

## **Cultural Heritage: Traps and Dramatic Choices**

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### **A very stimulating challenge**

I find very stimulating the challenge addressed to us by Professor Eero Tarasti, related to the *Semiotics of Cultural Heritage*. The accent on *selection* involves a *critical attitude* towards the increasing amount of works of all kinds, which have to face our reaction as a choice among *acceptance* and *rejection*. As a matter of fact, it may happen and it happens effectively that we have to adopt *a third attitude*; some works are neither rejected, nor preserved in their initial version, they are transformed, compressed, rewritten according to the requirements imposed by various historical evolutions.

### **A simple problem of transfer?**

At a first glance, preserving the cultural heritage (CH) may give impression to be a simple problem of transfer from past to present of some works of cultural value. The first trap in

this respect is to become prisoner of anything which is located in the past and to believe that just this fact motivates its preservation.

But a *descriptive, additive representation* of CH, seen as an *inventory of works whose cultural value, once established (in many cases with weak critical attitude), remains the same for ever*, is not plausible for several reasons.

### **Beyond human capacities**

It leads to a quantitative growth of CH which is in conflict with the capacity of human brain and of human society to process and to keep under control an increasing amount of intellectual works. In a culture predominantly atomistic, where each specialist is confiscated by what is worth to be preserved in his own field of interest and tempted to increase as much as possible the number of such works, nobody will pay attention to the global picture of this process,, to warn about its consequences.

### **A problem: the obesity of school curriculum**

It follows from the situation just described that a larger and larger part of the hypothetical CH will penetrate in the school and university curriculum, but it will exceed its normal capacity; its size will be more and more in conflict with students' capacity to assimilate knowledge. So we reach the today situation, when in many countries the curriculum and the textbooks used in education ignore some basic hygienic requirements and adopt an aggressive attitude towards children.

### **Facing the flow of time**

Cultural acquisitions, findings, discoveries, inventions have a life that can be longer or shorter, according to their capacity to face the flow of time and the new challenges. One cannot predict their age, but for most of them a moment arrives when they have to leave

the cultural scene or at least they are no longer in the centre of attention, they are marginalized.

### **The example of astrology and of alchemy**

To give only a few examples, astrology and alchemy, which in some historical periods were protagonists of the cultural scene, no longer deserve the same attention and there is no motivation to dedicate them more than a few pages or lines. But some authors ignore this fact and they still persist to consider astrology alive, transforming it artificially in a central topic of today society, see for instance the social success of horoscopes and of zodiacs.

### **The case of some yesterday famous writers**

Literature is also a field where many yesterday overestimated writers no longer face the flow of time. A famous example in this respect is the French poet Sully Prudhomme, the first ever winner of the Nobel Prize in Literature (in 1901), which practically is no longer in attention, deserving now only two lines in a historical view, if not to be totally ignored.

### **A dramatic test**

With respect to the emerging trends and changes, CH is permanently in a dramatic test; a part of it succeeds to face the new challenges, but another part does not succeed and becomes more or less parasitic. If we ignore this situation and we continue to consider the parasitic part as a valid component of CH, then we generate a crisis with unpredictable consequences.

### **Meaningful traditions versus stupid superstitions**

A typical case is, in this respect, the attitude towards popular, folk traditions. The fascination of old things leads to the frequent confusion between *meaningful traditions* and *stupid superstitions*, the latter being sometimes stronger and more successful than the former.

### **From additive and linear to selective and integrative**

So, what is the alternative to the additive representation of CH? The alternative is *a critical, selective, integrative, flexible, dynamic representation of CH*.

### **The problem of identity: the traditional variant**

An example in this respect, perhaps the most significant, deserving to be considered a term of reference, is *the problem of identity (of a person, of a people, of a nation)*. In the descriptive, additive mentality, the identity of a nation is mainly, if not exclusively defined by its past, by its traditions, by what was inherited from former generations, it is an inventory of myths, history, religion, customs, language, philosophy, literary-artistic works. Conceived in this way, *the identity of a nation became the most important component of its CH*.

