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2016

<https://doi.org/10.25969/mediarep/13404>

Veröffentlichungsversion / published version

Sammelbandbeitrag / collection article

Empfohlene Zitierung / Suggested Citation:

Munnik, René: Technology and the End of History – From Time Capsules to Time Machines. In: Liisa Janssens (Hg.): *The Art of Ethics in the Information Society*. Amsterdam: Amsterdam University Press 2016, S. 106–110. DOI: <https://doi.org/10.25969/mediarep/13404>.

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TECHNOLOGY AND THE END OF HISTORY

FROM TIME CAPSULES TO TIME MACHINES

René Munnik

Time machines are not just imaginary devices that appear in science fiction. They exist. In fact, their precursors – time capsules – have been around for millennia. Since the last decades however, they turn into veritable machinery. The essential feature of a time machine is that it transforms non-contemporaries into contemporaries by eliminating their time distance. In order to understand how they work, let us have a brief look at the long history of time capsules. The most basic examples are simply relics of the past that convey fixated life signs from ages gone by – the kind of things palaeontologists and archaeologists search for in their endeavour to reconstruct lost worlds.

The invention of writing (c. 3000 BCE) and especially of the alphabet (c. 1000 BCE), improved time capsules considerably. They began to transfer articulated messages. This was the prerequisite for our common understanding of ‘history’ – a chronological complex of events witnessed by documents in archives and libraries. For centuries, history mainly comprised accounts of verbalised facts and thoughts, since the written word was its primary vehicle. Much later, in the nineteenth century, time capsules were improved once more: the introduction of photography, phonography, and film produced time capsules that contained fragmentary audible and visible traces of the past. They made it accessible for eyes and ears, and, by consequence, they changed our image of recent history fundamentally.

Today, in the age of information technology, we witness a revolutionary development of genuine time machines. Just like time capsules, they mirror our desire to foster the things we cherish or satisfy our curiosity – from scientific specimens to personal memories we treasure, up to the unesco’s *World Heritage* and all the things that accompany the ethical and political imperative to commemorate. Apart from that, two things offer us the potential to actually realise them. The first one relates to our conceptions of knowledge and reality. The contemporary dominance of the information paradigm in our scientific understanding of the world means that ‘real knowledge’ of any object ‘X’ implies that ‘X’ is revealed as an instance or a product of some particular form of information processing. The second relates to our increasing technological abilities to realise anything describable as an instance or a product of information processing, by computers, gene-synthesis, and the like.

These two match perfectly. So, if you would know everything there is to know about ‘X’ – say, some human individual, its behaviour, its genetic makeup, its character, its intelligence, the sound of its voice, etc. – it would mean that you possess all the data and algorithms that characterise it. On the other hand, once you possess all those data and algorithms, theoretically you can duplicate it. The original and its reconstruction are more than perfect lookalikes. They are indiscernible, certainly from a scientific perspective, because all their relevant characteristics are identical. This is an instance of the boundary blurring of contemporary techno-science. It makes it gradually more difficult to draw the line between original and reconstruction, between reality and appearance, between nature and artefact, between man and machine.

Now, if you implement that into time capsules by making them transfer all the relevant data and algorithms, they become time machines. Time machines work by virtue of the blurring of a very particular boundary: the one between the (absent) things-gone-by and their (present) reconstructions. Consequently, the difference between the re-presentation of a past thing and its presence in the present (take these words in their temporal meanings) resolves. In old-time time capsules, you could easily distinguish the originals from their remaining traces. For instance the fossil of a T. Rex from the extinct species itself, or the image on a photo from the deceased person you miss. However, with state-of-the-art time machines you can have real T. Rex fooling around in some contemporary amusement park, or perhaps be disturbed by the uncanny presence of your late friend.

Only a very small part of it is realised these days and probably a lot of it will never be, but that does not mean that the whole idea is unrealistic. In fact, we are on the verge of collecting and documenting immense amounts of data that provide the necessary resources. Moreover, we are discovering more and more about the informational processes that determine reality, both biologically and psychologically. Finally, it is likely that we will possess the appropriate computational power to handle all these data. If so, we are becoming the inhabitants of a 'past' that will be pretty much of a present for those who live in the future.

In the remainder, I will draw on two issues. First, that the development of time machines is not a complete novelty, but rather the next stage in an age-old cultural trend. Secondly, I will point to its enormous societal and cultural impact, amounting to a complete transformation of our time constitution conceivable as 'the end of history'.

