Mensch*: "Linguistic research has found that the origins of language lie in expressive movement – that is, that man when he began to speak moved his tongue and lips to no greater extent than the other muscles of his face and body – just as an infant does today. Originally the purpose was not the making of sounds. The movement of tongue and lips was at first the same spontaneous gesturing as every other expressive movement of the body. That the former produced sounds was a secondary adventitious phenomenon, which was only later used for practical purposes. The immediately visible message was thus turned into an immediately audible message. In the course of this process, as in every translation, a great deal was lost. It is the expressive movement, the gesture, that is the aboriginal mother-tongue of the human race." (English translation by Edith Bone, here quoted from Daniel Talbot, ed., *Film: An Anthology*, New York: Simon and Schuster, 1959, p. 283.)

[52] *Phenomenology of Perception* (cf. note 36 above), p. 151, I have inserted "spoken language" for "the spoken word" in the English edition. The French original has: "la parole signifie non seulement par les mots, mais encore par l'accent, le ton, les gestes et la physionomie".

tains its. This is what makes communication possible."[53] In a paper published in 1980 the Hungarian linguist Iván Fónagy used the expressions "oral mimicry" and "preconscious oral gesturing", discussing instances of a "displacement of the tongue position backwards (in anger and sadness), forwards (in joy and tenderness)… In such cases the tongue performs a *deictic* function: it represents the arm (or the whole body) which may point forwards and upwards – outward oriented gesture, approach towards the outside world – or backwards and downwards – inward oriented, negative…".[54]

Corballis returned to the topic of sound-gestures in a co-authored review paper published in 2006.[55] The paper gathers "evidence that the transition from primarily manual to primarily vocal language was a gradual process, and is best understood if it is supposed that speech itself a gestural system rather than an acoustic system, an idea captured by the motor theory of speech perception and articulatory phonology". The authors cite research suggesting that "nonvocal facial gestures may … be transitional between visual gesture and speech", an idea "supported by the increasing recognition that gestures of the face, and more particularly of the mouth, are components of [deaf-mute] sign languages, and are distinct from *mouthing*, where the signer silently produces the spoken word simultaneously with the sign that has the same meaning." The authors sketch "an evolutionary scenario in which mouth movements gradually assume[d] dominance over hand movements, and were eventually accompanied by voicing and movements of the tongue and vocal tract. Thus", they suggest, "speech was born."[56]

## Meaning and Motoricity

Gestures, then, play a primordial role in communication, and indeed in the constitution of meanings that will, or will not, be communicated. But the gestural is just a particularly conspicuous form of the motor; it is the latter that makes up the ultimate basis of meaning. As formulated so memorably by Titchener, in his *Lectures on the Experimental Psychology of the Thought-Processes* (1909), a work that had the problem visual/motor at its centre:

> Meaning is originally, kinaesthesis; the organism faces the situation by some bodily attitude, and the characteristic sensations which the attitude involves give

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[53] *Phenomenology of Perception*, pp. 179 and 183.

[54] Iván Fónagy, "Preverbal Communication and Linguistic Evolution", in Mary Ritchie Key, ed., *The Relationship of Verbal and Nonverbal Communication*, The Hague: Mouton, 1980, p. 172.

[55] Maurizio Gentilucci – Michael C. Corballis, "From Manual Gesture to Speech: A Gradual Transition", *Neuroscience and Biobehavioral Reviews* 30 (2006), pp. 949–960.

[56] Gentilucci – Corballis, pp. 949 and 953 f.

meaning to the process that stands at the conscious focus, are psychologically the meaning of that process. … We are animals, locomotor organisms; the motor attitude … is therefore of constant occurrence in our experience… There would be nothing surprising in the discovery that, for minds of a certain constitution, all non-verbal conscious meaning is carried by kinaesthetic sensation or kinaesthetic image. And words themselves, let us remember, were at first motor attitudes, gestures, kinaesthetic contexts…[57]

Titchener is a relatively late representative of the intellectual tradition I have referred to by way of introducing the present chapter.[58] Some main links in the interconnections of that tradition I have attempted to map in a diagram (Figure 1: "The visual and the motor. A network of influences in intellectual history") in the previous chapter above. In the narrative accompanying that diagram I have referred, among other lines of descent, to the Vischer–Lipps–Titchener concatenation – to the emergence of the notion of empathy, the concept that one cannot experience visual patterns without feeling the forces those patterns embody. Alluding to the intimate connection between architectonic image and bodily-motor reaction, Vischer in a seminal passage wrote: "Walls that have become crooked with age offend our basic sense of physical stability."[59] Not incidentally, Vischer attached special philosophical importance to the language of gestures, and he provided some illuminating examples:

> To suggest something unfurled or magnificent, for instance, we open our arms wide; to indicate greatness and majesty, we raise them high; to show something contemplated, doubtful, or untrue, we shake our head and hands. – Our internal vacillation and struggle thus express themselves externally in analogous movement of our muscles and limbs. Every sensitive person is in this way guided by impressions, and it is the hand in particular – that most noble medium of practical instinct – that is magnetically swept along with such movement, whereby the interlocutor receives a rough description of what is represented. Nothing is more natural, then, than that this hand that traces designs in the air should also seek to set down its images in a more permanent presentation with a solid material.[60]

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[57] Edward Bradford Titchener, *Lectures on the Experimental Psychology of the Thought-Processes* (cf. note 26 in the first chapter of my volume *Meaning and Motoricity*), pp. 176 f.

