

Interaction and Verisimilitude. How Narration Can Foster the Design Process

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Multidisciplinary Aspects of Design

Objects, Processes, Experiences and
Narratives

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Introduction

This book is the result of a long research process. The work started in 2020 with an exhibition held in Parma (*Design! Oggetti processi esperienze*, CSAC Università degli Studi di Parma), and a book of the same title, edited by F. Zanella (with essays by G. Bosoni, E. Di Stefano, G.L. Iannilli, G. Matteucci and R. Trocchianesi) and published in 2023 (Electa Milano) centered on the role of archives as memory repositories and agents for contemporary design. This first period of reflection was followed by an international conference: *Design! O.P.E.N.* (<https://www.designopen.it>) held in Parma on May 5–6, 2022. The present volume contains most of the papers presented at the conference.

Starting from the first volume (*Design! Oggetti processi esperienze*), the research was always characterized by a multidisciplinary approach, which became even more multidisciplinary at the international conference held in 2022.

In fact, the conference was organized by a network of scholars from the world of design, philosophy and history of art, whose aim was to intertwine several types of knowledge. Consequently, multidisciplinary is also the main feature of this second volume whose objective is to reflect, in an integrated manner, on the different dimensions of design, using competencies from the field of design and from that of humanities.

The aim of this project is to create a repertoire of opportunities of exchange and of relation among the culture of designers and the applied marketability of humanists in the project and in the innovation processes, in particular those design processes characterized by an important social and cultural impact.

In this context of exploration and experimentation in the territory of bordering subjects, stands the interpretative model in Fig. 1. It represents the potentialities in the interdisciplinary relations which verify the logics and dynamics in the “behavior” of a designer dealing with some project variables. On the vertical axis, humanities and techniques can be found, and on horizontal one, research and project.

Where these variables intersect, there can be four types of intervention:

- The intersection of techniques and research generates technological experimentation considering techniques and technology fields in continuous and fast evolution.
- Where research and humanities intersect, we are in the field of a historical/social/philosophical approach in which the analytical and critical dimensions of the research itself are developed.
- Between humanities and project, we are in the area on which our project focuses: here the meta-project approach becomes the synthetic expression of the relation among the two poles.
- Finally, between project and technique, we are in the area where the executive component of the project itself emerges.

There have already been significant studies which have stressed the importance of humanities for design and have shown that design can be a stimulus for humanities; this

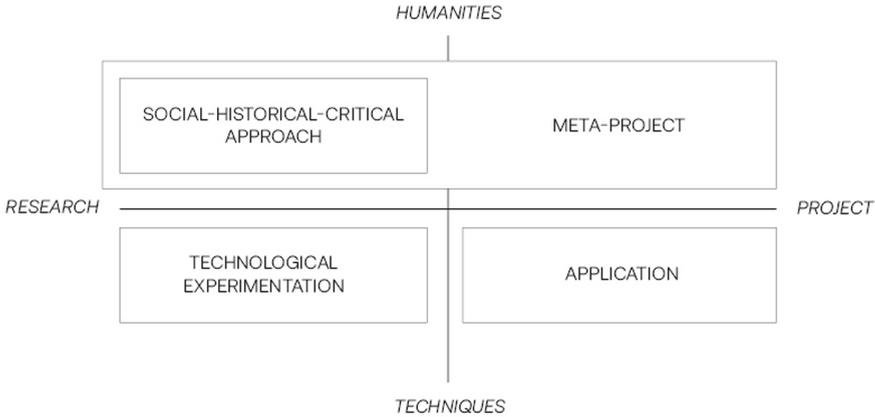


Fig. 1. Potential synergies between design and humanities [1]

is why the conference *Design! O.P.E.N.* intended to be an opportunity for research and debate with the objective of continuing this fundamental line of work.

Some crucial issues which interdisciplinary research must tackle are:

- The research of “new problems for design”, that is, the collective need, as a scientific community, to find new directions toward which work must be periodically re-oriented, and this can be done only through a process of joint reflection.
- Research investigating the “meanings” that the product can have for design.
- Research that investigating the “value” that the design product shows.