The Alphabet

Scholars in the humanities usually underestimate the role of the alphabet as the technological condition of literacy. Young children who are learning to read and write know this very well. However, once they have outgrown this preparatory phase, they enter a life world in which texts are omnipresent in religion, legal practice, science, art, education, and daily life – and so much so that literacy became an essential element of Christian and humanist anthropology. It all belongs to the enormous cultural spin-off of the technology of the alphabet.

Before the introduction of alphabetic writing, the word only existed as a spoken word (Greek: *mythos*). It was never without a mouth and a voice with a timbre, it was accompanied by gestures, and it demanded the proximity of speakers and listeners. In those days, people only knew about the more remote past from hearsay, from stories told: narratives, legends. It did not reveal itself by its own articulated and archived messages.

Stories that depended exclusively on memory and oral practices were susceptible to improvisation and contamination.¹ They were loosely fixated, and adapted themselves easily to changing circles of narrators and listeners. Even memorised and recited genealogies did, and if they changed, this could hardly be noticed because it lacked documents as benchmarks to discern it. By using metre, rhyme, and melody, the motility of words was restrained. These poetic means supported memory and served as a fixative for words. Stories, laws and prayers were preserved and perpetuated as songs, proverbs or poems. The name of the mother of the Muses – *Mnemosyne* – points at this didactic-societal role in oral traditions; it means '(collective) recollection.'²

Moreover, if a story were not kept in memory, by telling, performing, or singing it repeatedly, it would vanish without any trace. Only by appealing to their imagination and fascination, a story enticed people to retell it again and again. What perhaps began as a witness report of a battle would either transform into a heroic gigantomachy or might fall into complete oblivion. In a primary oral culture, the only account of the past consists of such once-upon-a-time type of tales. Its past is fundamentally different from history as we know it, the latter consisting of facts situated on a continuous timeline that runs into our own lifetime. It is 'mythical', and within an oral setting there is absolutely no alternative: it is *its* past without further qualification. Whoever, if any, is hidden behind 'Odysseus' remains shrouded in the mist of time. He certainly is not a historical figure, but his kind exemplifies the only mode of existence in which inhabitants of an orally transmitted past can appear. The decisive factor in the transition from non-history in prehistoric times to history as we know it, was the invention of the alphabet.³ History *had* a beginning, and so, possibly it has an end.

Media

With some significant boosts – e.g. the rise of medieval universities, humanism in Renaissance, and the introduction of the printing press, the Reformation and the civilised urge for literacy in early Modernity –, the alphabet retained and strengthened its cultural monopoly until the 19th century. By then, other media were introduced, like photography in the 1830s. It was able to transfer much more information within the realm of visible things. The past began to expose itself

¹ 'Orality' here signifying 'primary orality', as coined by Walter Ong (2002), i.e. a total absence of literacy.
² As Eric Havelock uses it in the title of his book *The Muse Learns to Write* (1986).

³ Brevity of exposition forces me to leave unmentioned other major consequences of scripture, like the rise of (literate) thought, religion (of the book), and (codified) law. For a somewhat more elaborate account, see Tijdmachines Munnik. 2013: 136-148.

as never before. Early photographers, well aware of the fact that photographic portraits counted as the successors of death masks, would advertise with slogans like 'secure your shadow ere the substance fade'. It enabled people to smile *post mortem* to the living with embalmed gestures. In general, the overall image of the past started to consist of journalistic pictures: photographic one-to-one representations.

When, some fifty years later, Thomas Alva Edison invented phonography, acoustic time capsules came around. While the alphabet unleashed words from ephemeral voices, Edison's machine unleashed voices from mortal mouths by capturing them on tin foil or wax cylinders; it tamed the goddess Echo. From then on, fragments of the past could resound on-demand, and singers could go on to affect the living, although their mouths and throats had long since perished in their graves. In the days before the invention of the phonograph, things were easy: if you heard a voice, you could be sure that someone was along. However, after that invention, it could also sound from a loudspeaker. Voices from loudspeakers can be equally from the living or from the dead, without you being able to hear any difference. Perishableness faded away from the realm of audible things. Consider this as a primitive forerunner of what time machines can do: that you experience something or someone, being unable to locate what you experience: something of the present, a trace from the past, something past, or all in once.

Without any doubt, past things will reveal themselves more and more sense appealing and lively in the near future. It already started in the 19th century and you might wonder: how vivid in the end? My answer: probably very vivid. Perhaps more than one would wish... an invasion of the inhabitants of *Hades*, who attained a *high-tech* high way into the present. Of course, you can demolish the whole machinery in order to silence them, but I doubt that you can justify such destructive act, because its elimination equals a book burning and can be considered committing high treason against history.