[58] I believe it is Darwin who stands at the beginning of this tradition (cf. the subsection "The Darwin Effect", in chapter 1 above in the present volume). The idea of the priority of the motor necessarily questions that of the priority of the word, and would have been inconceivable in principle before Darwin's appearance.

[59] Robert Vischer, "Über das optische Formgefühl" (cf. note 7 in chapter 6 of my volume *Meaning and Motoricity*), here quoted from the English translation: "On the Optical Sense of Form: A Contribution to Aesthetics", in *Empathy, Form, and Space: Problems in German Aesthetics, 1873–1893*, Santa Monica, CA: The Getty Center for the History of Art and the Humanities, 1994, introduced and translated by Harry Francis Mallgrave and Eleftherios Ikonomou, p. 98.

[60] *Ibid.*, p. 115.

There is also a link leading from Lipps to the British architect Geoffrey Scott.[61] A favourite example of Lipps was the doric column. Its "vigorous pulling itself together and rising" he described as "exhilarating" because it reminded him of what he feels when he himself pulls himself together and straightens up; reminded him of his own "inner vitality".[62] In his classic 1914 book Scott speaks of the feeling of liberty, of the possibility of unimpeded forward movement, but also of the feeling of forces in equilibrium, that perfect architecture gives rise to. There is a "translation into architectural language of our pleasure in … physical movements".[63] Scott is another precursor, like Wundt was, of conceptual metaphor theory. If one talks about the "springing of arches" or the "soaring of spires", these phrases, he writes, might be regarded as "mere metaphors of speech"; however, "a metaphor, when it is so obvious as to be universally employed and immediately understood, presupposes a true and reliable experience to which it can refer. Such metaphors are wholly different from literary conceits." When we speak of a tower as "standing" or "leaning" or "rising", then those words are "the simplest and most direct description we can give of our impression". The "universal metaphor of the body", as Scott puts it, is "a language profoundly felt and universally understood".[64] Yet another forerunner of conceptual metaphor theory, one however soon recognized as such also by one of its creators, Mark Johnson,[65] is I. A. Richards. As Richards has put it in his *The Philosophy of Rhetoric*: "The traditional theory … made metaphor seem to be a verbal matter, a shifting and displacement of words, whereas fundamentally it is a borrowing between and intercourse of *thoughts*, a transaction between contexts. *Thought* is metaphoric, and proceeds by comparison, and the metaphors of language derive therefrom."[66] But it is significant that for Richards thought in general, and visual thinking in particular, has always had a markedly motor basis. In 1924 he wrote of the "combination of the various muscular images whereby we feel, or imaginatively construct the tensions, weights, stresses, etc. of physical objects", adding that "two visual images which are incompatible with one another may be each accompanied by muscular images (feelings of stress, tension, etc.) which are perfectly compatible and unite to form a coherent whole free from conflict".[67] It is the motor dimension that is the primary carrier of meaningful thought.

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[61] Cf. Geoffrey Scott, *The Architecture of Humanism: A Study in the History of Taste*, Boston: Houghton Mifflin, 1914, p. 213.

[62] Theodor Lipps, *Raumästhetik und geometrisch-optische Täuschungen*, Leipzig: Barth, 1897, p. 7.

[63] *Ibid.*, p. 43.

[64] *Ibid.*, pp. 215 f.

[65] Mark Johnson, ed., *Philosophical Perspectives on Metaphor*, Minneapolis: University of Minnesota Press, 1981.

[66] I. A. Richards, *The Philosophy of Rhetoric*, London: Oxford University Press, 1936, p. 94.

[67] I. A. Richards, *Principles of Literary Criticism* (1924, 2nd ed. 1926), London: Routledge, 2001, p. 148.

# Gestures of Time

The emergence of the language of gestures must have had a very close influence on the unfolding of our idea of time. Gestures are movements, the meanings conveyed by them are created visibly in time. As I tried to express it in my paper "Time and Communication", published in 2006,[68] gestures necessarily create the experience both of "before" and "after", as well as the experience of time consisting of *extended intervals*, the latter experience leading, say, to the Stoics' idea of the "broad" present,[69] or to James' elaboration of the notion of "the *specious* present".[70] The emergence of miming, of the imitative re-enacting of events – I here referred to Merlin Donalds well-known theory[71] – must too have generated a rudimentary consciousness of the difference between the present and the past, between what was in fact lived through, and what was only remembered.[72]

      The temporal character of gestures received special attention by Wundt. "Gestural communication", he wrote, "reports events exactly in the order in which they happen. … the time sequence in gestures is a replication of the temporal passage of the events themselves. It is … already compelled to this order because individual gestures in their most important forms are themselves mimes of sequential events. Thus, the principle of temporal graphicness transfers only a quality of individual gestures to their context."[73] Wundt of course came to speak about those gestures, too, which not just mirror the passage of time, but specifically refer to it. The language of gestures, he stressed, tends "to present concepts concretely as far as possible by showing in the particular manner of movement if an event lies in the near or far past, if it will happen in the near or far future".[74] As he then further wrote, "the indications of the temporal forms of past, present

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[68] Kristóf Nyíri, "Time and Communication", in F. Stadler and M. Stöltzner, eds., *Time and History / Zeit und Geschichte*, Frankfurt/M.: ontos verlag, 2006, pp. 301–316.