As far as meanings are concerned, design and humanities integrated research can challenge, in a theoretically sounder way, “sustainability” by enhancing those concepts that are on the boundary between ethics and esthetics. Today, design cannot afford to dismiss ethical reflection, and, in this direction, humanistic culture can help to reinterpret the reflection on the mere functionality, in the more philosophically complex terms of the concept of “suitability for the purpose”.

With regards to the analysis of the value generated by the action of design, it may be interesting to speak of “technology of value”, which only humanistic investigation can help to process and fill with tools useful to produce not only ex-post critical knowledge, but first and foremost, oriented toward experimentation and to showing new corridors for contemporary design [1].

The volume follows the paths of reflection which structured the conference *Design! O.P.E.N.*, focusing on current themes and issues that are still at the center of the multi-disciplinary debate on design, investigated through four keywords: objects, processes, experiences and narratives, which correspond to the book chapters.

The first chapter focuses on object-oriented design, enhancing its functional narrative and experiential values. In fact, objects, beyond their value in use, bear symbolic, anthropological, political and social meanings and worldviews. This section also develops a theoretical reflection on the esthetic categories used to interpret the design object

in relation to the classic dichotomy useful-beautiful, to the category of game, to artistic values and the relation between ethics and esthetics.

The second chapter is on the designer's self-reflective moment which is focused on the analysis and on the definition of processes in various contexts, spanning innovation, social engagement, reflection on emergencies or forecasting. This section investigates how designers develop and test their models, both at production, implementation and research levels. The areas of investigation are those addressing innovation, social engagement and pursuing a reflection on emergencies or forecasting. The section is intended as an arena for discussion on topics revolving around both the different moments in the history of design and the contemporary condition. The contributions collected in the Processes Section reflect the current condition of the disciplinary debate, which is strongly characterized by a profound transformation of design processes due to the comparison with scientific research methods, with a prevailing interest for methodologies and contemporary priorities as the environmental one, or to the dematerialization of processes.

The third chapter focuses on as a theoretical and practical strategy aimed at facilitating and fostering experiential interactions among people, between people and objects or environments. This section aims at investigating the foundations and the implications of a specifically experiential turn in design from various perspectives and in various disciplines. Due to the multifaceted nature of this turn, both theoretical and practice-based research are testified by contributors.

Finally, the last chapter is on narrative. The narrative vocation of design represents a crucial key of interpretation in contemporary cultural expressions such as making history, representing through different media, archiving and exhibiting. This section explores narratives in three different "dimensions": narrative as a scenario (envisioning new contexts, behaviors, uses, spaces); narrative as a tool (creating new ways to trigger innovation); and narrative as a process (framing new methodologies to face complex issues).

Each chapter reflects the results of the conference held in Parma and is constituted by the analysis of concrete case studies and theoretical and methodological proposals aimed at highlighting the "multiverse" character of design. It is organized in the thematic subsection defined for the conference program, just to emphasize the prevailing interpretative trajectories.

A special thanks to the institutions that have funded the conference and the present publication (The Department of Humanities, Social Sciences and Cultural Industries and CSAC, University of Parma; the Department of Philosophy and Communication Studies, University of Bologna; the Department of Humanities, University of Palermo; the Department of Design, Politecnico di Milano; and the Department of Engineering Enzo Ferrari, University of Modena and Reggio Emilia) and all those who, in different ways, have contributed to reach this result (particularly Alice Biancardi and Marta Elisa Cecchi, and also: Okuniev Avhustyn; Katia Botta; Gabriela Del Rosario Abate; Giorgia Ferri; Salvatore Martino; Serena Massimo; Diego Valle; and Laura Xhaja).

Without their help, it wouldn't have been possible to make this event and this volume happen. We hope that this book will become a useful tool of reflection on the theoretical and methodological aspects between humanities and design.

