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Creators	Fell, Elena Vladimirovna

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Memory transition between communicating agents

Elena FELL

Researcher, School of Journalism, Media and
Communication, University of Central Lancashire,
UNITED KINGDOM
elena.fell@ntlworld.com

Abstract: What happens to a memory when it has been externalised and embodied but has not reached its addressee yet? A letter that has been written but has not been read, a monument before it is unveiled or a Neolithic tool buried in the ground – all these objects harbour human memories engrained in their physicality; messages intended for those who will read the letter, admire the monument and hold the tool.

According to Ilyenkov's theory of objective idealism, the conscious and wilful input encoded in all manmade objects as the 'ideal' has an objective existence, independent from the author, but this existence lasts only while memories are shared between communicating parties. If all human minds were absent from the world for a period of time, the 'ideal', or memories, would cease to exist. They would spring back to existence, however, once humans re-entered the world. Ilyenkov's analysis of memories existing outside an individual human consciousness is informative and thorough but, following his line of thought, we would have to accept an ontological gap in the process of memory acquisition, storage and transmission. If there is a period, following memory acquisition and preceding its transmission, when memories plainly do not exist, then each time a new reader, spectator or user perceives them, he or she must create the author's memories *ex nihilo*. Bergson's theory of duration and intuition can help us to resolve this paradox.

This paper will explore the ontological characteristics of memory passage in communication taken at different stages of the process. There will be an indication

of how the findings of this investigation could be applicable to concrete cases of memory transmission. In particular, this concerns intergenerational communication, technological memory, the use of digital devices and the Internet.

Keywords: Ilyenkov, memory transition, image, digital devices, intergenerational communication

Transition de la mémoire entre les agents communicants

Résumé : Qu'arrive-t-il à la mémoire lorsqu'elle a été extériorisée et incarnée sans encore toucher son destinataire ? Une lettre qui a été écrite mais pas encore lue, un monument avant qu'il ne soit dévoilé ou un outil du Néolithique enfoui dans le sol – tous ces objets contiennent des « mémoires humaines » incrustées dans leur *physicalité* ; des messages destinés à ceux qui liront la lettre, admireront le monument et tiendront l'outil...

A partir de ce questionnement et en s'appuyant sur la théorie d'Ilyenkov sur l'idéalisme objectif, l'article s'intéressera aux caractéristiques ontologiques du passage de la mémoire à la communication à différents moments du processus. Le but consiste à montrer comment s'applique-t-elle la transmission de la mémoire à des situations concrètes de communication, en particulier à la communication intergénérationnelle, à la mémoire technologique, à l'usage des dispositifs numériques et de l'Internet.

Mots-clés : Ilyenkov, transition de la mémoire, image, dispositifs numériques, communication intergénérationnelle

Whether or not we consider Shannon and Weaver's model to be an oversimplification of the complexity of human communication (Shannon and Weaver, 1949),* it could be argued that the transmission of information is something

* Shannon and Weaver's model presents communication as a process of "transmitting information". According to them, communication involves 6 elements: (1) an information source which produces a message; (2) a transmitter which encodes the message into signals; (3) a channel, to which signals are adapted for transmission; (4) a receiver which decodes the message from the signal; (5) a destination, where the message arrives; (6) noise which may distort the message. This model was supposed to aid telephone and radio communication but, instead of being restricted to a mathematical theory of communication it was "widely accepted as one of the main seeds out of which Communication Studies has grown" (Fiske, 1982: 6) and gave rise to a transmissive model of communication.

that every instance of communication necessarily entails. Ideas and instructions, opinions and historical accounts, even emotional outbursts contain information which is delivered to the recipient in the course of a communicative act.

The process of passing information from the giver to the receiver involves a future directed vector, where information, prior to being communicated to the recipient, is first accumulated and retained by the giver. Thus all those items of information passing from mind to mind contain memories, and the transmission of information in its turn necessarily involves the transmission of memories. Focusing on the process of memory transition between communicating agents, I will examine the changing ontological features of memories as they are acquired, stored and communicated.

1. Acquisition of memories

Bergson's analyses of image perception (Bergson, 1991) and memory formation where he discusses the memory of the present (Bergson, 1975, p. 134 – 185) can be helpful whilst we consider the stage of memory accumulation that precedes memory transition to the recipient.

Material objects, Bergson observes, do not merely exist in themselves, undetectable and imperceptible. They can be heard, felt, seen and smelt. Bergson finds this a decisive feature of physical bodies and defines matter as "an aggregate of images." (Bergson, 1991, p. 9) He uses the term "image" in order to capture that element which connects the percipient subject and the thing perceived – image is something which is shared by both: the thing emanates it, and the subject receives it in perception. As Bergson says, by "image" we mean a certain existence which is more than that which the idealist calls a *representation*, but less than that which the realist calls a thing – an existence placed halfway between the "thing and the "representation" ... [T]he object exists in itself, and, on the other hand, the object is, in itself, pictorial, as we perceive it: image it is, but a self-existing image. (Bergson, 1991, p. 9 - 10)

Placing an image between a representation and a thing, Bergson proposes a term which is supposed to reflect a transition from the object to the subject and a correlation between them. Whereas representation belongs exclusively to the subject as a private mental process, and a thing is a fragment of physical reality with no reference to the subject, an image is a feature that relates to both: the perceivable object is an image for the subject, and the subject accesses and appropriates this image. The difference between the Bergsonian image and a mere imprint is that whilst an imprint is what the object makes and leaves behind, an image is what the object emanates and gives to the subject, but also retains.