[69] Richard Sorabji, *Time, Creation and the Continuum: Theories in Antiquity and the Early Middle Ages*, Ithaca, NY: Cornell University Press, p. 25.

[70] William James, *The Principles of Psychology* (1890), London: Macmillan & Co., 1901, vol. I, pp. 608 f.

[71] Merlin Donald in his *Origins of the Modern Mind* (cf. note 39 above) speaks of miming as "the most basic level of human representation", p. 16.

[72] Nyíri, "Time and Communication", pp. 305 f.

[73] Wundt, *The Language of Gestures* (cf. note 7 above), p. 125. In the original the last sentence of this passage runs: "So überträgt das Prinzip der zeitlichen Anschaulichkeit nur eine Eigenschaft der einzelnen Gebärden auf deren Zusammenhang." I have slightly changed the English translation which has "temporal vividness" for "zeitliche Anschaulichkeit", and "only one quality" for "nur eine Eigenschaft".

[74] *Ibid.*, pp. 105 f. The German original: "die Gebärdensprache … pflegt den Begriff, so weit es nur immer geschehen kann, konkret zu gestalten, indem sie durch die besondere Art der Bewegungen andeutet, ob ein Ereignis in naher oder ferner Vergangenheit liege, ob es in naher oder ferner Zukunft geschehen werde". I have amended the English translation.

and future [are effected] by means of spatial directions. The association here is especially intimate, since the spatial cannot really be represented without accompanying temporal qualities. The demonstrative gesture in its most primitive meaning, then, always signifies also a movement in the given direction, and, therefore, a spatio-temporal process."[75]

Some characteristic gestures for the past and the future I have already touched on above, when mentioning l'Épée. Ribot, too, in his *The Evolution of General Ideas*, lists such deaf-mute gestures: "*Past* –Throw the hand over the shoulder several times in succession. *Future* – Indicate a distant object with the hand, repeated imitation of lying down in bed and getting up again."[76] As a more recent account let me here quote a reference made to contemporary American Sign Language by Corballis:

> Past and future are represented in ASL by an imaginary time line, which locates the past behind the signer, the present close to the signer's body, and the future in front of the signer. The sign for *yesterday* involves closing the fingers and extending the thumb, with the thumb first touching the cheek and then moving back along the jaw line to the ear. The sign for *tomorrow* starts the same way, but the hand is moved forward, with the wrist pivoting down so that the thumb ends up facing forward. *Future* is signed by holding the open hand by the head with the thumb up and palm facing inward, and then moving the hand forward. The further the hand moves, the further into the future is the time period in question.[77]

I am now coming to "yesterday" and "tomorrow" as expressed in DGS (Deutsche Gebärdensprache), reproducing the felicitous depictions given by Stefan Strixner and Serona Wolf in their wonderful little volume[78] on German Sign Language (cf. Figures 3 and 4). Indeed let me here reprint also the images Strixner and Wolf provide of "today" and "now" (Figures 5 and 6). I must admit that not only the pictures, but also the text of the *Kleines Wörterbuch*es very much appeal to me. So for instance where the authors write that for deaf people, "communicating almost exclusively in gesture language", "their ideas and thoughts often depend on the familiar motor sign system, … and their silent dreams … are often accompanied by the vivid movements characteristic of gestures".[79]

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[75] *Ibid.*, p. 130, I have in some places slightly changed the English translation.

[76] Théodule Armand Ribot, *The Evolution of General Ideas* (cf. note 18 in chapter 1 of my volume *Meaning and Motoricity*), pp. 44 f.

[77] Corballis, *From Hand to Mouth*, p. 122.

[78] Stefan Strixner – Serona Wolf, *Kleines Wörterbuch der Gebärdensprache*, 5th, rev. ed., Wiesbaden: marixverlag, 2012. Figures 3–7 below are reproduced by kind permission of marixverlag GmbH.

[79] Strixner–Wolf, *ibid.*, p. 18.

Figure 3: "gestern" ("yesterday")
From Strixner–Wolf

Figure 4: "morgen" ("tomorrow")
From Strixner–Wolf

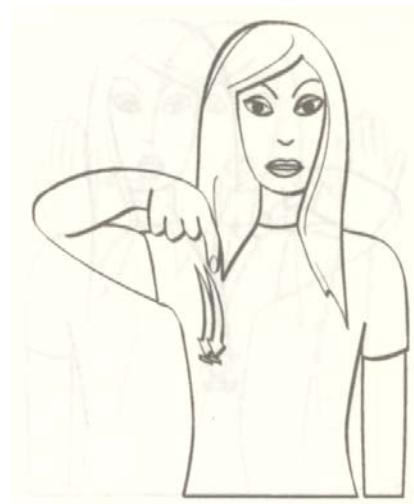Figure 5: "heute" ("today")
From Strixner–Wolf

Figure 6: "jetzt" ("now")
From Strixner–Wolf

And I am especially fascinated by the passages with which the Strixner and Wolf introduce their selection of time gestures. "Time", they write, "is a great mystery. It passes and passes, and yet is always there. And now please try to imagine", the authors continue,

