

Turkish – Ottoman Miniature Art Within the Context of Electronic Information Design Education

OGUZHAN ÖZCAN

*Yildiz Technical University, Faculty of Art and Design, Communication Design Department,
Istanbul, Turkey (E-mail: oguzhan@ozcan.info)*

ABSTRACT: The article firstly examines the techniques of miniature art, and attempts to identify those which can serve as an inspiration for artistic aspects of today's information design in the electronic environment. It also brings forward the idea whether miniature art could be used in our existing new media education models and finally answers the research question: does student really learn something from 'technology practice' in the design work using both minimalistic approach of miniature art and interactive media as high-end representation technique? We believe that the answers to above research question will help especially technology educator involved with design, to think what they need to improve students' creativity in parallel with teaching the use of software tools and programming.

Keywords: design education, interactive media, multimedia, interaction design, miniature art

INTRODUCTION

Nowadays, we know that technology alone is not sufficient for developing information design in an electronic environment. We should transfer new concepts and points of view to our design in order to enhance our ideas.

One of the methods to achieve this may be reinterpreting the forms which the past cultures developed within the technological limitations of their time. Here "reinterpretation" does not mean the adaptation or transformation of the past forms. What we try to emphasize here is whether the ideas of the past cultures will be an "inspiration" for having a new idea for the graphics in electronic information design as tried in every form of art. Many artists today try to use this method. One of the most significant examples of this is Picasso's "Les Femmes d'Alger" (1907). Inspired by the style of African masks, Picasso transferred this style into his own painting.

Inspirations in Artwork should also be questioned and debated in the electronic information design education because artistic concepts of many common "graphical user interface designs" are only realized within the limitations of the technological innovations. This situation may condition the students for technological attractions only. However, a different case-study like this may show students that there is not one method and that different (to whatever extent eccentric) viewpoints could be found as far as the concept of artistic creativity in new media design is concerned. On the other hand, the case-study which we describe here should be evaluated within the dimensions of a workshop concerning education model instead of an alternative for existing new media design.

When we evaluate history from this perspective, we see that Turkish Miniature Art, which can be dated back to A.D. 745, is a significant type of representation to be explored within the context of information design.

In light of the debate above, this paper firstly examines the techniques of miniature art, and attempts to identify those which can serve as an inspiration for artistic aspects of today's information design in the electronic environment. It also brings forward the idea whether miniature art could be used in our existing new media education models and finally answers the research question: does student really learn something from 'technology practice' in the design work using both minimalistic approach of miniature art and interactive media as high-end representation technique?.

We believe that the answers to above research question will help especially technology educator involved with design, to think what they need to improve students' creativity in parallel with teaching the use of software tools and programming.

TURKISH-OTTOMAN MINIATURE ART

Miniature art is a visual representation technique developed by the Turks in order to document personalities, incidents, and various descriptions within the manuscripts that they penned to pass their culture down to subsequent generations. It would be a mistake, therefore, to deal with miniature art solely as an art of painting and illustration. Within today's semantic, it is a visual information design and representation technique.

There has been a debate among art historians over when and where Turkish Miniature Art emerged because Turkish culture has historically extended over a vast geography, from Northern China in the East to central Europe and Africa in the West. The oldest known sample is a work found in a manuscript by Uygur Turks dated A.D. 745. Facial and body features of human figures found in miniatures were typically done according to the Uygur style from that date until the 19th century (Atasoy 1977, p.13).

Turkish Miniature Art continued to develop in significance through the periods of the Ous Turks, Grand Seljuks, Anatolian Seljuks and Beiliks, and achieved its climax during the period of the Ottoman Empire, between the years 1451 and 1750 (And 2002, p.33). Turkish Miniature Art dealt with and visualised a great number of themes. Unfortunately, these are difficult for art historians to categorize because a miniature can be about more than one topic. According to Metin And, however, Turkish-Ottoman Miniature Art can be classified according to ten main themes such as Portraits, Historical Themes and Lives of Sultans, Life at the Palace, General Feasts, Literary Works, Religious Themes, Landscapes and Urban Scenes, Scientific and Reference Themes and Scenes of Daily Life (And 2002, p.143). However, due to the invention of the printing press, developments in photographic techniques, and the influence of Western painting on Turkish Art, the

significance of Miniature Art declined in the first years of the 1900's, and by the beginning of the 20th century it had fallen into complete obscurity.