An image belongs to the mind because it is what we find in ourselves when we see, hear or touch: pictures, sounds and sensations. But it also belongs to the object inasmuch as the latter appears on the superficial level as a picture, sound and touch. If our perception is to be compared with a photograph of things, then we must realise that this photograph “is already taken, already developed in the very heart of things.” (Bergson, 1991, p. 38)*

Extending thus the idea of visual imagery to imagery in a wider sense and accounting for the dynamism of reality, one can extend the Bergsonian account of image perception as perception of things to the perception of events. Just as image and image perception provide a point of fusion between the perceiving subject and the perceived object, the same could be said about events which we perceive. It may be possible to ascertain then that event perception is fused with the event itself via the imagery of the event and the imagery perception, so that both constitute phases of one and the same process. This could account for at least one aspect of memory acquisition concerning sensory data (which in its turn fuses with our formerly acquired memories of similar events and related concepts so that we can intelligently interpret what we have seen and heard).

Bergson derives memory formation from perception claiming that it is an illusion to believe “that memory *succeeds* perception.” (Bergson, 1975, p. 160) He states: “[T]he formation of memory is never posterior to the formation of perception; it is contemporaneous with it.” (Bergson, 1975, p. 157) Memory, he asserts, is formed alongside perception (Bergson, 1975, p. 159 – 160), and after perception has ceased, memory remains. (Bergson, 1975, p. 164). In other words, memory which, in the Bergsonian terms, belongs to the domain of the past is nevertheless formed in the present whilst the perception of images is taking place.

The ontological duality of reality as something that exists objectively and something that can be perceived as an aggregate of images in itself entails the predisposition towards the split of the epistemological process into perception and memory.

Every moment of our life presents two aspects, it is actual and virtual, perception on the one side and memory on the other. Each moment of life is split up as and

* A more detailed exposition and interpretation of images in Bergson, close to this position, can be found in Moore, 1996, p. 23 – 32. For a clearer understanding of the issue, it may be useful to compare and contrast Bergson's theory with alternative accounts of images and imagination. Whereas for Bergson, imagery is the result of the filtering of reality, Crowther's analysis, for example, emphasizes the creative aspect of imagination and the ability of images to be detached from the immediacy of their origin. (Crowther, 2003, p. 66 – 77, especially p. 73 – 75). Husserl opposes imagination and perception (Husserl, 1964, p. 54), and Smart refuses to believe that images exist at all (Smart, 1997, p. 20). For an explanation of various usages of the term “imagination” see Ryle, 1969, p. 245 – 79.

when it is posited. (Bergson, 1975, p. 165) This can help us understand how we form our memories whilst being engrossed in the reality of events:

The memory will be seen to duplicate the perception at every moment, to arise with it, to be developed at the same time, and to survive it precisely because it is of a quite different nature. (Bergson, 1975, p. 164) The difference between memory and perception is explained further in the following terms: The memory seems to be to the perception what the image reflected in the mirror is to the object in front of it. The object can be touched as well as seen; acts on us as well as we on it; is pregnant with possible actions; it is *actual*. The image is *virtual*, and though it resembles the object, it is incapable of doing what the object does. (Bergson, 1975, p. 165)

Both actual and virtual, reality is double-edged. The actual here is its material component that physically interacts with the perceiver inasmuch as he or she is a physical body himself or herself. The virtual component is its image which, immaterial and inactive, can be perceived by one's mind in perception i.e. simultaneously with the image being emanated from the object. Once lodged in our memory, the image disengages from the time when it was perceived and secures its existence outside the object as a memorised image. The entirety of our present appears to us as both perception and memory (Bergson, 1975, p. 166) but when the present existence of an event and our actual, acting involvement expire and become past, perception expires too but memory remains.

If the retained memory is intended to be passed on to others, it needs to be extracted from one's own mind and presented in a way which would make it accessible for other minds. The stage which follows the acquisition of a memory but precedes its transmission to the recipient is the most enigmatic. Words that have been written but not read yet, pictures created but not yet seen, ideas expressed but not yet acknowledged – what is the nature of these phenomena? Do they exist? Do they exist as objective reality? If they exist objectively, then what is the nature of their objectivity?

2. Storage of memories

By 'storage of memories' I mean the stage when memory, released from someone's mind, becomes embodied and externalized in some way, nevertheless remaining in the state of suspension prior to being acknowledged and processed by another mind.

They are no longer an integral part of their author's psychosocial makeup, not part of his or her inner person. They are estranged and alienated from the person who released them with all conceivable consequences. In particular, this is evident from research on technological remembering where the unfailing digital memory of

the Internet puts people at constant risk of being subjected to cyberbullying if they had ever posted painful or harmful material of some sort. (Eede, 2010, p. 171)

Further venturing into the nature of memories in suspension can be largely helped by Ilyenkov's exploration of the objectivity of the ideal. His concept of the objectively existing "ideal" refers precisely to memories which, having become embodied in physical objects, left the domain of one individual brain and became available for others. (Ilyenkov, 2009) Working within the framework of the Soviet philosophy, heavily impregnated with socio-political concerns, he examines such memories as products of labour. However, if his discourse is liberated from the constraints of the Moscovite dialectical materialism, it can be instantly extended to human activity in general inasmuch as the latter generates tangible objects loaded with memories that are passed on to other people who encounter and use these objects.