> how such an abstract notion as "time" can be represented in the language of the deaf. – Of course there are aids, which grasp the time in words – or indeed gestures. "Monday" or "hour", or "tomorrow" … – all these concepts can be expressed … by means of gestures. But how can the language of gestures also explain the

flow or the relations of time? For someone who can hear this will at first sound strange, but perhaps one may assume that the language of gestures is better suited to handle the phenomenon of "time" than are words spoken: gestures can be performed slowly or quickly, in a restrained or in a lively way… Particularly important pronouncements, especially when they are of an abstract nature, speakers often underline with spontaneous gestures. Those who venture to use the language of gestures, must perhaps not anymore depend on such motor crutches.[80]

In my book *Zeit und Bild* I have attempted to formulate a somewhat similar idea. I quoted from Augustine the famous passage, "What then is time? If no one asks me, I know: if I wish to explain it to one that asketh, I know not"[81], adding, by way of interpretation, that Augustine's embarrassment was understandable, since he possessed certain perceptual images related to time, did not however have at his disposal, as neither have we today, a verbally articulated definition.[82]



*Figure 7: "immer" ("always")*
*From Strixner–Wolf*

Now there is a dimension of time, or, perhaps more precisely, an alleged dimension of time, *eternity*, for which natural sign languages apparently lack an expression. In his paper "Time and Eternity"[83] J. N. Findlay distinguished between the view of eternity as, on the one hand, an "indefinitely long time" – this view, he thought, was not at all interesting philosophically – and on the other hand as timelessness. It is the latter view McTaggart found so fascinating, and the view no natural gesture seems to be able to express. Natural sign languages

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[80] *Ibid.*, p. 121.
[81] Augustine's *Confessions*, transl. E. B. Pusey, Book XI, Chapter XIV.
[82] Cf. Kristóf Nyíri, *Zeit und Bild: Philosophische Studien zur Wirklichkeit des Werdens*, Bielefeld: Transcript Verlag, 2012, pp. 144 f.
[83] J. N. Findlay, "Time and Eternity", *The Review of Metaphysics*, 1978–79.

of course do have a gesture for "always", and the *Kleines Wörterbuch*, too, depicts such a gesture (Figure 7). And both German Sign Language, and for instance its Hungarian counterpart, have a gesture for "eternity". But it is significant that, very obviously, this gesture is simply identical with the gesture "always". The experience of eternity, of the "eternal present" William James invoked in his Gifford Lectures, the experience of timelessness, has no motor basis, is a purported experience one can express in words but not in gestures. By contrast, the experience of the passage of time, of the reality of time, is embodied, and made visible, in the gestures of time, and indeed in all our gestures.

SEE THE VIDEO

*Kristóf Nyíri*

# Suppression, Depression, Pictorial Pressure: The Road from Freud to Arnheim

This talk is not about the depression I suppress when looking at the increasingly forgetful state of image research, oblivious, for reasons I cannot fathom, of insights long made. Say there is an encyclopedia entry, "Image", by a professor called Jens Schröder,[1] deeply immersched in the topic, an entry in which *mental images*, surely prior to any man-made picture, are not even mentioned. By contrast, my present talk focusses on just these images in the soul, the devastating, rescuing, and elevating power they have.

## Freud

The suppressing force of some mental images, specifically of dream-images, was classically investigated by Sigmund Freud. Dreams, Freud proposed, cover up what they are actually about, they disguise the unpleasant and disquiting "dream-thought"; the disguise is framed in a "pictographic script", the "colourless and abstract expression in the dream-thought being exchanged for a pictorial and concrete one.

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[1] In Ludger Kühnhardt and Tilman Mayer (eds.), *The Bonn Handbook of Globality*, vol. 2, Springer International Publishing, 2018, pp. 867–876.

… A thing that is pictorial is, from the point of view of a dream, a thing that is *capable of being represented*", the dream-thought is, characteristically, transformed into a "pictorial language" in which im-
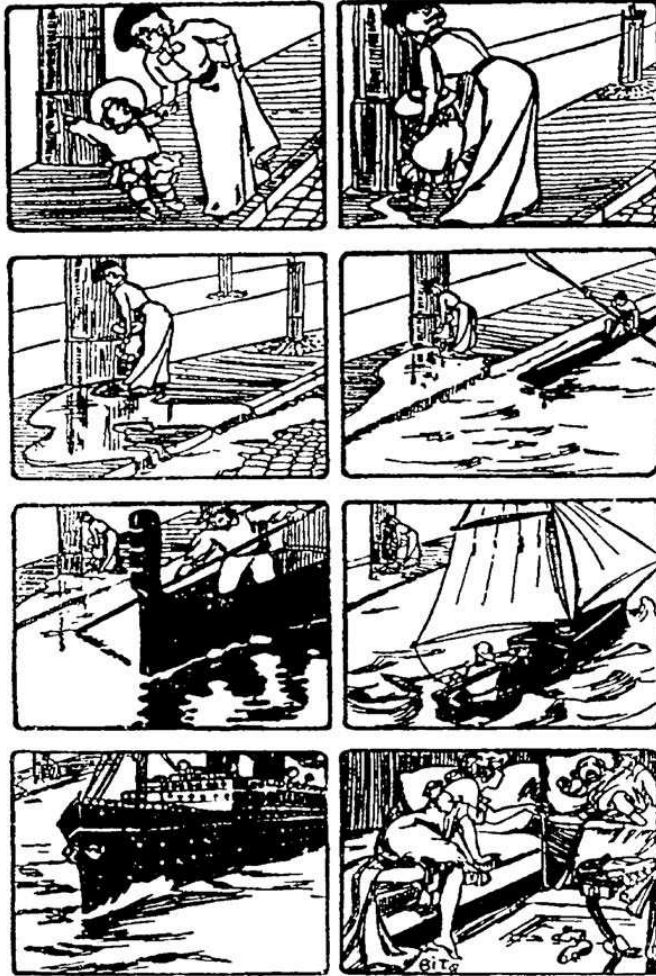


