



## VISUALIZING OURSELVES THROUGH ARTIFACTS AND EXPERIENCE

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### ABSTRACT

This essay explores the role of art and design in the development of ethnography as instrument for visualization. A two-stage collaborative autoethnography method in which personal histories in the form of 'reconstructions of life' created by young researchers from an artifact-oriented perspective, are used as point of origin to launch a process of inquiry. The process includes the subsequent use of interviews by a second researcher as a way to gather additional information and further refine the narrative created by the informant author, with the intent to use the data collected in the creation of a personal timeline visualizations. The objectives are: To describe how the personal narratives created in the first stage of the method and involving the use of single or multiple events and artifacts can help to illustrate diverse cultural zones of transverse by people throughout the course of a lifetime; to demonstrate how media representations are used in the translation and recording of intangible and ephemeral multimodal experiences of lifetime memories.

Examples from a workshop developed and taught by the author in diverse cultural settings are provided. Self-reflection is included as participants are asked to create narratives based on significant events of their life and anchored in personal recollections involving material culture, instances, and landscapes. During the second stage a dialogical process interrogates basic notions such as 'What is a primary source?' and 'Who is an expert?' emerges

### Keywords:

Artifact, autoethnography, visualization.

### INTRODUCTION

This paper explores the possible role of art and design in the further development of autoethnography, as an instrument for research and visualization. This is done by describing a two-stage collaborative autoethnography method that we have been developing at Aalto University in which personal histories in the form of 'reconstructions of life' are used by young researchers as point of origin from which to launch a process of inquiry. Initially the method was developed as part of a course in which participants would learn about the processes involved in collecting and organizing data to create information visualizations. These latter are graphic information representations that by engaging the human senses and perception actively promote exploration and engagement with memories.

However I aim to show that the processes which students undergo as part of the work in the course and the data resulting from these artistic and design visualizations potentially yield much more. According to anecdotal testimony, participation has impacted those who have partaken in the course. This has resulted in several invitations to offer the workshop in different locations such as at Universidad de Barcelona (UB), Spain in 2006, Pontificia Universidad Católica de Chile (PUAC) in Santiago, Chile in 2009 and at the School of Media Arts at Tsinghua University in Beijing, China in 2009. It is the works produced by these three workshop groups that I use as source materials for this paper. I contend that among other things these information representations illustrate diverse cultural zones traversed by an individual throughout the course of a lifetime. This is evident for example, in the visual and textual signs depicted in Figure 2 where cultural elements such as Chinese aforisms and symbols are used to describe stages of life. Further on and using the metaphor of attractor fields, Figure 3 shows us how the author's taste in literature has varied throughout time. And in Figure 1 we have an example in which the designer has used the popular Spanish board game of *La Oca* as form-giving schema to visually represent the autoethnographic narrative of the life of Laura Rosetti.

Because of the knowledge it offers, contemporary anthropological thinking provides a solid foundation for designers and artists working in areas such as human computer interaction, interaction design and user interface design. Could it also work the other way around? Aside from being the subject of study, can design research, art, and design knowledge with its rich, yet precise use of graphics, also make a contribution to anthropological debate?



**Figure 1:** "Laura Rosetti Lifegame", personal timeline based on the popular Spanish board game of *La Oca*. Numbers in the upper right hand corner of each step indicate the passage of time. Colors are used to indicate different themes with green representing travel, white affective relations, yellow information technology, and red traditional audio-visual media.

## 2. Background and framework

In the paper I first describe the background and framework in which the work has developed and then I proceed to describe the elements of the method as they are taught in the workshop. Throughout the text I

show and compare a small selection (four graphics) from the materials produced in three different editions of the course. My analysis is done by looking at narratives and visualizations produced as they stand by themselves. A more comprehensive comparison including a larger sample of materials and engaging with other autoethnographic studies is planned for the future. Diverse notions of contact zones with hypotheses of how they come to be and how they are used in the work will also be discussed here.

## 2.1 Design studies

In 2003, after successfully conducting a pilot project on the topic, together with designer and lecturer Asta Raami, we developed Dynamic Visual Design a special subject area of study offered at the Media Lab Helsinki. The aim was to provide an understanding of the field of visualization as one that involves dynamic processes that are of a biological as well as of a social and cultural nature. This is in agreement with Raskin who has proposed that it is the responsibility of the designer to know and understand the capabilities and limitations of the human senses, how these change in response to variables such as age and health, and how human emotional responses are affected by culture.