Ilyenkov sees the creation of the "ideal" in all conscious activity (to which he refers as labour). When a theorist writes a book using a pen and paper or a typewriter, he or she produces an ideal product even though his or her work is presented as a tangible collection of perceivable marks on paper. The writer is engaged in spiritual, not material labour, Ilyenkov says. When a painter paints a picture he or she creates an ideal image, and when a designer makes a drawing, he or she does not produce a material object yet but creates an ideal machine. (Ilyenkov, 2009, p. 23 - 24)

Moving Ilyenkov's discussion away from the preoccupation with different types of labour (physical v intellectual), and replacing the notion of productive labour with that of human activity per se, which inevitably generates tangible objects anyway, we arrive at a depiction of the world where human spirit and human memory are invested and remain present in everything that is handmade or manufactured, from a Paleolithic axe to the Asus Padfone. Every manmade object is permeated by ideas and memories, and every such object contains a message, received and acknowledged when we recognize manmade objects and use them as tools.

Ilyenkov specifically notes that the 'ideal' does not become objectified exclusively in a verbalised form. As well as being objectified verbally, it can be objectified graphically, in a sculpture, or in a ritualistic activity in which we manipulate objects and interact with people in a particular way. When the ideal (or memory) is objectified non-verbally, the communication of it is more effective because nonverbal, ocular objectification can be received directly by another mind rather than mediated by verbal conceptualisation. Drawings and models, symbolic artefacts such as coats of arms, banners and uniforms, household objects and toys, coins and banknotes – all these and similar objects harbour within themselves the ideal imagery which effects communication between human beings.

Referring to the specific ontology of the ideal, or memories, Ilyenkov describes the ideal as images of human culture which are embodied in a material form. For him such imagery is an aggregate of historically established means of societal activity and communication. As far as he is concerned, it is a special form of objective reality opposing itself to an individual as an object comparable to material reality. The ideal is found in the same location as material reality, and for this reason it is often confused with material reality. (Ilyenkov, 2009, p. 31) A story can be confused with the book that contains it, and the photographic image of a person can be confused with the photographic paper on which it is printed.

Ilyenkov asserts that the “ideal” is a relation between two qualitative terms, one of which represents the essence of another in the emanations of human activity. The representation of a thing’s essence can be adequate and pure if another thing’s matter is used as the material for its representation. One thing lodges its essence, ideally conceived, into another thing and the latter becomes the symbol of the former. A diplomat, for example, symbolically represents his or her country, money represents the value of all goods and words represent the meaning of phenomena. The “ideal” is a representation in “other” and via “other” and this is a representation of the very essence of things rather than of their external features.

This representation takes place only in human activity. Contrary to the strict materialistic view which accepts the “ideal” only as imagery that is located inside the brain, Ilyenkov argues that the ideal can be located anywhere and any manmade object can be the body of an idea. (Maidansky, 2004; 2005) Translating the latter assertion into the terms of memory discourse, a recollection can be lodged anywhere, in any artefact or a process driven by conscious activity – a book, a tool, or a dance.

When a fragment of the natural world is invested with a human being’s conscious and wilful input we have an embodied memory, a memory embedded in that fragment of modified matter. This memory will be communicated to those who will encounter the object, to those who will recognise it as a manmade tool or appliance and knowingly use it as intended by its maker.

But what happens to these memories when the tool was made but has not been used? The work of art created but admired by no one? A book written but not read yet? When a book is written memories are lodged inside it, and the book becomes their carrier and representative. When the book is read, memories are retrieved by the reader, but what exactly happens to the memories in the period that follows their externalisation as written words but precedes their being read by the reader?

Ilyenkov has an answer to that – an inevitably materialistic one. The ideal, or memories, which are encoded in manmade objects, exist only as inter-subjective reality. They exist for as long as human minds exist. Ilyenkov recalls Dubrovsky’s

thought experiment according to which, if someone would suddenly put all people into a deep sleep for ten minutes, there would be nothing ideal existing on our planet during that time. (Ilyenkov, 2009, p. 23) For us it should mean that no memories would then exist. The existence of the ideal, thus understood, resembles an electromagnetic field: it is there when its source is activated (say, when a microwave oven is switched on), and not there – or anywhere – when the source is inactive or absent.

The following difficulties arise here. If the objective existence of memories, or the ideal, depends on them being acknowledged, then the mere existence of human consciousness is not sufficient to maintain the existence of memories. The ideal must be thought of in order to exist, not just be surrounded by living minds that are unaware of its existence. If memories, which someone's mind has enthused and embedded in an outside object, are objective only when someone else is able to recognise these embedded memories, then in order to guarantee the persistent existence of memories, or the ideal, at least one mind needs to be conscious of that ideal. How else could its content exist and be kept alive, the content that draws on human consciousness and will and requires a conscious and wilful input for its recognition? If a book merely stands on the shelf and no one is writing or reading it at the moment, the story that constitutes its ideal essence is nonexistent during that time. Books, after being written, normally alternate between being read and not being read, and so do the memories inside them. Those memories that were written down by their authors with the intention to communicate them to readers thus persistently alternate between being and not being. They enter the 'being' mode when they are being read or thought about, and then switch to a 'non-being' mode when they are not being read or thought about, and this goes on indefinitely.