The scientific committee and book editors:

Giampiero Bosoni, Elisabetta Di Stefano, Gioia Laura Iannilli, Giovanni Matteucci, Rita Messori, Raffaella Trocchianesi and Francesca Zanella.

Reference

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**NARRATIVES. Critical Approach,
Languages, Explorations**



Interaction and Verisimilitude. How Narration Can Foster the Design Process

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Abstract. The role of narrative in the construction of an interaction design project is relevant since the very beginning of the discipline, when scholars in the 1990s pointed out how the whole dialogue between human and computer was developed like a theater work. Actually, the use of narrative was, and still is, focused on the unfolding of the user experience with a product/service, following the story arc and using analysis and prediction tools like journey maps. If this approach corresponds to the state of the art for many scholars and practitioners, there is a large debate on in the process that involves storytelling techniques, especially during the concept generation and the branching of the interactions between people and artifacts' system. In particular, design fiction and speculative design give a strong relevance to the creation not only of a story line but, above all, of the world building, where people and artifacts interacts inside a sketched out future scenario, letting the audience free to speculate, for example, on impacts on the society, ethical issues, acceptance levels.

In this situation the narrative approach can be included into the interaction design process during all the phases, in order to foster designers to generate future-able artifacts strictly connected to Personas depicted as they were characters, placed in verisimilitude-based worlds.

The paper will describe the results of this methodological experimentation focusing on the differences occurred to two different projects: basic research, research for a company.

Keywords: Interaction Design · Narration · Design Fiction · Process

1 Introduction

Narration is often used in communication design for products/services/events or more. It is a consolidated practice, which often takes the name of storytelling, although narration and storytelling are not perfectly coincident [1, 2]. The process is effective, however, it is necessary to add one or more story lines to the functional one, for example, to reach more emotional [3], visceral and reflective [4] aspects. Even if Norman refers to the aspects of the product itself, and consequently to the interaction. In addition to communication, for many years products and artifacts have been conceived as: tangible narrations [5], speech-objects [6], words [7], narrative objects [8], storytelling [9] or activators of conversations [4]. In this rich panorama the visions on the relation between

design and narration often do not converge. The just mentioned articles, however, have a subtle common line because they describe design as a discipline that deals with designed objects that will be enriched by the dialogue with those who will buy, use and keep them [10]. The narration, in this case, seems to extend the temporal dimension of the project thanks to the users. In the last decade, moreover, the practice of adopting an approach based on design fiction [11, 12], or speculative design [13], made inroads to explore the fields of Human Computer Interaction (HCI) and of future-able interactive artifacts. The goal of these approaches is to create a broader debate, involving large sections of the population to critically reflect on the possible future implications of the adoption, or massive use, of pervasive technologies, with the aim of stimulating reflections. Design thus becomes a trigger to activate critical thinking regarding the political and social impacts of technologies [14–16] and, among many other examples, for exploring the relationship between humans and interactive artifacts within the future cities of things [17]. Narrative objects, communication through narration and design fiction therefore seem to suggest a considerable closeness, if not an overlapping, between narration and design, but trying to use a peculiar technique of design fiction, what would happen if the entire construction process of an interaction design (IxD) project was it focused on narration? The paper describes the results of a methodological experimentation that grows since 2018.