TYOLOGY OF REPRESENTATION IN TURKISH-OTTOMAN MINIATURE ART

As indicated above, the purpose of Turkish-Ottoman Miniatures was not so much the expression of artistic tendencies, as it was a means of documenting information through visual rendering. Apart from some exceptions, miniatures were generally used as specific *visual instructions* supplementing the information provided in written form in the manuscripts. Hence, it would not be wrong to define miniature art as instructional design, in addition to calling it information design.

Artists, therefore, were not restricted by the constraint of having to conform to a doctrine of strict realism. *Components* creating *character* or *incident* were identified and symbolized in an extremely *minimalist* manner. Artful and skilful visual arrangements were achieved through the use of these symbols in order to help the audience better understand the character or the incident.

Bearing in mind the above approach, it is necessary to identify the typical characteristics of the miniatures in the following:

Mapping

The basic representation in miniature art is a map. None of the visual data 'superimpose' any of the rest. The three-dimensional world is illustrated as the extension surface of a prism, or in *parallel orthographic perspective*. The most typical figure is the man sitting on a carpet. Since the carpet is drawn as a plane, the sitting figure is drawn in profile. The figure is generally superimposed upon the plane, and in those compositions in which space is defined, the front wall is placed at the bottom of the illustration, the plane is in the middle, and the back wall is placed at the top.

Side elevations are shown through two methods in the composition: either they are laid down (eg. a wall), or they are visualised through the technique of *parallel oblique perspective*. The artist would use this technique when there was an important relation between the facade and the sides of a structure. Others are illustrated either in extension surface or not shown. This tendency reveals that in miniature art, recording data accurately is more important than aesthetic considerations in Figure 1.

Scaling, proportional evaluation and use of templates

Since there are no perspectives, and the technique of extension is used, art historians focused their research on the hypothesis that all the visual forms could be scaled and their proportions identified. Ultimately though, no



Figure 1. An example of mapping from the manuscript, *Tercüme-akaik-i Nu'maniye*.

definitive relationship between proportion and scale could be established. The most significant exploration of this theory is the one focusing on *Süleymaniye* miniatures by Reha Günay (Gunay 1992). Gunay established that the focus of a miniature was proportionate to one third of the entire composition, but also reported that this could not be an inclusive rule for all the miniatures. Although it cannot be proved definitively, it is clear that representation technique in miniature art was developed with the intention of showing the viewer the basic proportions of concrete things, rather than cultivating a visual aesthetic. It is assumed, moreover, that besides hand sketching, technical equipment such as rulers and compasses were also used. Finally, there is strong evidence for the fact that the artists developed templates for some of the basic figures of humans, animals, and objects in order to systematize their representation (Gunay 1992, p. 67) in Figure 2.

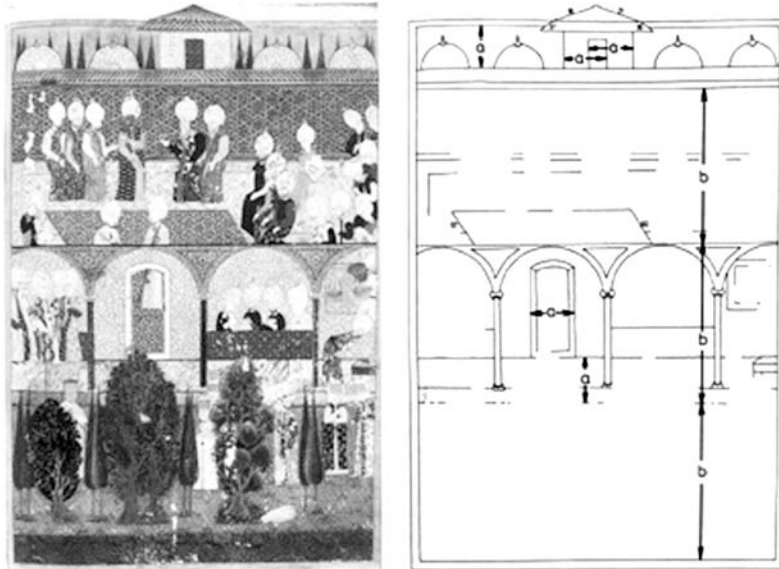


Figure 2. An example of Gunay's Proportional Evaluation.