*"A French Nurse's Dream", printed in the Basic Books ed. of* The Interpretation of Dreams. *The cartoon was found by psychoanalyst Sándor Ferenczi in a Hungarian comic paper called* Fidibusz. *Ferenczi saw how well it could be used to illustrate the theory of dreams.*

ages are employed to "repress" painful and disturbing feelings, with "the measure of suppression" indicating "the degree of our psychical

normality", that is the degree to which "neurotic symptoms", e.g. depression, are present.[2] Freud's psychoanalytic method of healing consisted in getting rid, by way of therapeutic conversations, of the concealing images, dissolving them with the aim of uncovering the trauma that lay behind them.

## From Galton to Titchener

The next great chapter in the history of psychoanalysis is of course the work of C. G. Jung, but before touching on that work we must refer to an author both Freud and Jung were aware of: Francis Galton. A widely known invention by Galton is that of "composite portraiture", that is, composite photographs.[3] Freud mentions these in *The Interpretation of Dreams*.[4] Galton was also famous for psychometric
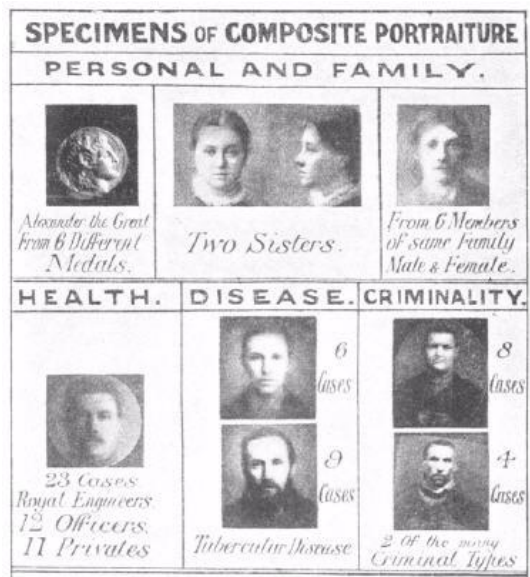


*Francis Galton,* Inquiries into Human Faculty and Its Development *(1883), 2nd ed., London: J. M. Dent & Co., 1907, p. 27.*

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[2] I am here using the James Strachey translation (1955) of *The Interpretation of Dreams*, New York: Basic Books, 2010, pp. 296, 354, 250, 579 and 267, the word for "depression" in the German original is "Verstimmung".

[3] See Francis Galton, *Inquiries into Human Faculty and Its Development* (1883), 2nd ed., London: J. M. Dent & Co., 1907, pp. 6 ff.

[4] *Op. cit.*, pp. 164, 311 and 499.

experiments, measuring word-association reaction times – it is these experiments Jung refers to in an early paper of his. Now what we have to note here is that Galton in his 1879 essay "Psychometric Experiments",[5] while assembling a mass of word-association statistics, continuously connects his observations with the phenomenon of inner mental images. And in the volume *Inquiries into Human Faculty and Its Development* there is a chapter, "Mental Imagery", in which Galton outlined, based on empirical investigations, a well-rounded and extremely influential theory of mental images, a theory with immediate impact on Alfred Binet, William James and Théodule Ribot, and exploited somewhat later by Edward Titchener, Kurt Koffka, Bertrand Russell, and innumerable others.[6] Galton was struck by the fact that there are people who appear to have no visual memory, and indeed seem to be unable to experience visual mental images. How can such people, Galton asked, get along at all with the task of thinking? His solution: "the missing faculty seems to be replaced so serviceably by other modes of conception, chiefly, I believe, connected with the incipient motor sense, not of the eyeballs only but of the muscles generally, that men who declare themselves entirely deficient in the power of seeing mental pictures can nevertheless give lifelike descriptions of what they have seen and can otherwise express themselves as if they were gifted with a vivid visual imagination".[7] Galton's position was taken up and generalized by Titchener. As the latter put it:

> Meaning is originally, kinaesthesis; the organism faces the situation by some bodily attitude, and the characteristic sensations which the attitude involves give meaning to the process that stands at the conscious focus, are psychologically the meaning of that process. … We are animals, locomotor organisms; the motor attitude … is therefore of constant occurrence in our

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[5] Reprinted in his 1883 volume.

[6] See my volume *Meaning and Motoricity: Essays on Image and Time*, Frankfurt/M.: Peter Lang, 2014, pp. 15 f., compare https://www.academia.edu/40212898/VISUAL_MEANING_Essays_on_Wittgenstein_Image_and_Time.