If we agree with the view that the ideal disappears completely if it is not being acknowledged, then we must admit that each time a reader opens the book, he or she creates the ideal *ex nihilo*, and it is puzzling how the essentially same ideal – the story – can be created again and again by different readers if this creation happens anew each time. We cannot therefore agree that memories simply do not exist during the stage that follows their externalisation but precedes their transition to other minds. Stories, designs, the meanings of things must exist in some dormant, simmering form; they must partake of some level of objectivity that is not maintained by the presence of minds. Their ontology as objective reality requires a special investigation.

Memory transition must entail continuity of its own existence as process, for if we accept the materialist claim that unacknowledged memories do not exist objectively, then the idea of memory transition becomes problematic because it cannot sufficiently account for those stages when memories are stored in manmade objects as the ideal. There must be something that ensures the continuity of memory existence during the period when it has been released but not yet received.

The concept of continuity is crucial here, and needs to be investigated in relation to the process of memory acquisition, storage and transmission. This brings us to Bergson's concept of duration as a process understood in a special way. For Bergson, the term duration reflects the inner temporality of a naturally occurring process as against the imposed temporality of external markers fixed by calendars and clocks. Conscious processes are a special case of duration, although the term can be applicable to any temporal eventuality that develops and evolves from within. The inner temporality of a self-evolving process is characterised by its unique rhythms, its own pace, its own speed and by the fact that its progress takes as long as it takes, and the time of this process cannot be speeded up or contracted. Dissolving sugar in a glass of water is an example of a process being ring-fenced against outside temporal tampering: we must wait until sugar is dissolved and our impatience is inconsequential. (Bergson, 1964, p. 10)

The genuine nature of duration is accessible only from within the process itself, whilst an outside observer perceives it as a modified phenomenon. Unable to grasp the infinite complexity, specific dynamics and uniqueness of duration, the observer perceives it as a simplified, impoverished and even immobilized object. For example, according to Bergson, the content of an individual human consciousness cannot be grasped by anyone rather than the person himself or herself. (Bergson, 1910, p. 184 – 189) Indeed, a feeling of frustration when attempts to share the uniqueness of one's experiences with others fail is not an uncommon feature of human communication.

However, a thorough investigation into the notion of duration reveals a more optimistic picture: genuine, fulfilling communication between people is possible but it does not amount to the grasping of the essence of each other's soul. Instead it is the grasping of the essence of another process, the duration of a communicative act, in which communicating parties are involved. In connection with this theme which I explored previously (Fell, 2009), I would add that pursuing a joined aim or working together on a project is a process that has its own existence and develops as duration. Those who are involved in it access this duration from within and share the grasp of it with fellow collaborators. Accessing a process jointly through work, family life or religious practices gives the satisfaction of mutual understanding that people seek in communication but fail to reach if they simply stand face to face with one another. By being involved in the communicative practice we fuse ontology and epistemology where our perceptions, information exchanges and memories become part of our being. Through this epistemological communicative channeling our being fuses with other people's being, and the fusion is stronger when we are involved in vitally important projects. Parents caring for a child, inmates digging a tunnel to escape from prison, fellow combatants passing through a hostile territory - situations like these, marked by intensified joint responsibility, danger, or hope create a sense of comradeship that is necessary for the success of the project and

which incidentally grants the participants that intense happiness associated with mutual appreciation, understanding and recognition, even though this happiness may not be overtly noticeable against the backdrop of a stressful and traumatic situation.

Communicative fulfillment can be achieved when one forgets about oneself as an individual with private aims and joins others in selfless caring about something else. This something else can involve caring for one's own interests as well but as a process that involves other people's input and interests it gains an existence of its own, not equal to the existence of one person's concerns. An important point here is that the immunity of duration to outside penetration applies to this kind of duration as well, so that belonging that is shared between group members involved in their special actions and practices (work colleagues, club members, public school boys, soldiers, prison inmates, etc) excludes outsiders who are not able to casually engage with these processes.

The same sort of engagement takes place in memory transmission as well. When a memory is released and externalized by one agent (say, a book has been written) and then perceived by another agent (the book has been read), a communicative process is formed, in which both parties are now engaged. The recipient of the author's memories (the reader) achieves the contentment of understanding someone else's thoughts. This process of author-reader engagement is also a case of duration which can only be accessed from within by those who have been initiated into the externally expressed memory, i.e. those who actually read the book (as against the critics who have not read the book but discuss it nonetheless).

As I noted at the beginning of this paper, transmitting a memory is a necessary strand of the communicative process, and as such is a constituent element of communicative duration. Bearing in mind that duration harbours its own inner temporality, the following observation can be made. The area where we observe a gap in the existence of memories, or their activation (e.g. the book been written but not yet read) is found in the sphere other than memory and then is applied to memory. To explain, we observe events and phenomena which are associated with transmitted memories but are not memories themselves. As Ilyenkov pointed out, we confuse the memory with the material in which it is encoded. We observe the book being on the shelf after it was written but before it is read and say that memories contained therein do not exist during that period as if the existence of a memory is ontologically bound with someone physically handling the book. If we observe the gap in the handling of the book we do so without examining memory itself. But if we accept that in the complex eventuality of memory transmission, memory per se has its own existence as duration which is not identical to the existence of its material carrier and other coordinated processes, then we will accept that memory as duration has its own distinct temporality, which may appear as a discrete interrupted process (if we associate it with its material carrier) but which within itself maintains its own continuity.