The End of the 'Historical Era'?

All time capsules are based on the same principle: something perishable is made persistent – spoken words, voices, statures, events are captured in writings, recordings, photos, and movies. Today, in neuroscience and Artificial Intelligence, the mind is mainly conceptualised in terms of information processing, and in molecular biology life is conceived in a similar way. They become recordable, storable, and reproducible as well.

Jurassic Park was an entertaining blockbuster. It was fiction, and probably it will remain so forever. Certainly, it contained some scientific blunders, but the basic idea was not just a fantasy. If you would possess all the genetic material of a past life form including the recipe to process it, you could revive it. Just like you could enjoy a performance of a lost Monteverdi madrigal if you found the original score in a forgotten archive. We do not possess enough genetic material of dinos to do it, but we have an abundance of such material at our disposal of still existing, endangered species. Currently, that is being stored massively in gene banks and frozen zoos, with the apparent purpose to avoid their demise. The environmental crisis and global warming gain apocalyptic proportions and catalyse an unprecedented urge for conservation: these gene banks have a status comparable with Noah's Ark. They are attempts to avoid at all costs what happened to the mammoth and the dodo: extinction. If it succeeds, the net result is that they will never become 'history' anymore.

These time machines are champions in a battle against the scandal of transience. They are attempts to undo the vanishing trick of time by chiselling the teeth from its jaws. The age-old development until now, suggests that it can succeed. The alphabet transformed the mythical time constitution into 'history' with its historical figures and facts. It is crucial for a 'historical fact' that it is *absent* and nonetheless counts as an *objective reality* because of its position on a timeline witnessed by writings that guarantee a continuous connection with the present. Oral cultures did not have that. They lacked the written witnesses and the continuity, and as a consequence the awareness of 'objective historical facts' did not even enter the mind. But literate minds definitely possessed such idea of objectivity, and used it as a standard to disqualify an orally transmitted

remote past as 'mythical', henceforth meaning 'fictional'. Perhaps they are very profound fictions from a literary, psychological or existential perspective, but still fictions, anything but facts.

Time machines, in their turn, interfere in the historical time constitution that superseded the mythical version. They do so by substituting the continuous connection of writings by the formal identity of data and algorithms. By consequence the essential absence of 'historical facts' is superseded by re-presentations indiscernible from present realities. Figuratively speaking: 'a T. Rex in your backyard'.

We have become used to the fact that spatial distances do not really count anymore. A telephone brings you closer to someone abroad than to the man next-door. Distance is no longer about kilometres; it is a matter of the quality of mediating technologies. And the more sophisticated the medium, the more unnoticeable it becomes. In practice, it is irrelevant to object that what you hear in the phone is not your friend's voice far away, but its electromagnetic reconstruction from a headset. That is irrelevant because you are involved in a real conversation with your friend. Obviously, the world has shrunk.

Time capsules make the timeline shrink. People born after 1980 never knew John Lennon alive. Still, from their perspective, he did not pass away as remote as Enrico Caruso. Again, the relative temporal proximity of Lennon is not only a matter of the number of years since he died. It is realised through mediating technologies that happen to be available quite recently.

Time machines however, have the capacity to make the timeline implode altogether by teletransporting past things, no matter how far off temporally, to 'recreancy'. In doing so, they mess up the neat chronological sequence, and in doing so they blur the distinction between historians and journalists. And just like the telephone, it is irrelevant to object that they only make you experience an informational reconstruction, and not the past thing itself. That is because you are involved in a real confrontation with something that makes no difference with the past thing.

Our appreciation of past events, objects, people, anything, makes us destroy their pastness. We do not even have to prepare ourselves for this future post-historical human condition. It will just happen, though we can hardly imagine what it will be like. But if they live, people will get used to it, and when they do, perhaps they will be puzzled... not understanding how life was in a world in which things go by, just like we have difficulty in understanding how 'oralists' lived in a world exclusively conceivable as emerging from chimera's, hero's, demigods, and gods.⁴

⁴ Two remarks about '...go by'. The first: time machines only undo the transience of things of the object-kind, including appearances of other subjects. I do not make any claim concerning the undoing of mortality of subjects. Living under the post-historical human condition remains singular and may just as well be short. The second: entering a time machine implies isolating an item from its

context. Consequently, particulars can be made persistent, but not their total context or 'world'. It is the strength of the hermeneutical approach that it emphasizes the historicity of the world rather than its components, as for example in Heidegger's *Sein und Zeit* 2008: 378-404: even in the post-historical condition, a lost world remains a lost world.

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