[7] Galton, *op. cit.*, p. 61.

experience… There would be nothing surprising in the discovery that, for minds of a certain constitution, all nonverbal conscious meaning is carried by kinaesthetic sensation or kinaesthetic image. And words themselves, let us remember, were at first motor attitudes, gestures, kinaesthetic contexts…[8]

## C. G. Jung

In *The Interpretation of Dreams* Freud remarked that some symbolisms appearing in dreams are "shared by dreams with psychoneuroses, legends and popular customs", adding that neuroses are here "following paths along which all humanity passed in the earliest periods of civilization".[9] This was a once-only remark, one which however might easily lurk in the background of Jung notion of a *collective unconscious*, the contents of which are constituted by *archetypes*, "primordial images".[10] These images should be encouraged, by the psychiatrist, to enter consciousness, and they should not be, as it were, analyzed away – on the contrary, they should be allowed to clarify the emotions underlying them. Revealing is Jung's 1929 talk "Aims of Psychotherapy".[11] As he here tells us, it often happened that patients would recount some dream in which the colours were particularly vivid, or in which there appeared a strange figure. Sometimes the dreams were directly about photographs, or images painted or drawn, or illuminated manuscripts, or even about the cinema. Jung

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[8] Edward Bradford Titchener, *Lectures on the Experimental Psychology of the Thought-Processes*, New York: Macmillan, 1909, pp. 176 f.

[9] Freud, *op. cit.*, pp. 360 f.

[10] The question whether those primordial images actually have a visual dimension I have discussed in some detail in my essay "Forever Jung", Dunabogdány: 2020, see http://www.hunfi.hu/nyiri/Forever_Jung.pdf or https://www.academia.edu/44107405/Forever_Jung. A highly interesting book on the topic that only recently came to my attention is Paul Downes, *The Primordial Dance: Diametric and Concentric Spaces in the Unconscious World*, Oxford/Bern: Peter Lang, 2012.

[11] "Ziele der Psychotherapie", published in C. G. Jung, *Seelenprobleme der Gegenwart*, Zürich – Leipzig: Rascher Verlag, 1931. English translation in C. G. Jung, *Modern Man in Search of a Soul*, London: Kegan Paul, Trench, Trubner & Co., 1933, translated by W. S. Dell and Cary F. Baynes.

urged his patients to translate into paintings their dreams and fantasies. "But why do I encourage patients", he asks, "to express themselves by means of brush, pencil, or pen at all?" The explanation: it will definitely have an effect if one struggles for hours with "refractory brush and colours". He goes on:

> the physical shaping of the image enforces a continuous study of it in all its parts… This invests the bare fantasy with an element of reality, which lends it greater weight and greater driving power. And these self-made pictures do indeed produce effects… a patient needs only to have seen once or twice how much he is freed from a wretched state of mind by working at a symbolical picture, and he will always turn to this means of release whenever things go badly with him.

And Jung continues: "The patient can make himself creatively independent… … by painting himself he gives shape to himself."[12] The method he used for healing his patients Jung also applied to his own illness. He kept some notebooks, from 1913 onwards for a number of years, in which he entered his neurotic fantasies, accompanied by paintings, among them numerous mandalas, he made. They are now published as the *Red Book*[13] (for images see the next page).

## The Bauhaus and Arnheim

The Bauhaus movement, the *Staatliches Bauhaus*, was – this should not come as news to you – a German art school, active in its home country from 1919 to 1933, combining crafts and the fine arts.[14] What

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[12] For the broader context of this train of thought in Jung's theories see my "Forever Jung", pp. 11 ff.

[13] See my "Forever Jung", pp. 24–30.

[14] As Kárpáti puts it: "the iconic German arts and crafts college". See Andrea Kárpáti, "Art Education and Youth Subcultures – From Child Art to the Visual Language of Adolescents: Changing Concepts of Creativity in Art Education", in A. Benedek – K. Nyíri (eds.), *Learning and Technology in Historical Perspective* (*Perspectives on Visual Learning*, vol. 3), p. 31, in the section of her paper refer-
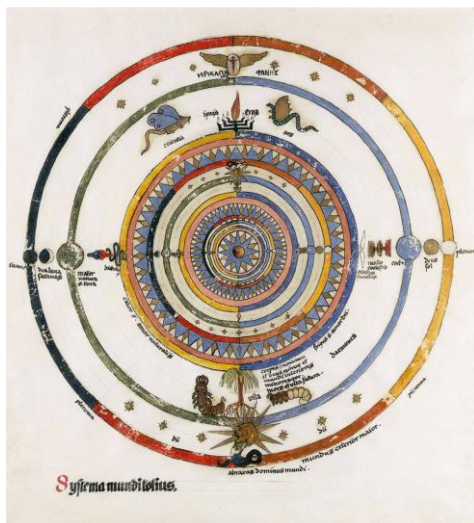
*"Systema munditotius",
the first mandala painted
by Jung, in 1916.*
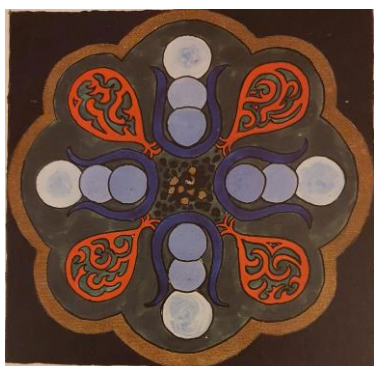