The area of study that has since been renamed to Dynamic Visualization continues to operate successfully. It includes a yearly seminar devoted to theory and practice, workshops in which the objective is to focus on improvement of skills such as Interface Prototype Design as well, as courses targeted to specific subjects such as 3D User Interface Design and Advanced Topics in Visualization. However, the intent of this essay is not to go over the details of the program of study but rather to focus on the direct and indirect results from the work done throughout the years in one of the courses, namely Information Visualization and Design.

Initially this course was a one-week long workshop focusing on improvement of information design skills. However, based on student feedback it has been extended to a three weeks intensive course, with the section on information design and narrative now being offered during the second week. In this section as part of a *Personal Timelines* exercise participants are asked to write a two-page description of their life from their earliest memories until the present. They are asked to include significant names of people and events. They should also aim to organize these memories by reflecting about the settings and places in which the events occurred and the significant objects of material culture that might have been present or played a role. Though touching on emotional and inspiring issues is supported, participants are strongly advised not to include items that are either too personal or that they would not freely discuss in public.

Lectures on the topics of *History of Information Design*, on Jacques Bertin's *Graphic System* and about *Time Systems in the West* are given concurrent with their work on these narratives. Time is presented from a historiographic perspective as a system that uses diverse metrics (day, night, week, month, year), some which might have changed through history and which still vary across cultures and others which are of a natural order (sunrise, sunset, seasons).<sup>1</sup> Students are asked to reflect and correlate their own experiences to these topics.

The graphic system semiology developed by Jacques Bertin is introduced as an example of the rigorous use of graphics and in order to familiarize participants with the use monosemic and polysemic sign systems. Monosemic systems are precision-oriented graphic design systems in which the elements can only be interpreted in one way. A good example of a monosemic system is the schematic diagram used in the London Underground transportation system where vectors and circles in different colors are unequivocally read as transit lines and stations respectively. In general most artworks can be considered as polysemic systems, that is open systems from which multiple interpretations can be inferred. Finally the lecture on information design history exposes the participant to a wide diversity of information

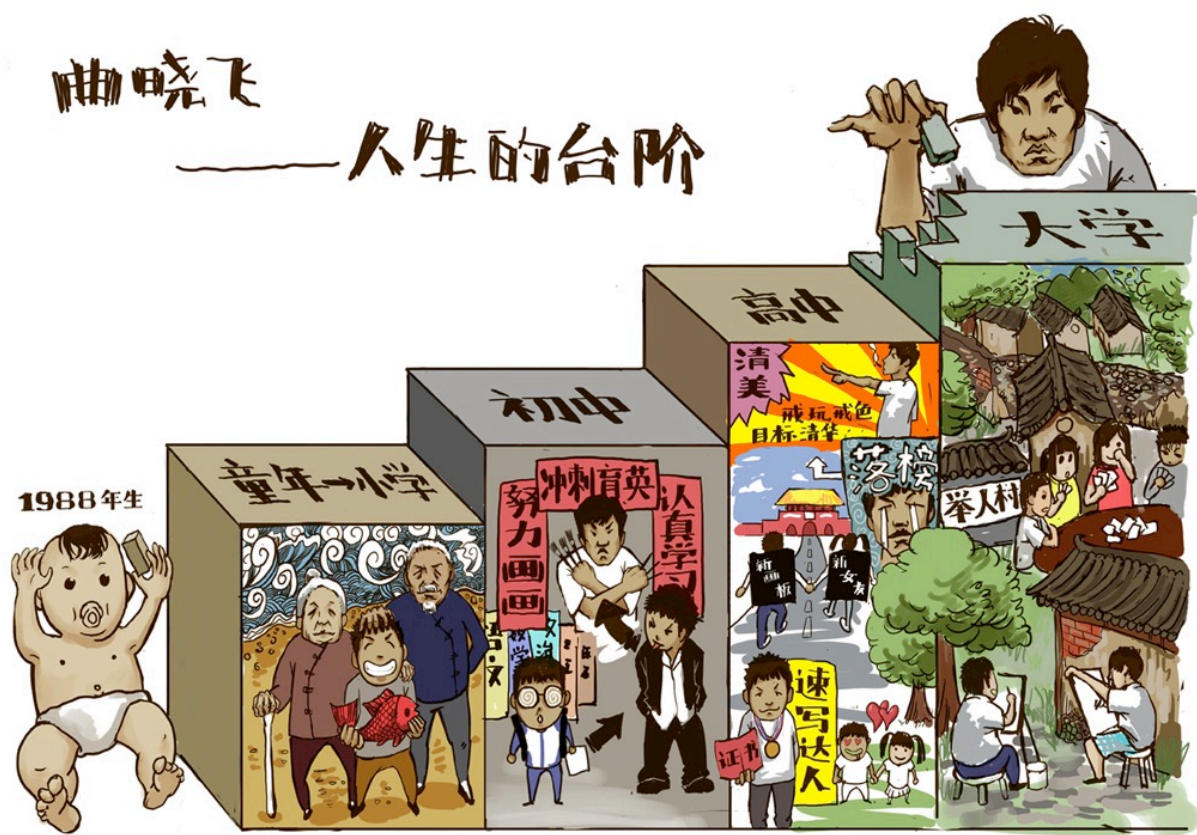
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<sup>1</sup> An invited professor of history teaches the topic of Time Systems in the course. The lectures on semiology of graphics and on history of information representation graphic have been taught by the author.