### **European identity seen as a threat**

However, the need to adopt a critical, selective attitude towards tradition and to balance it with innovation is a test of maturity and intelligence, which became more and more important with the emergence of all kinds of globalization. It became clear that the old, traditional way to conceive identity no longer works. What happened with the emergence of European Union? Is Europe a cultural entity compatible with the national entities of its components? Are national identity and European identity stimulating each other or are they disturbing each other? Various kinds of reaction appeared: „Our national identity is

lost, it is replaced by something else, which is not ours”; „Our national identity is threatened, we are challenged to renounce to our CH and to adopt a coat which does not fit with our body, we are pressed to renounce to our history and to our values”. Such reactions are typical for the additive, descriptive way, where traditions are adopted with weak critical, selective capacity and CH is just the raw totality of the past achievements.

### **Learning from the identity of the human body**

There is however another way to conceive identity, according to the human body example, where the internal processes related to genetic identity and brain-body interaction are simultaneous with the metabolic interactions with the surrounding, with the whole universe. In the same way, a nation's identity includes simultaneously its internal life, its history, and its interactions with the world.

### **Identity in a globalized society**

Moreover, in the today globalized society, all types of identity, from personal to national to continental to planetary are solidary, the only way to understand them and to cope with them is to take them in their simultaneity: their interaction is decisive, so either we understand all of them or we understand no of them. This is the dynamic, integrative way to conceive identity and ultimately, to approach CH.

### **CH as an iterative sign process**

So, each generation, each historical period adopts a specific reading, a specific representation of CH, according to their dominant paradigms. In this way, we are faced with an explosion of iterative sign processes: signs of things, signs of signs of things, signs of signs of signs of things etc. The whole investigation becomes an enterprise in the interior of the world of signs, with less and less relation with what we hypothetically

conceived to be the reality. Information is less and less about reality, it is replaced by information about ... information and similarly communication is mainly about ... communication. With reference to the cultural heritage, this means that „preservation of cultural heritage” has for each generation a different meaning. The way we read a work is more important than the work itself.

### **CH as a challenge between innovation and tradition**

The static, atomistic view according to which CH is the sequence of some pre-established valuable cultural works is challenged by the critical, dynamic and dramatic conflictual process of a permanent reciprocal challenge between innovation and tradition, between the emergent trends and the past heritage.

### **The challenge between traditional books and the electronic ones**

This is perhaps the most dramatic, but unavoidable aspect of the need to preserve CH. A large part of the intellectual world hates the emergence of the computational paradigm or at least reduces it to its instrumental function, as a simple tool with no cultural horizon, so it is not able to conceive culture otherwise than within the framework of the Gutenberg galaxy.

### **CH and the rupture between generations**

However, young generations have a completely different way of thinking and of behaviour. They are confiscated by internet, mobile phone and computer games. What is not available *online* belongs, for them, to prehistory. What is missing, but essential for the survival of the huge CH of the mankind is to learn to run permanently to and from traditional books and internet. Already, Wikipedia exceeds any traditional encyclopaedia. However, instead to train the new generations in the direction of a permanent interaction among tradition and innovation, educational systems in most countries is still prisoner

of the Gutenberg galaxy, ignoring the need to train children for an intelligent use of the internet. A huge gap separates young and old people. It happens frequently that the latter are no longer able to educate the former in the right direction.

### **The cultural status of science and technology under question**

Another historical controversy, which illustrates the drama of CH is the cultural status of science and of technology. It became a tradition to reject the claim of science to have a cultural status. The arguments? Already from the old Greeks we learned that science is concerned with the general, with the universal, while culture is concerned with what defines our identity, i.e. it is concerned with what is particular, with what is specific. Culture has as its central interest the human being, while science ignores the subject, it focuses on the objective aspect of the world; even when human being is involved in science, like in medicine, it is involved as an object. In science, there is no stability of values. Each historical period brings new theories, new ideas, the truth takes new faces, replacing the previous ones. In culture, the situation is just the opposite: there are literary, artistic and philosophical works like those of Homer, Plato, Rembrandt, Bach and Shakespeare which give us the feeling of *perennity*, challenging the flow of time, in contrast with science and technology, always under the sign of *perishability*.

So, science and technology seem to fail as candidates for the CH.

What is and what is not valid in the reasoning above?

### **In what respect the above claim is right**

If science is considered under its appearance in most school or university textbooks of mathematics, physics, chemistry, biology, computer science, we meet data, names, descriptions, procedures, tools, the informative, instrumental side of things, what is related to *know how to proceed* in some experimental, problematic situations. We find very little and in most cases nothing about ideas, starting problems, history, motivations,

interaction with other fields, controversies, there is no care to explain not only the *how*, but also the *why* of things, what allows *not only to acquire knowledge, but also to understand it*; just those things which could transform science in a cultural enterprise and make invalid the arguments against its cultural dimension.