Linking through diagrams

It is clear that information design has an important role in Turkish-Ottoman miniatures. In the manuscript of *Silsilename*, for example the family trees of the sultans are described using an innovative technique which allowed a comprehensive description of the often complex family relations to be represented on a single plate. Figures representing the sultans were placed in circles sprouting text detailing familial relationships. These were linked to their predecessors and descendants by lines, and supplemented by smaller circles, also linked by lines, which were filled with some words and abbreviations used to guide the reader to other references in Figure 3.

Symbolization

We have seen how miniature artists used their skill to record the real environments, objects and personalities of their times. Nevertheless, non-existing environments, people, and objects were sometimes used in order to represent various events or concepts.

In this kind of symbolic expression, unrelated environments are arranged in combinations intended to help the viewer better understand an event or situation, (And 2002, p.80). One of the best samples documenting this technique is the miniature representing a scene in a Turkish bath in *Sevakib-i Menâkib*. In this example, the different activities which occurred in the *hamam* are juxtaposed with one another, when in reality they could not have been found taking place side by side. None of the forms in the miniatures

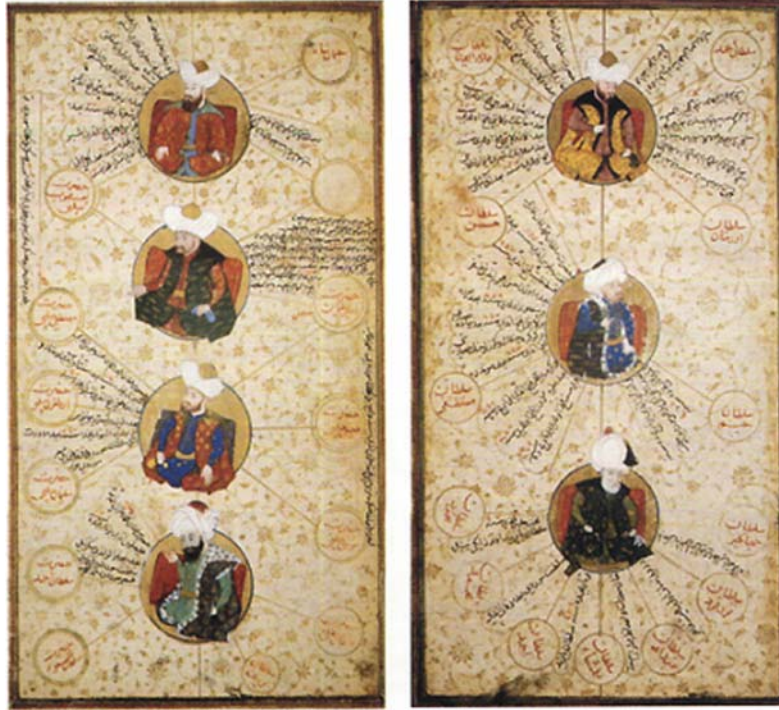


Figure 3. Structure of diagrams in Miniatures of Silsilename.

were taken from a real-life Turkish bath. Components which symbolize the bath were combined only to represent the scene. Bearing this example in mind, we can assume that miniature art was also used to represent events figuratively through the use of symbols in Figure 4.

Framing

Beside a few exceptions, miniatures tended to use framing in the events they represented. Various forms of framing were used in Turkish-Ottoman Miniatures. In its simplest form, a miniature would be placed in a rectangular frame. Depending on the artistic approach, the edges of the frames were emphasized by thin or thick lines, tinting, or the use of black and white.

Some miniature artists completed the edge of the frames with the figures used in the representation in order to break the monotony. In some cases, they displaced some part of the figures out of frame in an attempt to create a different visual form in the miniature. However, the methods of displacing the figure out of the frame or separating it from the frame were also used for other purposes depending on the significance of the theme. (This method is discussed more thoroughly in the following section) in Figure 5.



Figure 4. An example of symbolization: The hamam miniature in *Sevakib-i Menakib*.

Separating

The most focal object or important conceptual representation was often separated from the main theme in order to emphasize the significance of an event. Especially in miniatures representing battle victories, the banner of the army was placed out of the frame. Hence, the glory of the state (represented by the banner) would be emphasized.