representation formats, including knowledge about their authors and the historical context in which they were created. This provides foundation knowledge and also helps to establish a common language among participants. When creating the *Personal Timelines* participants are allowed to use combinations of all these types, or come up with their own proposals.

The decision to use personal data to work on information design came early on. Although a wide variety of data is now available through the Internet, this was not the case yet in 2003 when we faced the dilemma of what could we use for the practical exercises that would be substantial and viable. In the discussions at the time with graphic design professor Tapio Vapaasalo, we debated about the possible effects of using personal data. Since it was clear that the participants in the workshop would come from different knowledge fields, backgrounds and even nationalities, we conjectured that these differences might make it so that everyone would have a distinct story of their life and that this would create a potentially limitless diversity of data elements.

Giving the students the opportunity to narrate and perform the story of their life could also have the positive effects of learning and practicing basic presentation skills as well as possibly creating an enhanced sense of communication among the participants in the group. As I brought up the questions regarding the objectivity of the data, Vapasaalo suggested that one way around this would be to have the students work in pairs, with one being the storyteller and the other being the researcher. The idea here was that such working relationship offered the opportunity of having 'checks' in the system. The storyteller would need to make sure that at least one person could understand their narrative and the researcher would need to make sure that there would be enough relevant information to create the *Personal Timeline* information representation.



**Figure 2:** Timeline representation from autoethnographic narrative “Staircases in Life”, depicts stages resulting from epiphanies and life altering moments: From birth to childhood spent with grandparents, through junior high studying hard, to failure resulting in a decision to aim high to winning a certificate for best quick sketch, and finally into university life and working with fellow students.

### **3. The method: Role-playing, narratives and graphics.**

The method that we have developed is collaborative and combines role-playing as a strategy for storytelling and graphics as a way of inscribing aspects of the stories told.

#### **3.1 Roles: a storyteller and a researcher**

Our collaborative autoethnographic method involves working in pair and according to the following roles. There is a storyteller who focuses on creating an autobiographical narrative, paying particular attention to how personal events intertwine with events such as historical milestones, human relations and material culture (or artifacts). In the narrative the storyteller should provide rich descriptions that allow for rendering of vignettes based on real life experiences. The narrative should also offer anchor points of dramatic tension in the form of *epiphanies*, or “stings of memory” (Denzin). Epiphanies are found in the significant events that have the capacity to alter the course of a life. They locate the turning moments (the beginnings and the endings) and carry with them evidence in the flesh (of the sounds heard, the smells felt and the colors noticed, for example).

We emphasize the importance of the language used and on giving the autobiographical narrative a meaningful title. This is because even though it is an external element (Bertin)<sup>2</sup>, the name of a graphic can operate as a linguistic form of memory, evoking and linking places, events and people. The name can also act as a magnifying glass, placing emphasis on certain aspects of an event or experience, while ignoring others. Overall the experience has been that, even when there are problems with English as a second language, the narratives produced are crafted with care, thus allowing for a translation or even a visual reconstruction of the lived experience.