2 Related Works

The connection between the interaction project and the narration is a concept that has illustrious precedents [18] and following experimentations [19]. In fact, involving media and arts helps to interpret the relations between human beings and technology within a scenic space in which enactments could happen [20]. Theater's stage allows to create "imaginary worlds that have a special relationship to reality" [18], simulating experiences using forms of narration. Moreover, in the cinematic arts and in design fiction [19], the crux is the scenic representation in which interaction, object and character get in touch within: a described and represented context and a defined story line. It is no coincidence that an increasing number of scientific articles refer to crucial films as cultural references, ranging from *Minority Report* to *Black Mirror*. Other examples of contact points are: in poetry and novel, in which fiction acts "as a method to complicate the commonplace narratives of data as intangible and objective" [21]; in games [22]; in new technological applications like VR [23]; but especially in the creation of videos and films [24, 25], designed as the prototype of a design fiction in which show or hide [26] artifacts and interactions. All these examples come from the intersection from HCI, IxD and design fiction, however some of the major exponents of design fiction operate a reflection on the importance, or denial, of narration. On the one hand, Blythe highlights the need to create a narrative structure that works as a layer superimposed on reality, "extrapolating the facts, and extending them into a plausible fiction" to activate the third level: provocation [27]. The author even goes so far as to identify some of the characteristic plots used in the HCI, in the design fiction, in scientific abstract and researches, by referring to the main plots [28]. On the other hand, Coulton and Lindley strongly deny these aspects, declaring that design fiction must remain a world building activity [29] in which fantasy

prototypes can be inserted into plausible worlds influenced by both aspects, utopian or dystopian [30]. Coulton insists on this concept, sourcing on Barthes's thought, by declaring the importance of "the creation of rhetoric within a world rather than through a story, [it] allows those interacting with the world to explore the rhetoric of that world rather than being forced down a prescribed path" [31]. The two distinctive components of narration and world building prove to be crucial in both design fiction and IxD precisely because of the diegetic prototypes and the interactive projects to realize, no matter the format they have. The staging and therefore the representation of the interaction cannot be separated from an underlying narrative structure, or at least from its logic and rules. The video editing itself follows or denies precise narrative logics.

3 Narrative in the Process

Although the narration, or its elements and structure, can spread into the single process steps such as Personas [32], Journey Maps [33], Scenarios [34], and guidelines appear to adopt style [35] and modes [36] to characterize a project output, the indications on the process to follow are divergent. If on the one hand IxD relies on the design fiction approach for the narrative aspects, this does not happen on the contrary. This happens because design fiction is still relatively young and without widely shared methods. In fact, the term *narrative* frequently appears in the literature related to HCI and IxD, but it had a significant increase in use especially after the introduction of design fiction and speculative design. Consequently, the author conducted an analysis of 110 sourced papers and articles published over the past 10 years on ACM Library, using the keywords *narrative*, *narration*, *design fiction*, and *interaction design* as queries. The analysis shows:

- the narrative aspects emerge from the choice of design outputs. In fact, there are many projects and researches that include the creation of videos and short films; but there are also theatrical and literary experiments proposing short stories, pamphlets or materials in which writing/narration is the founding component;
- the narration in the process is usually associated with the creation of Personas, referring precisely to Cooper's [32] and its "fictional details". In some cases, to better integrate Personas into the videos, characters deriving from film are adopted, in order to make them more plausible on a cinematographic level;
- writers and storytellers are sometimes involved in the process. The fact that they become part of the research and work team is fundamental for an undisciplined [37] approach, however their work seems to be at least isolated from the rest of the team during writing.

There are few publications (about 10) that focus on the narrative process highlighting:

- the steps of design fiction (collect faint signals, select an archetype, present stimulus materials, extrapolate from signals, identify the "what if", know your tropes, design workshop, make the thing!, disseminate) [37];
- at a high level, the interrelations between different categories of design fiction research [38];

- a method toolbox for Design Fiction (creation and construction of possible future worlds; materializing those possible future worlds; plurality of different perspectives and approaches; representing, visualizing, documenting the experimentation processes; experimentation as being generated through an experimental system) [39];
- a pipeline for design fiction film-making through workshops (introduction; envisioning utopian and dystopian Futures; ideation and collaborative design fictions; report out) [40];
- creating a theater work of critical design fiction (sensitizing with technology, sensitizing with topic, ideation, critical analysis, design and prototyping, theater but because here it was a choice, reflection and evaluation) [41].

In all of this it is not clear how a narrative structure underlies all the crucial steps of IxD.