It is possible to see the process of memory transition as an uninterrupted process if one considers this process from within itself. The author writing a story and the reader reading it are parts of an uninterrupted process regardless of the period during which the book stands on the shelf, ignored by everyone. When the author writes his or her last words, when the book is finished and published, this phase of its duration fuses with the moment in which the reader opens it and reads the first lines. This happens no matter how long it takes for the book to be discovered by the reader. It could be said that this fusion happens immediately when the reader opens the book, but there is more than that: this immediate fusion retrospectively mends the ontological gap of memory non-existence. The possibility of a retrospective fusion is entailed in the concept of duration inasmuch as it is a heterogeneous whole with all elements being entwined and interconnected, and this should include asynchronous processes contained therein.

The duration of memory transition is not interrupted: the words and ideas that preoccupied the author are directly passed on to the reader. The author's creating the story and the reader's reading it are phases of one continuous process of memory development, retention and transition. The gap between these two phases, observed in the external reality does not belong to the duration of memory development and transition. Its inner temporality is structured as a continuous flow of memory passage that follows memory creation and externalization. The moment when the author writes the last word remains the closing moment of this duration until the reader opens the book and starts reading. The passage of time of the clock while the book was not read remains outside this duration, which has its own time. The moment when the reader discovers the book and starts reading fuses with the process of the author's writing. The eventuality of writing fuses with the eventuality of reading and together they restore and maintain their own special time of story creation and memory passage. This process is uninterrupted in its existence and is continuous. Even though in the time of external things an ontological gap can be observed, memory itself does not suffer from intermittency. The reader's receiving the memory has bridged that gap and restored retrospectively the continuity of memory existence.

The process of memory creation and passage is uninterrupted and continuous, considered from within; seen from the outside, it is interrupted. How does this outside gap translate into the terms of the duration of memory transition itself? When the author finishes the writing process and (theoretically) forgets about what he or she has written, the story, it may be said, does not unroll by itself and is not there. But its 'not there' is not the same as the complete non-existence of, say, a story that had never been written, planned or thought of in any way by anyone. The story that was written had been unrolling and had been objectified in a particular way. On the one hand, its objectivity depends on someone's brain activity, on the other hand the story has been projected outwards from within the brain and is now

lodged in an external material object. When the creator's brain no longer thinks about it (say, in the event of the author's demise) it remains lodged in the material object and so its objective existence continues. The difference is that it is not acknowledged by anyone at that time. It is ontologically deficient: it exists but needs to be acknowledged in order to manifest itself; its existence alone is not sufficient for it to manifest itself.

Memory, the ideal, must satisfy two conditions in order to be accepted as existing objectively: it must be lodged in matter and it must be acknowledged by a human mind. When it is not acknowledged it nevertheless remains lodged in the material object. Although no one is reading the words, the words are still in the book; no one has erased them. The fact of memories being lodged and continuously remaining lodged in the material base ensures the continuity of memory passage from one mind to another.

So in the gap between memory externalization and memory perception there is still the lodgment of memory. Memory occupies no space, and yet it is lodged in a spatial object which can be physically moved from one place to another, taking memories with it. In the absence of an inquisitive mind memory encoded in matter is inactive and undetectable. Yet it is not nonexistent, for as soon as someone gives it his or her attention, the memory springs to existence in a full sense, as objective reality existing outside people's minds, in the network that is instantly created or restored between the mind that created the memory, and the mind or minds who received it. When memory transition takes place the external temporal gap closes as the receiving mind takes over from the point where the giving mind had left it. No matter how great is the temporal distance between the instances of memory being activated, the fissure is sealed from within the duration of memory creation and passage. The continuity of this duration is not affected.

Imagine an axe made by a Neolithic man. Its maker held it and used it for some time, then lost it, and the memory of the tool expired at the end of its maker's life. The ideal component of the manmade object, its design and purpose remain, however, lodged in the axe. Whilst it lies in the ground, millennia pass, but the design and purpose lodged in the stone are impervious to damage and change. They persist, albeit inactive and known to no one.

When an archaeologist discovers the stone and recognizes it as a tool, the maker's memories of the axe's purposeful design are instantly passed on and this recognition restores their existence during the entire period of neglect. The archaeologist digs the axe out of the ground and, recognizing it as a manmade tool, restores its full existence during the millennia of oblivion. Its persistence thorough time while it was lying buried in clay is retrospectively changed into a period of objective existence because it is recognized as such by the mind that shares the competence in axe manufacturing with the Neolithic man.

When the axe is first discovered, unearthed and cleaned and the scientist holds it in the same way as its Neolithic maker did, she understands its vital purpose in the same way as it was understood by the prehistoric man and communication between the two people is instantly established. The memories of the ancient ancestor gush towards the descendent who experiences a surge of a shared understating of something that the ancient man understood in the same way. The archaeologist touches the stone where her ancestor had touched it and feels the solidarity and connectedness via sharing the tactile and visual imagery with the ancient man. She is instantly connected with his engineering thought and the millennia of silence matter no longer. The stone axe preserved its shape, and together with it kept the man's memories safe. These memories were preserved and emerged as a message for us: the message that contains memories which can now live on.