The researcher who is also the designer who creates the graphic has the responsibility to find additional information, if after an initial review he or she deems it necessary. Carrying on interviews with the storyteller is one way for the researcher to do this. Doing a survey of the material culture mentioned in the narrative such as computer games or musical styles is still another. It could be argued that the design researcher focuses on the objectification (achieving objectivity) in the narrative. Ultimately this occurs through the interpretations created by this external subject, who in dialogue with the storyteller decides what to include (or not) in the final *Personal Timeline*, as well as how to depict it.

Interpretation is related to our ability to understand and reflect about something, an activity, an event, or an item of knowledge. To interpret means to explain something to our selves and to others. In relation to communication, there is a social aspect to interpretation so that it benefits from the existence of dialogue. At the end of the exercise, all participants have performed both roles that of storyteller and of researcher. Each takes home their own life's story written by themselves and rendered into a timeline graphic by one of their colleagues. The graphic is significant in how it allows to grasp a life in its entirety.

#### **3.2. Autobiographical narratives and stories**

Narratives and stories are increasingly regarded as primary sources and carriers of knowledge. Anthropological literature is replete with examples where narratives told as stories are instrumental to the transmission of mythical and traditional knowledge accross generations. Thus narratives can be considered as central to creating meaning and understanding related to concepts like identity (who I am and where I come from) as well as notions such as difference and cultural diversity (why am I here).

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<sup>2</sup> Bertin proposes that as external elements independent of the graphic image itself, the title and legend materials serve the function of properly identifying the domain of knowledge treated by the information representation.

All narrative consists of a “discourse that integrates a sequence of events into the unity of a single plot” (Onega and Landa, 1996: 63). This means that otherwise disconnected experiences are brought together and linked as contiguous elements within the semantic space of a plot. Nevertheless in this space stories do not necessarily unfold in parallel to the chronological ordering of events. As is illustrated in the timeline depicted in Figure 3, narratives can shift back and forth altering the presentation of events in time and even recasting the perspectives offered in scale and thematically.

Indeed there are those who argue for a difference between narrative and story, with the later being associated with actual events or performance and the former having to do with inquiry, interpretation, and discourse creation (Mulholland et al. 2016). Marie-Laurie Ryan has proposed that “narrative representation consists of a world (setting) situated in time, populated by individuals (characters), who participate in actions and happenings (events/plot) and undergo change”.

A biography is a narrative account of the life of a person. Autobiography in turn can be described as the creation of embodied narratives grounded on personal experience and memories. In *Narrating the Self*, Ochs and Capps note that such personal narratives often integrate multiple communicative modes including visual representations and constitute ‘versions of reality’ (21). According to Ellis and Bochner, a researcher can make use of autobiography and ethnography to *do and write* autoethnography. Here is an instance theory guides the practice and practice supports the theory. This is indeed what happens when the autobiographical narrative is brought together through our method with observations about artifacts and culture.



**Figure 3:** “What I believe I should be”, visualization renders an autoethnographic narrative where the author describes his life according to the writers and literature works that have interested him at different points in time. In the illustration the designer researcher explicitly deviates from traditional linear timeline representations by using the so-called ‘butterfly effect’ (small causes can have large effects) from chaos theory (Wikipedia).

Autoethnography makes use of autobiographical narratives to describe and systematically analyze personal experience in order to understand general cultural experience. The process of creating autoethnography involves a retroactive selection and writing of past experiences. However, personal experience is not only an individual development but also something constituted socially through discourse and as part of collective performance involving a myriad of contexts and including artifacts. Thus the autoethnographer can use interviews with others, or consult texts, photographs, journals and other artifacts of culture (Denzin). Additionally Giorgio proposes that autoethnographic writing involves cultural and political tensions found between the “lived experiences and their meanings and ethical concerns about representation of self and others.” In this manner autoethnographic narrative can enable spaces for critical intervention.

Experiences are assembled using hindsight so that interactional moments perceived to have had significance and impact in a person’s life or events that have altered the fundamental structures in a person’s life (epiphanies) are examined. These are the moments that occur at the liminal, in the rites of passage from one stage in life to the other, at the threshold moment of experience. They stem from and are made possible by being part of a culture or possessing a cultural identity. Denzin describes four types of epiphanies: the major event (or juncture), the cumulative or representative event; the minor or illuminative epiphany and the relived epiphany. We have observed these in the different narratives and timelines created through the exercise.