On the other hand, figures were sometimes placed outside the frame, either to inject some humour and irony to the composition, or to emphasize that they were not related to the main theme. These types of representation are more common in the miniatures of literary works in which accurate documentation was not so important in Figure 6.



Figure 5. An example of framing: rabbits and elephants in *humayunname*.

The representation of different spatial and temporal environments

In the work *Surname-i Humayun*, a series of miniatures was used in order to represent a particularly grand feast, rather in the fashion of illustrated novels. However, in Turkish-Ottoman miniatures, complex themes involving more than one time and place were more often explained within a single frame. There emerged two kinds of approaches to achieving this aim.

In the first, the miniaturists would attempt to illustrate a setting in one frame from both the interior and the exterior in order to represent an event more inclusively. For example, when an event took place in one specific structure of a building complex, the artist would first illustrate the entire complex. Then, drawing the contours of the specific building where the event took place, he would omit its front wall, and place the figures involved in the event within this outline. In this way, an event could be comprehended using a macro–micro reading method. This approach facilitated the representation of a wide variety of themes and locales. For example, events taking



Figure 6. An example of separating: Ravzatü's-süeda.

place both within and outside a cave could be represented in a well-arranged composition.

In the second approach, details from the life stories of famous individuals were related on one plate, even though the events may have taken place in different settings at various times. The most significant example of this type is the *Zubdetü't Tevarih* by Seyit Lokman, which describes episodes from the life of Ibrahim the Prophet. In the centre left of the composition Ibrahim can be seen preparing to sacrifice his son, while the archangel Gabriel hovers above, ready to intervene. In the bottom portion of the miniature, however, King Nemrut is shown consigning Ibrahim to the fire. (Museum of Turkish-Islamic Art, No:1973, 16th Century.) This work clearly reflects the capacity of miniature art to narrate diverse events from different times in a thoroughly economic manner on a single plate in Figure 7.



Figure 7. An example of the representation of different spatial and temporal environments: Zubdetü't Tevarih.

THE PRACTICE OF INTEGRATING MINIATURE ART TECHNIQUES WITH ELECTRONIC INFORMATION DESIGN

As is clear from the preceding analysis, miniature art can be seen as one of the predecessors of contemporary information and instruction design. Miniature artists *basically attempted to represent an event or concept in one frame using the minimum amount of details*. Since the technology of that period consisted basically of silk paper and ink, this technique of representation was deemed the most efficient.

Information design in today's electronic environment is mostly used to represent a concept or event in a single frame of monitor screen. In fact, information design in the books are placed on a number of pages following each other. In order to understand this information design, we always need to compare and analyze the pages juxtaposing and arranging them chronologically. Nevertheless, in miniatures, unlike storyboards, events are attempted to be narrated on paper within only one plate. We can assume, therefore, that miniature art shares similar characteristics with electronic information design. However, while miniature art is static, designers in the electronic environment are able to animate displays, add sound to compositions, and even allow the viewer or user the opportunity to change a given part of a composition according to their own specifications.

Setting off from the above comparison and relation, characteristic narration technique of miniature art can be worked in new concepts. Just like in video art. For example, lines in deteriorated movie films, defects in real-time displays inspired many video art works. We could provide many similar examples. However, the most important thing here is the idea whether the styles of art forms such as miniatures can benefit electronic information design and can be used in design education.

In order to find answers to our questions, bearing these differences in mind, 30 design students at Yildiz Technical University were assigned a conceptual design which required them to become inspired by and adapt the techniques of representation used in miniature art to the field of electronic information design. In the project, the students were first asked to analyse the approaches in miniature art which are detailed above. Next, they were asked to explain how they could represent an event using the facilities of interactive media, with the same simplicity and minimalism in miniature art.

To perform this task, students were asked to adhere to the following structures:

1. To identify the components of the theme chosen for description, as in miniature art.
2. To minimize these components and transform them into an iconographic code of language. While doing this, they were restricted from copying the themes, objects, and settings used in miniature art. Instead, they were required to develop themes, forms, and settings consistent with today's environment.
3. To create a design based on the above restrictions, using only the facilities of interactive media.

All 30 students preferred to work on themes which affected them most. The World Trade Centre bombing in New York; the turmoil in the Middle East; the Chernobyl disaster; and the demolition of the Berlin Wall – these were all popular choices.