3. Evolution of memory

Referring to the accumulation of memory prior to its broadcasting or sharing, it is impossible to pinpoint the moment when the memory of a particular event begins to accumulate in the individual's mind. The process of perception and memory accumulation, like any other real processes, does not sprout out of nothing. The experience, acknowledgement and interpretation of an event will necessarily have its pre-history which, on the one hand, would involve the entire life of the person with all his or her previous memories, values and beliefs that affect his or her approach to the particular event and direct his or her selection of imagery that will be committed to memory.

Moreover, the life of an individual with all its biological and psychological components is founded on the entire history of society, biological evolution, Earth's development, and the evolution of the Universe itself, so the origins of a single recollection will have to be traced back to the beginning of the Universe. Infinite regress is inevitable here, and looking for clear boundaries of the process of memory transition (and of any other process) would be a thankless exercise. Rather than attempting to identify the process of memory transition by delineating its temporal boundaries, we could identify it by its nuclear element, the most meaningful and necessary phase towards which its history, prehistory and its future conceptually gravitate. In memory transition this could be the moment in which memories are accepted by the recipient.

Memories that we accumulate change retrospectively under the influence of subsequent events and our personal growth as individuals. (Fell, 2010) The eventuality of passage of the memory to others, memory's externalization and author independent existence will affect the memory's history inside the author's mind as well. Prior to the externalization it may be like an amorphous nebula of fleeting images, emotional responses to them, semi-thoughts and semi-feelings which, not

easily defined, are nevertheless deeply embedded in one's life and manifest themselves in one's actions, moods and judgments, and mix with other memories. When one wants to specify and externalize a particular memory in order to make it public, one must harvest these hazy and fleeting impressions, pull them together, ascribe to them some individualizing meaning and face them as an object with definite outlines.

For Bergson, this concretisation of a memory would be an undesirable but necessary precondition for communicating this memory. The self with all its inner processes which would include those associated with memory accumulation and retention is the unbroken heterogeneous multiplicity of conscious states but for the purpose of communicating its content it needs to be modified and appear crystallised and discrete. (Bergson, 1910, p. 101) We conceptualise our memories, verbalise them and confine them to the boundaries of a narrative. Only in art we may be able to communicate our memories without deforming them by rationalisation. Artists externalise their memories whilst remaining faithful to their own fleeting emotions, semi-joys and semi-doubts, uncertain and conflicting feelings, all those irreducible inner events that constitute the nature of a person.

When a memory enters the public domain it is detached from its author and the more widespread it is, the more likely it will become anonymous. A particular person or persons in the history of the mankind may have invented the wheel. Once this invention was appropriated by mankind the inventors' names completely disappeared from its memory. The design and purpose of the wheel is now integrated in objects that every individual uses. The memory of its use and its purpose is so deeply engrained in our worldviews that we hardly acknowledge its existence: this knowledge belongs to the pool of memories of all mankind.

4. Emission of memories and their distribution

A single human being can remember something for many decades. Memories can survive as recollections of phenomena or as motor memories that manifest themselves as tendencies directing and shaping our behavior and our attitudes. This translates into the continued existence of memories acquired over many years by people belonging to different generations, a fact not duly acknowledged in society. If it were duly acknowledged, however, this would alter our understanding of what constitutes the present-day world.

By the present-day, up-to-date reality we ordinarily mean those phenomena that relate to cutting-edge technology or the outlook on life that has been very recently formed. Latest fashion, latest news, social problems that arise here and now – this is what, we ordinarily think, constitutes the present-day world. We also associate this ever renewed world with youth and progress unwittingly devaluing previous historical periods with their trends, news and problems treating them as outdated,

old-fashioned and irrelevant. We implicitly consider everything that came before now as a foundation for what is present assuming that present attitudes and things necessarily offer improvement as they build on the past. Like a lizard that sheds its tail, we constantly shed our past – or at least we are encouraged to do so. Being old-fashioned or outdated is an accusation that we as socially active professionals and members of society want to avoid.

Rawls warns against the temporal dominance of one particular generation. Cooperation and complementarity are necessary for our civilisation, Rawls asserts (Rawls, 1972, p. 522 – 523), and human partnership that ensures societal prosperity and progress includes temporally displaced agents as well as contemporaries. Community is a dynamic formation and the temporal success of community is due to the cooperation of succeeding generations: '[T]he cooperation of many generations (or even societies) over a long period of time' is necessary for 'the realizations of the powers of human individuals living at any one time.' (Rawls, 1972, p. 523 – 525) As far as possible, justice between generations should mean 'equality', and no generation should be treated more or less favourably. 'The mere difference of location in time, of something being earlier or later, is not in itself a rational ground for having more or less regard for it.' (Rawls, 1972, p. 293)

For Rawls, the relationship of complementarity and cooperation between generations must be formed on the idea of justice in the same way as the relationship between contemporaries.* Whilst Rawls refers to the generations of people that are temporally removed from each other, his warning against temporal inequality is particularly relevant to the relationship between co-existing generations.

In the current situation people are temporally accepted or discriminated against on the basis of their keeping up to date with those values and practices that are being set and promoted by the leading age group, i.e. those in a socially active and productive stage. The latter dictate what other people should do if they want to be included in a social medium. When older people refuse to adapt, they are left behind and excluded from the active participation in societal processes. They are treated as past that already does not exist.