### **3.3. Graphics and diagrams**

The other element of our method, in addition to autoethnographical narratives is the timeline visualizations themselves which are created as part of the exercise. Timelines are graphical devices that structure information in a spatial manner by using non-iconic diagrammatic elements such as for example grids, reference lines, nets, and scales. Many times diagrammatic components are used in combination with iconographic elements that represent aspects and artefacts from the real world such as people and places. For example in Figure 2 the graphic of the Forbidden City is used to represent ‘Beijing’ and in Figure 4 blue and yellow pictograms stand for ‘grandfather’ and ‘author’ respectively.

Diagrams are more than images or visual representations standing for something else. According to Elkins: [A diagram is] “not a naturalistic representation, nor a normative x-y graph: It is a new kind of image that is neither a picture of the world, nor a conventional graph. For that reason diagrams are strongly dependent on their surrounding text and largely opaque without it” (Elkins 37).

Diagrams such as timelines are artefacts in themselves. They are ‘objects to think’ with (Bender 19) in which often Gestalt perception is deployed to show the relations between the parts, or maybe even the functioning of the parts themselves.

As a type of information representation graphic, the major function of a timeline is to consolidate and display time-related information for the purpose of analysis and communication (Harris 216). The timeline allows the viewer to ‘see’ when things have happened (and even when events might occur, if applicable). However, chronology is not synonymous with causal relation, rather it is the “natural ordering of the time scale that is borrowed” (Tufte) to enable efficient interpretation.

In the case of the autoethnography, the epiphanies experienced in life can be denoted as point data marks. However, in addition to highlighting significant moments, a timeline visualization can open up for analysis the space between intervals. This means that relevant period data—such as what happens between moments of epiphany—can be inserted into the information representation. We can observe how this is done in Figure 2: Building the foundations of the staircase begin at birth, a red fish indicates happiness and abundance at the grandparents house; in the next stage the boy must work hard to achieve goals; after failure comes a new opportunity and a new girlfriend, and so on.



**Figure 4:** “Splendid 20” is the name of this timeline that combines lines and simple pictograms to show the influence of grandfather (blue figure and lines) on the author (yellow figure and lines) and how levels of confidence (white line) vary in time (beige line) and according to age (green line). Epiphany moments include discovering being gifted in sports at age 7. This brings a lot of attention and a transfer to a new school. Confidence level rises as response to the first event, falling slightly as a result of changes, and recuperating shortly afterwards. A period of stability ushers in, followed by illness and recuperation.

#### 4. About the people

Located in three different geographic regions of South America, Asia, and Europe, the demographic of the groups that we worked with varied widely. Whereas the group in South America was composed by more mature female and male faculty members in the design institute of a university, the group in Asia comprised quite younger Bachelor of Arts students in new media. Meanwhile, the group in Spain comprised a mixed age group that included faculty as well as graduate students from the art education department in a university.

The number of participants in each of the exercises also varied. Fourteen were present in Santiago, Chile; ten in Barcelona, and twenty four in Beijing. Time to carry out the exercise at these locations varied between two days in Chile and China to three days in Barcelona. The participants in these special editions of the course did not receive the additional knowledge from the Time Systems lecture. The Introduction to



Information Design and the History of Information Design lectures were condensed into one longer presentation.

## 5. Conclusions and commentaries

In research one focuses on gathering information and making sense of it. Often this happens by connecting to other areas of knowledge. Insights derived from the research processes involved are used to develop new design criteria. However, creation through art and design usually focuses on tangible objects as results that can be shown. This means that often there is no direct correspondence between what exists as output on the side of research and on the side of art or design.

Beyond the simple identifying and composing of elements, information visualization is fast becoming a knowledge area that also supports exploratory processes involving high level cognitive (and interpretative) skills. that enables us to identify links and recognize connections (Chen). Information representations such as *Personal Timelines* developed through our method and in our workshop allow us to add dimensions so that data can be experienced over time and through space. Whereas the collaborative autoethnography brings an embodied experience to the narrative that potentially gathers all the senses, the graphic created is significant in how it allows to grasp a life in its entirety. In this manner it could be said that we come closer to the ideal of bringing the whole of a human being into the research.

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