Among the 30 projects, the project, one of the most successful in transferring and adapting miniature techniques to electronic information design was the one representing the Demolition of the Berlin Wall.

The *Berlin Wall Project* is a visual work representing the destruction of the wall which had separated Germany into two countries since the Second World War, and its reunification in 1990.

The storyboard of the project consists of three parts: incidents prior to the demolition of the wall are described in the first part; the day it fell in the second; and events subsequent to its destruction in the third. The starting point of the project is a map of Germany before its division into two sides as East and West. When the user clicks a particular location on the screen, he activates an audio-visual window narrating the situation which prevailed in that area at the time in Figure 8.

There are three time buttons in the composition: pre-collapse, demolition, and aftermath. These are placed in the composition to help the user pass from one section to the other as one prefers. Additional information concerning the period selected is provided beside each button.

In the section illustrating the wall's demolition, some images were chosen as the components of the composition (e.g. flags of countries, the wall, barbed-wire, tanks, people trying to jump over the wall, the Brandenburg Gate), and the symbolic representations of these components were designed. Tanks and people jumping over the wall are described through the animated loop technique, in which short written details emerge when the user selects a component with the cursor. For some of the figures, however, audio-visual

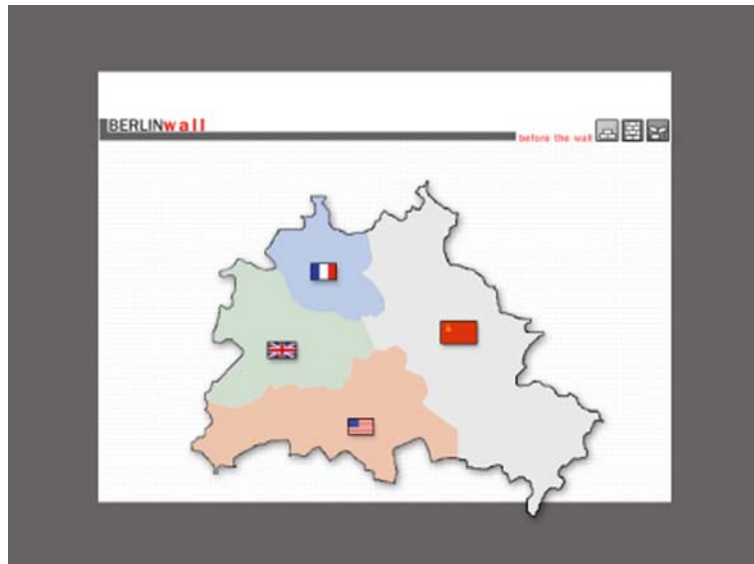


Figure 8. Homepage of The Berlin Wall Project; designed by Atike Dicle Peker; supervised by Oguzhan Özcan.

windows appear which provide more detailed information about the selected component. The phases between the beginning of the wall's demolition and its completion are accessed through colours and numbers. When the user selects a particular phase, an audio–visual video window opens offering more detailed explanation.

In the final portion, which describes the aftermath of the wall's demolition, users encounter a map of a reunified Germany, the symbolic Brandenburg Gate, and people celebrating victory. Again, each time the user selects an image, an audio–visual window opens which provides further details.

The student successfully applied the seven typologies of miniature art technique to his project as follows:

Mapping

Since the theme represented in the project is the reunification of Germany, the map of Germany dominates the whole project. Components such as the wall, tanks, and people are placed in the composition following the parallel oblique and orthographic perspective technique of miniature art. However, while this technique is applied, fidelity to the modern theme is maintained and miniatures are not imitated.

Scaling, proportioning and use of templates

Since the project was designed by computer, the multiplication facilities of this technology were used extensively, especially when placing human figures into the composition in Figure 9.



Figure 9. The Section of the wall's demolition of The Berlin Wall Project; designed by Atike Dicle Peker; supervised by Oguzhan Özcan.

Linking through diagrams

We have already mentioned the fact that in the miniatures this kind of information organisation was narrated through diagrams drawn juxtaposed and related together (Figure 3). Now, designer forsakes this method, which is the necessity of the narration on paper, and provides details/explanations concerning the components using the facilities of the electronic environment. Specifically, the appearance of written texts and audio–visual files are activated by clicking the mouse on those components one wishes to learn more about. Thus, there are minimum information on the start screen and completing information is displayed on the screen if necessary. Designer points out that this characteristic of the electronic environment has actually parallels with the minimalistic approach of the miniature art.