The world of today is made up of people of many ages, ranging from 0 to about 100. The present state of the world for a human being does not equal the thin layer of immediacy amounting to today's news and latest inventions. One's entire assortment of memories that have been accumulated as vivid or faint recollections, values, beliefs and habits make up the cutting-edge existence of the person. And

* Justice, secured by just societal institutions, should be grounded in 'the difference principle', according to which wealth should be distributed in the way that all people would benefit from its accumulation. It does not mean that everything should be shared equally between all parties. What it means is that all should benefit in some way as a result of distribution, and that if wealthy people get wealthier, poorer ones should become better off too. (Rawls, 1972, Chapter 13, "Democratic equality and the difference principle", p. 75 – 83)

inasmuch as each person living now contributes to the content of the present time, the present time is diverse, deep and multi-temporal. For instance, for as long as war veterans are alive, the memories of the war will be the fact of the present.

An ideal, utopian state of multi-temporal harmony would involve multi-temporalism as a form of multiculturalism, where we do not ascribe ultimate value to one period of time devaluing others but allow all forms of technology and communication to coexist and facilitate their interactions. Value markers from temporal characteristics of events would be removed. Old and new would not be rivals but would acknowledge each other's right to exist and each other's validity.

An ultimate example of a time friendly device that would incorporate technology from different eras and accommodate every living person's technological memories would be a hi-fi which would use MP3, CDs, audio cassettes, reel-to-reel tapes, gramophone records and phonograph cylinders, as required by its users.

5. Tangible and intangible memories

Memory intended for sharing can be invested in a tangible object (book, badge) or it can be communicated intangibly at a performance or a lesson. Intangible memories largely concern habit memory and professional skills. The latter do not become author independent and require the continuation of practice for their realization and existence. Passed directly from person to person, the secrets of a trade and professional skills cannot be distributed by multiplication and are esoteric. They are transmitted in a live contact between the giver and the receiver, cannot be externalized, compressed or summarized. They are hard to disseminate. Rather than being engrained in an inanimate object, they are engrained in a living person as motor memories and attitudes. They are gained with difficulty and passed on with difficulty to each recipient who in his or her turn becomes a tangible carrier of those special memories that constitute specific professional knowledge, skills, and attitudes. The acquisition of a particular set of memories relating to a specific trade or profession exclude the acquisition of many alternative memories constituting the body of competence in other domains, which limits further the dissemination of particular memory sets.

Whilst acquiring and appropriating those special professional memories, the person's nature qualitatively changes. The transmission of intangible memories is a long and painstaking process. Training a teacher, doctor or a dancer takes years of human life. During these years masters and apprentices spend much of their time together and these long hours and days cannot be contracted into a time-saving format. The content of a teaching course could be stored on a memory stick that would fit inside one's pocket but professional competence can only be achieved via extensive personal training.

Digital technology blurs the distinction between tangible and intangible memories to some extent. An instructor can make a video recording of the teaching session or create an interactive online program that his or her students can run as many times as they like. This has a potential to cut down the time that the instructor needs to spend interacting with students but it does not cut down the time that students themselves need to dedicate to absorbing the information and transforming it into the memories which will make them specialists in the field. In addition the online virtual interactive experience is an impoverished and streamlined extraction from the real experience. One may learn to respond to virtual situations, but this cannot sufficiently prepare the learner to real life situations.

The accessibility of information via digital devices is a means of social inclusion and continuous democratization of knowledge dissemination. The democratization of education has been increasing anyway, making education available to a wider audience (e.g. UK University ranking table lists 99 universities in 2000 and 118 in 2011), but access to courses in an online format takes education and training to a qualitatively new level and present new challenges.

Education systems functioning now are a heritage of the established system of beliefs and practices according to which knowledge is acquired progressively in stages. A learner is expected to achieve competence in all lower stages of knowledge acquisition prior to progressing to a higher level. Progression to higher levels is safeguarded by tests and exams and an educator takes it for granted that students on the course are armed with the background knowledge and skills acquired at lower stages. Examinations are in place to ensure that only those competent in lower levels progress to higher levels. This practice of exclusion and intellectual elitism in education takes only selected few on board and leaves droves by the wayside.

The current tendency of widening participation in education and knowledge acquisition boosted by digitalization, is a tendency of inclusion whereby people with varied background knowledge can access challenging material including higher education courses. In these situations educators are faced with audiences that may lack some skills and competences which are necessary for a smooth acquisition of taught material.

This situation arises more and more often in a learning environment (at least in the British setting) and cannot be dismissed as an exception to the norm as it is rapidly becoming a norm in the UK. With the expansion of new universities and widely available online courses, lecturers can no longer afford to ignore this state of affairs treating it as an irritating nuisance that stands in the way of their professional performance. The lowering of standards needs to be acknowledged as something that warrants a due response and action, but what kind of response and action is actually 'due' in this case?

One can imagine a variety of approaches here but they would probably fall between the two extremes, let us call them (for the argument sake) a “Hegelian” and “Bergsonian” approaches respectively. The “Hegelian” approach dictates that reality should correspond to pre-existing concepts. The concept of higher education traditionally entails that those pursuing it and those providing it maintain the highest possible standards of literacy, general and specialist knowledge, as well as striving to supersede the existing achievements in the field. This approach upholds intellectual elitism and exclusion by means of formal examinations whereby the system promotes the communicative process of knowledge transmission and is merciless in relation to the communicative agents: if they can contribute to the excellence of the process they can stay on board, if they cannot, they must be excluded from the process.