*Mandala drawn by Jung on
Aug. 2, 1917, in one of the*
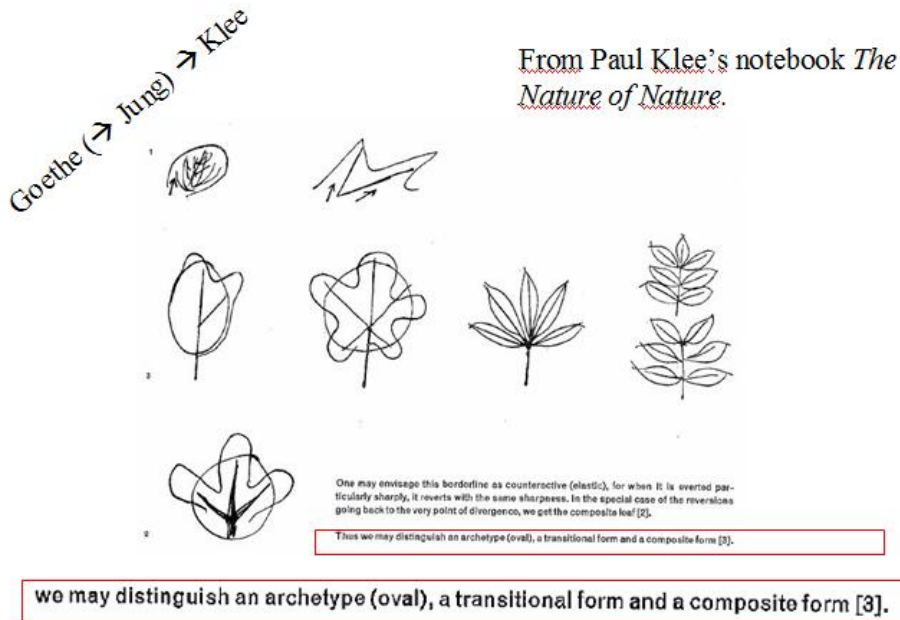Black Books *(precursors to the*
Red Book*).*



*The painted version
of the same drawing
in the* Red Book.

should also not come as news, but perhaps it does, is that Jung definitely had an impact on the Bauhaus. It should not come as news, for Jung was, in the 1920s and 30s already, wildly popular worldwide, and of course especially so in Switzerland, Austria, and Germany. He

ring to the role of Hungarians such as László Moholy-Nagy and György (Georg) Kepes in the Bauhaus movement.

had a significant impact on the Swiss painter Paul Klee, a major figure in the Bauhaus, who was, also, very much under the influence, as many in the movement were, of Gestalt psychology.[15] Walter Gropius, the founder of the Bauhaus movement, was not uninfluenced by Jung either, similarly to Moholy-Nagy and other Bauhaus members.[16]

Goethe (→ Jung) → Klee

From Paul Klee's notebook *The Nature of Nature*.

One may envisage this borderline as counteractive (elastic), for when it is averted particularly sharply, it reverts with the same sharpness. In the special case of the reversions going back to the very point of divergence, we get the composite leaf [2].

Thus we may distinguish an archetype (oval), a transitional form and a composite form [3].

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*"Archetypes" – Jung influencing Klee*

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[15] On Klee and the Gestalt psychologists there are some enlightening passages in Marianne L. Teuber's "*Blue Night* by Paul Klee", see the volume *Vision and Artifact*, dedicated to Rudolf Arnheim, ed. by Mary Henle, "Foreword" by Rudolf Arnheim, New York: Springer, 1976, pp. 144 f. Henle specifically refers to Klee's notebooks *The Thinking Eye* and *The Nature of Nature*, in which Klee uses the term "archetype", taken from Goethe both by Klee and by Jung.

[16] See Lee Congdon's chapter "László Moholy-Nagy: The Bauhaus", in Congdon's brilliant book *Exile and Social Thought: Hungarian Intellectuals in Germany and Austria*, *1919–1933*, Princeton, NJ: Princeton University Press, 1991, cf. esp. pp. 181 and 205 f.

An important member of the movement was György Kepes, who later played leading roles in various American institutions that emerged in the wake of Bauhaus scholars emigrating to the States. In 1944 Kepes published his *Language of Vision*,[17] the first sentence of which is an acknowledgement of the author's indebtedness to Gestalt psychologists. The book contains innumerable images, many of them inspired by, or indeed taken over from, the Gestalt psychology literature. What Kepes has been particularly struck by when examining those images was that they as it were radiated physical forces:

> A point, a line, or a shape on the picture-surface is seen as possessing spatial qualities. If one places a point or a line in one or another position on the surface, the position of the respective optical units in reference to the picture margin will relate different spatial meanings as a dynamic form of movement. The elements appear to be moving left, right, up, down, and to be receding or advancing, depending upon their respective position in the picture-plane. The optical units create an interpretation of the surface as a spatial world; they have strength and direction, they become spatial forces.[18]
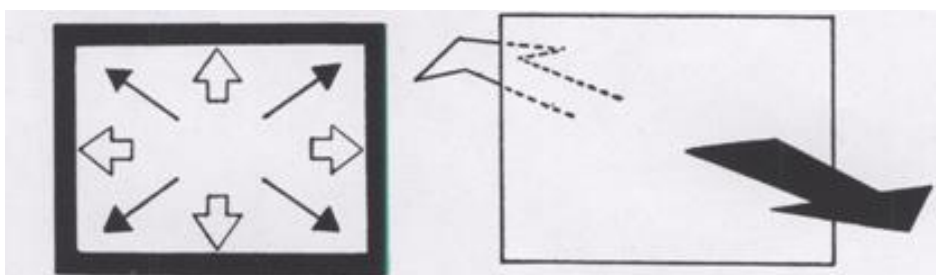


*From Kepes,* The Language of Vision.