### **Science has a national face too**

Science is an organic component of the national identity, because each nation has its specific traditions in scientific research. So, to refer to my basic field of research, mathematics, how could we get a right and complete description of Finnish and of Romanian culture by ignoring the pioneering work in Function Theory developed by the Finnish scholars Rolf Nevanlinna and Lars Ahlfors, on the one hand, and by the Romanian Simion Stoilow and his school, on the other hand? How could we refer to Finnish Computer Science, as a basic component of Finnish culture, without referring to Academician Arto Salomaa and his school? It would be a gap similar to that of ignoring the name of Sibelius when referring to Finnish music as a component of the Finnish national cultural identity.

But besides this human aspect, scientific research, in many respects, is selecting its problems of investigation according to the specific features of the territory, of the climate, of the fauna and flora, of the geography and of history of the respective nation.

### **Science versus culture**

Until the 17th century, human culture had a syncretic existence, what we call today science, literature, philosophy, myths, religion were all forming a single cocktail. The question about science versus culture relation became meaningful only in the last centuries, with the emergence of various disciplines and with the increasing gap among science and the humanities.



### **The divorce between science and culture began in the 17th century**

The divorce between scientific language and ordinary language began with Galilei, Descartes, Newton and Leibniz and their invention of an artificial component of scientific language, as opposed to the ordinary language, limited to its natural component. Despite the fact that the artificial component was conceived to satisfy the human need of rigor and precision, with respect to which ordinary language, dominated by spontaneous behaviour, was always in a failure, this linguistic and semiotic change has been perceived by many scholars incompatible with the nature of human culture, organically related to natural language.

### **In the 19th century, science lost its narrative dimension**

To this fact, the 19th century added a new one, contributing to the feeling that science has its own way, different from the way followed by human culture: it happened that the need of more and more logical rigor had to be compensated with a new rupture, that between science and temporality, between science and history, between science and the narrative.

### **Beginning of 20th century: science and art begin their happy marriage**

During three centuries, the Galileo-Newtonian dominant paradigm had as one of its axioms the existence of a sharp, rigorous separation between subject and object, between the human being investigating the world and the world itself. One century ago, this axiom began to be abandoned, in favour of another one, the self-referential nature of many of the most fundamental processes occurring in the world and in our self. By his act of investigation of a object, the human being may modify in a significant way the nature and the behaviour of the respective object. So, science began to share with art and literature the self-referential behaviour according to which human being is organically involved in the scientific enterprise and so the claim negating this fact is rejected.

### **Scientific works may survive centuries and millennia**

Pythagoras' theorem, Euclid's *Elements*, Newton's law of gravity, chemical isomerism, Mendeleev's table, Darwin's theory of evolution, Relativity theory, Quantum mechanics, the appearance of programmed electronic computers, the Internet are major cultural events and essential components of the CH. Each historical period brings new interpretations of them, new ways to understand them. Newton is not destroyed by Einstein; it is only a new way to look at Newton's discoveries and to move farther in the nature's secrets. Classical mechanics is not rejected by quantum mechanics, but we get a deeper understanding of the former, by means of the latter. The traditional belief of a contrast between science and art, one making discoveries, the other inventions, is to a large extent no longer valid, it is generally accepted that both science and art involve both discovery and invention.

### **Can we make CH richer by means of the Internet?**

With respect to the attitude towards science and technology, computers and Internet, one can distinguish three attitudes:

1. Those who consider information technology (IT) dangerous for cultural development and Internet as the main expression of this danger;
2. Those who, accepting the advantage of IT as a tool with some help in protecting and preserving CH, are not able to go beyond the instrumental aspect of IT;
3. Those who are able to capture the role of science and technology as a cultural creative enterprise, with an essential contribution in CH.

When Professor Eero Tarasti is referring to the techno-semiotic phase in approaching CH, he clearly has in view the second type in our triadic typology. But the big challenge in the forthcoming years will be just to reach the third type in our triadic typology. The case of the identity problem is emblematic in this respect. Do we understand that Internet is not only one more prosthesis humans are using? Science and technology generate cultural

values becoming components of CH. To the extent to which we use Internet at its high capacities, it modifies essentially our cerebral identity; see in this respect the behaviour of those people born with the Internet. But what is valid at the level of individuals becomes valid at the social level too.