The “Bergsonian” approach puts reality forward, not concepts. Rather than violating real processes and making them fit into their corresponding concepts, a Bergsonian follower recognizes reality as it is, in all its uniqueness and evaluates the status of phenomena not on the basis of its correspondence to concepts but by virtue of it being what it is. What is imperfect for a Hegelian who measures *what is* by *what should be*, for a Bergsonist has the right to be exactly as it is even though there may be no concepts to reflect it.

In the Hegelian approach educators’ practices and the reality in which they operate will generate a gap between what should be and what is, and the more knowledge distribution is democratized the greater this gap will become. Educators guided by the Hegelian approach can maintain the high standards of admission but they may not be able to fill their courses thus making themselves redundant. If they drop selection standards but maintain a high level of teaching they will find that their students are unable to engage fully in the communicative practice of the course.

Educators guided by the Bergsonian approach will recognize that students’ background knowledge is uneven and that the current situation calls for a revolutionized approach to knowledge distribution. An academic who, for instance, is preparing a degree lecture will bear in mind that his or her audience may not be familiar with, say, important historical facts or Greek mythology, or they may lack competence in writing skills, i.e. lack the background knowledge that the tertiary level Hegelian educator would insist on in an uncompromising manner. The Bergsonian educator will accept that he or she may be required to operate at different levels simultaneously. Whilst delivering a degree course the lecturer will be prepared to teach, as required, some elements of secondary and even primary education if these elements are necessary for understanding issues related to the lecture theme. He or she will also understand that teaching primary and secondary education elements in the lecture hall is not going to be the same as teaching these elements to primary or secondary school pupils. In the lecture hall material will have to be explained quickly and effectively. Rather than providing a long term step-

by-step theoretical support, the tertiary level educator must provide an elevator that would lift the learner upwards and take them straight to their required learning destination.*

6. Externalized memory in the digital age

There is an important difference between material substance flowing from one container to another and memories passing from mind to mind. When a physical substance (such as liquid) passes from one container to another, it fills one container while another becomes empty. Memories whilst being passed from one person to another do not abandon one mind to be transferred to another mind but become present in both minds. Spread via communicative transmissions, memory multiplies, and has the potential to enter the mind of every human being living now and in the future.

Once memory is externalized and released into the public domain, it can multiply exponentially. If millennia ago only the mind of the maker and those close to him may have known of his axe, its design and purpose, once the tool has been discovered by today's archeologist, information about it, i.e. the memory of it can be passed on to an infinite number of people via exhibitions, websites, lectures, photographs, journal articles etc. The Internet and media make it potentially possible to reproduce indefinitely the memories of the axe-head which can be embedded in the audio visual imagery populating computer monitors and TV screens, newspapers and journal pages. Potentially every living person and every person in the future can acquire the memory of the axe-head. However, although digital information technology seems to be boundless in its abilities to multiply and deliver information to human beings, the amount of information that a human being is able to receive and commit to memory is practically limited. Thus externalized and publicized, memories compete for attention, and the competition is vicious.

Given the imbalance between the abundance of ever-increasing, self-multiplying information and the limitations of an individual mind to receive and process information, communication theorists begin to explore attention as a category of market economy where getting public attention is both the means of economic prosperity (e.g. via successful advertising) and a goal in itself (such as YouTube videos viewed thousands of times by Internet users) (Lanham, 2010; Bernardy, 2010).

It is also important to note another aspect that specifically concerns digital technology as a source of memory input, namely the over amplification of the visual component in memory transmission. Saito points out that we generally underestimate the power of everyday aesthetics which seriously influence our

* A thorough philosophical discussion exploring the relation of the subjective conditions of knowledge and higher education can be found in Crowther, 2003, p. 185-206.

actions and attitudes. (Saito, 2011) Saito refers to ‘unintended consequences of the cumulative and collective effects of our aesthetically-guided decisions’ (Saito, 2011, p.11), and in the current situation with the wide use of information technology where everyday aesthetics dominates, such effects could potentially be disproportionate in relation to real experiences when we may be guided differently whilst informed by all our senses in a balanced way.

Transmitted digitally, audio-visual or predominantly visual memories of events are sterile, super clean, hypo-hygienic. Digital technology can give us an illusion that what we access is almost perfectly close to reality. Unwittingly we may begin to expect real things and events to be odorless and hypo hygienic, and if our real actions are guided by these attitudes then they may not be adequate for the real world that thrusts us into a far richer tactile and sensory environment than the virtual world can ever do.

There are also situations when digital communication technology does not aid but hinder the process of memory transition. A digital photograph taken using powerful lenses produces images that strike the viewer with their precision and amplification of details. This precision and this amplification go beyond what a human eye can capture and on such a photograph we do not access something that the photographer saw or knowingly created, i.e. not his or her memories. The precision element has been generated by a machine and does not contain a human memory. As the image does not contain a human memory, it is conceptually void but viewers may nevertheless perceive it as someone’s memory and seek concepts that no one had invested in that image. Digital imagery that captures and amplifies what a human eye fails to see produces a parasitic aesthetic product that superimposes itself on the real memory, i.e. what the photographer actually saw and intended to preserve.

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