Symbolization

The simplistic, figurative and minimalist style of miniature art, representation is applied in the composition. Facial and other physical details are reduced and a more symbolic language is achieved the same as miniature art. The frequent use of the iconographic language in the interface design helped the designer to transform the symbolic expression much more easily.

Framing

We have already mentioned the fact that in the miniature art, the event was narrated in one frame and some solutions were suggested in breaking the edges of the frame and displacing the figures out of the frame (Figure 5). A similar viewpoint is sometimes applied in pictures on canvas. Jasper Johns' *Passage II* (1966) is an example for this attempt. In this work, there are paintings spilling over the frame and three-dimensional objects displaced out of it. This comparison and solutions it suggests were also entertained by the designer for the computer screen on which *The Berlin Wall* project is displayed. However, one could maintain that the method was not applied in this work. Yet the student did in fact develop ideas that extended the design beyond the edges of the screen. As this work is intended for a network environment, however, these ideas were abandoned in the final stage of production. Nevertheless, the video windows which emerge when a component is selected can be perceived as extending the frames of the images into the third dimension. All the same, it must be conceded that the rectangular shape of these frames by no means represents a new visual design component. The weakest aspect of the project emerges concerning this typology, probably due to the reasons mentioned above.

Separating

It can be argued that the components which the designer wished to emphasize were organized better in this project than in miniature art. The

method of separating is not done by detaching figures from the frame as is done in miniatures, but by layering the information above and out of frame in the third dimension. By using this technique, text and further visual information that had been bound to the page in miniature art has been liberated, thereby enriching the entire composition.

Representation of different spatial and temporal environments

In contrast to miniature technique based on paper, different environments and times are more realistically represented on the computer screen. The shifts between time lines in Berlin – the periods before, during, and after the wall's demolition – are easily accessed by clicking a button on the interface. As is obvious, interactive environments are ideal for representing themes concerning time-lines. Similarly, representations of different places can be easily accessed by opening windows layered one on top of the other. Hence, different environments can be displayed on the same screen simultaneously.

CONCLUSION

The students who participated in this workshop were very stimulated by the challenge of adapting the precepts of miniature art to their own field of study. In particular, they were motivated by the assumption that they could use a traditional approach to augment their own creativity in electronic information design.

The most difficult problem the students faced in the workshop was the challenge of not letting themselves be influenced by the style of miniature art. It would be false to say that all of them were successful in this regard. While twenty of the students effectively adapted the theoretical components of miniature art to their projects, other 10 students simply represented their themes in the same fashion as miniature art. We can say, therefore, that some of these projects did not go beyond imitation, despite there are representations of modern themes and environments. Nevertheless, it is important that even the students who failed were able to learn the method and gain new insights concerning their field of study.

A second challenge was experienced due to the parameter requiring the use of all seven of the typologies. Perhaps the reason for this difficulty is the fact that students today are used to employing visual representation techniques developed in the modern computer environment.

Students who are used to creating photorealistic images, arranging computer animation and game should do various exercises in order to understand minimalistic approach. Students especially need this to design buttons and icons used in interface designs. This is why we think that these kinds of eccentric and unusual challenging exercises should be done within

the scope of minimalistic approach beside the common methods in order to provide innovative tastes and enhance creativity for the students.

Here some readers may think taking some inspirations from traditional cultures to improve creativity in electronic information design could be covered by giving the students a set of 'design instructions'. However, we, all teachers know that this is not enough for design innovation; it can only be gained by practice. Instructions or theories can only be supplementary education for these purposes.

From technology educators' points of view, we can conclude that we can not put certain rules in technology based design education but we may suggest to explore and gain some typological findings from previous cultural experience such as miniature art in order to enrich the creativity of students in parallel with teaching the use of software tools and programming.

Finally, in this workshop, the students came to understand that they could not be innovative designers by simply knowing the rules of the electronic environment and the problems and approaches to design of the present day. Being innovative does not mean only finding the unknown, or the unattempted. As was mentioned at the beginning of the article, an examination of the past's forgotten ideas can help us revive approaches that might be used to solve contemporary problems – as in the field of information design – since many of the problems that perplex us today were also experienced and considered in earlier ages.

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