### **What does it mean to preserve Shakespeare's *Hamlet*?**

Obviously, it is not preserved exactly in its initial form, Shakespeare's English is no longer understood today. Moreover, the history of its reception by previous successive generations cannot be ignored, at least in its basic aspects. The evolution of human capacities to read, to understand a theatrical play, to relate it to its successive ways to become a performing spectacle show something very important:

### **How misleading, if not a betrayal, is here the word *preserve***

Indeed, what we have in view is a dynamic interaction, permitting no stability. A similar situation occurs when we refer to the need to preserve Rembrandt's paintings or Bach's *Fugues*. We don't preserve Rembrandt's paintings, we pay attention to their successive readings, according to the evolution of visual arts and of the related disciplines, they don't exist otherwise than by the iterative process of their readings; once more, semiotics is decisive.

### **What does it mean to preserve Newton-Leibniz's *Calculus*?**

This is something different from what occurs in music, painting or literature. For a few specialists in the history of science, the interest for the original version of *Calculus* (more explicit: *differential and integral calculus*) is legitimate. But for students and for researchers in the field, for those aiming to understand the basic ideas, problems and results of this branch of mathematics, seen as a cultural enterprise, there is no need to go

to the original version. Science has a great capacity to reformulate and to compress its discourse.

### **In contrast with literature and art, scientific works can be summarized**

Any scientific work is usually followed by an Abstract. Obviously, the compressed version, the abstract are not equivalent to the integral variant, but gives the essential ideas. Compressibility and immersion of old theories in the new ones are the main way in which mathematics is coping with its CH. This fact shows clearly that, in most cases, old theories are not rejected or cancelled, they get shorter versions in a new, more comprehensive framework.

### **Facing the reaction of the new generations**

Each historical period has its standards, its values, its specific representation of what deserves to be introduced in the school and university curricula and delivered to the next generations. It may happen that a part, sometimes a significant part, of what we consider to belong to the cultural heritage of the mankind will not be received by the new generations with the expected interest. In this respect, there is always a gap between different historical periods. This phenomenon is frequent in philosophy, art and literature, less frequent in science and technology.

### **Oscillating between over- and under-estimation**

Shakespeare died in 1616, but only towards the end of the 17<sup>th</sup> century he began to be considered the most important playwright and poet of the English language. It took a time before Beethoven's symphonies were recognized as master-pieces. Jakob Böhme, at the crossroad of the 16<sup>th</sup> and the 17<sup>th</sup> centuries, was only three centuries later recognized (by Hegel) as the first German philosopher and only today he is evaluated as a precursor

of the role of physical sciences for philosophy. But there are a lot of examples in the opposite sense and one of them was provided at the beginning of this presentation.

### **The dramatic today situation**

I asked a German university student: Do you consider Goethe as the most representative German writer? The answer was : “No, Thomas Mann is of the same importance”. I know a lot of similar situations about the status of Victor Hugo in France, of Bernard Shaw in England etc. We are faced today with a basic change at the level of sensibility, of affectivity (which is in strong deficit), of the way people try to make meaningful their life. The increasing speed of human action leaves less and less room for contemplation, for the need to look back, in the past, for the need to read again and again some books, so important yesterday.

### **Our way to conceive the CH: imposed or negotiated?**

This conflictual situation explodes in the school life, where more and more children find less and less interest in the curriculum they have to follow. The explanation is simple: the adults producing this curriculum and the corresponding textbooks are prisoners of a CH associated with old paradigms, valid for the 19<sup>th</sup> century, large parts of the textbooks proposed to today children are boring. I judge according to the situation in my country. The way we represent the CH cannot be imposed to the next generations, it should be negotiated, explained and modified accordingly.

### **The increasing CH in conflict with the capacity to monitor it**

There is evidence that, despite the progress realized by Internet in monitoring the increasing flow of information in various fields of research, we are no longer able to master the literature produced in some hot topics such as brain studies, biological cell or

just the information about...information. Ironically, it happens for instance that studies beginning with the same statement: "Our aim is to explain the way the biological cell is functioning" adopt each of them a specific jargon, have different bibliographical references, publish in different journals and make no reference to each other. Nobody has today a global picture of the literature in the field of biological cell. CH is predominantly a set of individual entities, nobody has a global picture of them and we risk the same situation as that just described with respect to the biological cell.