Then in 1965 Kepes edited the volume *Education of Vision*[19] in which the first chapter was an essay by art and film theorist and Gestalt psychologist Rudolf Arnheim. This essay, "Visual Thinking", is a precur-

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[17] Chicago: Paul Theobald, 13th large printing edition 1969.
[18] *Ibid.*, p. 19.
[19] New York: George Braziller.

sor to Arnheim's seminal 1969 book *Visual Thinking*.[20] Arnheim's fame at that time was already firmly established by his 1954 volume *Art and Visual Perception*. The volume begins with a display of chararacteristic Gestalt psychology pictures, displaying tensions as contrasted with balance. Those tensions, as Arnheim stresses, actually project *psychological forces*.
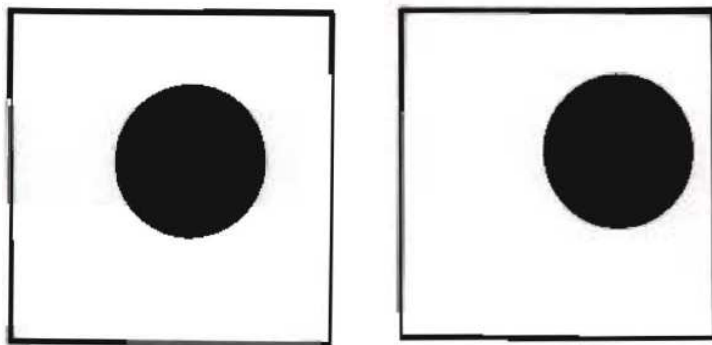


*Balance and tension – forces radiating from an image.*
*(Arnheim,* Art and Visual Perception.*)*

Significantly, later in that volume Arnheim makes an important reference to Jung. "The development of pictorial form", Arnheim writes,

> relies on basic properties of the nervous system, whose functioning is not greatly modified by cultural and individual differences. It is for this reason that the drawings of children look essentially alike throughout the world, and that there are such striking similarities among the early art products of different civilizations. A good example is the universal occurrence of circular, concentrically arranged figures, to which Jung has applied the Sanskrit word "mandala". … Jung refers to this pattern as one of the archetypes or collective images that appear everywhere, because the collective unconscious, of which they

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[20] Berkeley: University of California Press.

are a part, "is simply the psychic expression of identity of brain structure irrespective of all racial differences".[21]

Arnheim is, to date, the towering figure of *Bildwissenschaft*, as the Germans today call the discipline very few of them actually practice. What they actually practice is a theory of words telling about pictures. The Budapest Visual Learning conference series, in the course of ten years, with the ten volumes it has produced, and with my own humble attempts at some sort of a synthesis,[22] has not succeeded in altering this state of affairs. Let us hope the 9th Budapest Visual Learning online event will turn the tide.

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[21] *Ibid.*, p. 167.
[22] See my "Postscript: The Victory of the Pictorial Turn", in András Benedek and Kristóf Nyíri (eds.), *Vision Fulfilled: The Victory of the Pictorial Turn*, Budapest: Hungarian Academy of Sciences / Budapest University of Technology and Economics, pp. 251–267, 2019, and my "Epilogue", in András Benedek and Kristóf Nyíri (eds.), *Image and Metaphor in the New Century*, Budapest: Hungarian Academy of Sciences / Budapest University of Technology and Economics, 2019, pp. 209–218.

As I prepare to teach my PhD course in the autumn of 2025 at the Doctoral School of Philosophy, University of Pécs, I noticed that several items on the suggested reading list – my own publications – were originally written in English. It struck me that it might be helpful for students to have these texts collected in a single English-language volume. This booklet is the result.

The course I'm designing – KÉP ÉS IDŐ, or *Image and Time* – will be a rather unique endeavour. Students will not simply read and discuss the assigned texts with me to gain knowledge. Instead, the course aims to construct a new line of argument: one that challenges the mainstream notion of time's uniformity. It proposes that time does not pass at a constant speed – not merely in perception, but in reality. Sometimes, time truly moves faster; at other times, slower. I am deeply grateful to Professor Gábor Szécsi, Dean and Head of the Doctoral School, for supporting such a boldly experimental course.

Kristóf Nyíri (1944), PhD, Dr. h.c., is Member of the Hungarian Academy of Sciences, and a retired philosophy professor. He has held various visiting professorships in Austria, Finland, and the USA, and was Leibniz Professor of the University of Leipzig in 2006/2007. His main fields of research are Wittgenstein, the theory of conservatism, the philosophy of images and the philosophy of time.