
Rethinking Spherical Media Surfaces by Re-reading Ancient Greek Vases

Oğuzhan Özcan

Design Lab
Koç University
Rumelifeneri Road
34450, Istanbul, Turkey
oozcan@ku.edu.tr

Ayça Ünlüer

Dept. of Communication Design
Faculty of Art and Design
Yıldız Technical University
Istanbul, Turkey
ayca.unluer@gmail.com

Mehmet Aydın Baytaş

Design Lab
Koç University
Rumelifeneri Road
34450, Istanbul, Turkey
mbaytas@ku.edu.tr

Barış Serim

Design Lab
Koç University
Rumelifeneri Road
34450, Istanbul, Turkey
bserim@ku.edu.tr

Abstract

In this paper, we propose re-reading of past artifacts and traditions as a possible way to inspire the design of future media on non-flat displays. As an example, we illustrate how different narrative typologies found in ancient Greek vases, *circular story reading*, *bottom-up time reading*, *abstract and realistic contrast reading* and *reading in alignment*, can yield alternatives to interactive content specific to spherical media. We conclude by pointing out design considerations regarding the composition of graphic elements on spherical surfaces.

Author Keywords

Spherical displays; re-reading; story-telling.

ACM Classification Keywords

H.5.2 [Information Interfaces and Presentation]: User Interfaces.

Introduction

Research on non-flat displays has covered ample ground. Primitives such as the cylinder [2], the sphere [1] and bent surfaces [15]; and irrational forms [4] have been proposed as static media. Interactive displays that react to manipulations such as bending [8], rolling-out [6, 13] and folding [7, 9] have been considered. These works also discuss functionality and

content for non-flat forms, but the discussions are often limited to the adaptations and eliminations of functions and content that already exists on conventional displays [1, 2]. We argue that this is not sufficient to fully explore the capabilities of non-flat display technology.

In order to discover new ways of using novel interactive media effectively, it is necessary to try unconventional approaches. One such approach is to attempt to re-read the solutions to similar problems that cultures in the past have come up with. Past cultures have been contemplating on variations of today's design problems for years. Today's media technology necessitates concepts and narratives be developed quickly, but past experiences, cultivated over the years, hold clues to enriching contemporary media experiences.

In our previous research, we have found evidence that supports our position: The traditions of shadow play [10], miniature painting [11] and calligraphy [14] and the artifacts of these traditions have offered clues as to what conventional displays are capable of. Similarly, by examining ancient cultural artifacts, we may anticipate what the mainstream applications of non-flat media will look like in the future and what forms of presentation they will afford.

We propose that re-reading the ways that imagery on ancient Greek vases have been composed may inspire content development for spherical interactive surfaces.

Understanding “Re-reading the Past”

Being inspired by the past does not necessitate imitating it in new forms. Ideally, design solutions from the past should be re-evaluated from a contemporary

perspective and they should inspire novel concepts, e.g. the Wayang Kulit shadow play where male and female viewers see the show from different sides of the screen may inspire the development of a two-sided display [10]. It is exciting that the user experience afforded by a two-sided display existed in the past, when the technology did not.

Similarly, re-reading miniature paintings allows us to discover concepts such as placing elements outside the picture's frame and representing concepts by juxtaposing its constituents [11], which lend us clues as to achieve narrative richness in current media.

Re-reading traditional Turkish calligraphy also yields surprises, in that the act of writing and drawing has been considered to be a multi-dimensional activity in the past. The traditional calligraphist completes his work, a continuous form, in one breath. He is surrounded by candlelight and music that helps him focus as he works. He desires to trace and imprint the forms that he imagines in air, but he may only confine himself to a two-dimensional medium [14]. Coupling the philosophy and rituals of traditional calligraphy with current technology would no doubt yield novel forms of calligraphy.

Ancient Greek Vases as Inspiration for Spherical Interactive Media

Four different types of narratives are observed in ancient Greek vases, where a multitude of themes are presented simultaneously:

Circular story reading (horizontal direction)

Sequential images, flowing horizontally on the vase, assume a linear storyboard formation. However, in



Figure 1: Detail from Chigi vase.
[5]



Figure 2: Spherical vase frieze reading regarding horizontal direction, vertical direction, hemispheres and alignment respectively.

each scene, certain characters are drawn facing left and others facing right. There is no clear and distinct direction and order to read in. The intent here is to motivate the reader to turn the vase as they view. Different stories emerge as the vase is revolves in the clockwise and counterclockwise directions. [5]

Bottom-up time reading (vertical direction)

Emotional and epic narratives ensue in vases of this character, summarizing on the life of a mythological character. The reading order is vertical, from the bottom up. The younger years of the character appear progresses upward, they are presented with later events in the character's life. Events are ordered vertically and they unfold in the horizontal direction.

Abstract and realistic contrast reading (hemispheric look)

One side of the vase depicts commoners and stories from daily life, and the other side comprises mythological characters and adventures.

Reading in alignment

Every vertical row deals with a different concept and presents the concept using mythological characters, creatures and objects. The elements that comprise the concept may look random, but they appear more realistic on one side and more heroic on the other. One row may depict a hunting scene, one side illustrating a deer hunt and the other side portraying a skirmish against a lion. As the reading progresses from bottom up, the subject matter of the rows are transformed in particular order. A vase may depict stages in the life of a man in this fashion: The bottommost row may embody children hunting, with an upper row illustrating youth entertaining themselves at horse races, while

above there are scenes from a war where adults are fighting each other. Important characters, objects or creatures, the focal points of the rows, have been aligned as to maintain connections between rows.

Conclusion

Today's interactive media often presents nonlinear stories on a medium confined to a single flat display. For long this arrangement has allowed us to imagine interactive cinema and continues to be a functional and popular interface for interactive games [3]. Many works deal with the continuation of the user experience afforded by such media into non-flat media. However, the content and narratives specific to non-flat displays have not been covered extensively in the literature. One paper proposes an icosahedron shape to exploit the interactive potential of multifaceted displays and gestural interaction with the object to navigate the user interface. This, however, is an experiment in interaction styles and proposes no narrative form [12].

The typological analysis above suggests that there is no linear horizontal or vertical order to reading these ancient Greek vases. This intends to motivate the reader to rotate the vase in his hand.

It is possible to exploit the four typologies outlined above ("Circular Reading", "Bottom-up Time Reading", "Hemispheric Look" and "Reading in Alignment") to create interactive storytelling concepts specific to spherical media. Previous analyses on miniature painting indicate that it is possible to use mapping techniques for storytelling [11]. Beyond these planar mapping experiences, using these four typologies, it is possible to compose with stills and animated images on a spherical matrix. Care should be taken to maintain

the viewer's attention on the medium and the following questions should be considered:

- will the matrix comprise stills or animated images only, or a combination of the two?
- if stills and animated images are to be combined, what should their ratio be?
- within the stills and the animated images, how will the pictures be composed in relation to the spherical matrix?

Utilizing re-reading methods, it may be possible to develop novel narrative forms and content that fully exploits contemporary technology, such as spherical displays. These new media forms may then become tools for novel gaming or learning experiences.

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