4 Towards the Narrative Approach

The process of IxD on which this research is based touches seven fundamental points: scenario, case studies, Personas, concept, journey map, design of the interface system and tests. In these years of experimentation, each of these phases has been increasingly shifted towards a narrative vision. In this case, scenario is radically different from the HCI scenarios, in which a Persona tries to achieve a goal within a scenario, the term in this case resembles context. The narrative scenario tries to create a critical mass of heterogeneous material, also drawing on cinema, TV series, visual and performing arts, photography and everything that is able to create divergent connections, in which the interaction strongly emerges, not necessarily mediated by digital devices. It is a crucial moment to get out of the tight dynamics of problem solving, to get closer to a more visionary and future-able approach. In the analysis phase of the case studies, the narrative scenario is analyzed in depth to better understand how, for example in cinema or art, the interaction is shown and interpreted through props, gestures, interfaces designed in the smallest details. Narrative scenario and case studies do not deny the usual practice of related works and benchmarking, on the contrary they integrate them, but are concerned with extending them with ever wider circles around the core of the research, to find not only divergent insights from neighboring worlds, but also to sift through the reactions people feel when faced with new artifacts. In fact, many disciplines, such as service robotics, already refer to fiction to evaluate the possible acceptance rate of a new technology. Other characteristic and now historicized examples obviously refer to 2001: A space odyssey, Matrix, HER and many others analyzed in detail in the work of Shedroff [42]. Then, Personas reach the dimension of the character-Persona. The construction of a character, understood as a process, has many points of contact with a qualitative user research. In fact, the writing process stimulates writers to observe and catalog the same physiological, sociological and psychological aspects [43] that an interaction designer has to analyze and collect in patterns. If for a writer the output coincides with a character for a novel or fiction, in the IxD the Personas can succeed in denying stereotypes to represent strongly characterized archetypes, exploiting the narration and visualization of the collected data. The concept phase is configured as an output in the drafting of a real story-concept. A short sentence of 25–30 words in the form of question able to

build the core of the interaction-narration. In this case, the adoption of what if typical of design fiction is perfectly coincident. However, the concept generation phase itself makes use of techniques that can stimulate the creation of narratives. For many years, in fact, the increasingly in-depth role of creative techniques [44] has emerged, grouped in conceptual techniques and creative elicitation exercises. These try to structure a defined process for established modalities such as brainstorming, they include design fiction in both categories; but above all, they insert techniques derived from other fields, such as theater, when describing bodystorming, or role-playing in the wild cards case. The what if thus constructed is configured in an open, narrative way, capable of triggering multiple project and research outputs. Journey maps are in themselves already narrative oriented, precisely because they graphically represent a succession of cause-effect events in which emotions, devices, pain points, opportunities, and much more are highlighted. Authors such as Lichaw [33] clearly show how the journey follows the development arc of a narration in its characteristic 3 acts which include: exposition; inciting incident/problem; rising action; crisis; climax/resolution. If we add to this scheme that the Personas are characters and that the concept is an open story-concept, it is clearly understandable how to fully use the techniques of narration in this design phase. The phase of the interface system design is still influenced by the narration because it should strive to maintain the intertwining textures generated so far. Each Persona-character will have a personal journey and the different interaction textures will have common touchpoints. In this text the test phase refers to the research carried out with the actors of the project to get feedbacks on the value of the followed approach.

5 Results

This section will show how the narrative approach was used especially in the concept generation and interface system construction parts, taking two specific cases as an example: basic research, research for a company. As far as basic research is concerned, the experimentation was carried out in collaboration with a group of theatrical actors with whom workshops were held to co-design stand-alone voice interaction and later on-board vocal assistant for an autonomous driving car. Researchers and actors tried to define the behavior of the interface as if it were a theatrical character, with the aim of writing a plot of human-interface behaviors in which a possible emotion detected on the user, or in correspondence with a specific use case, had to correspond not only to an encoding relating to the language (for example, the choice of words and the length of the sentence), but also to the interpretation of the line. The result was then inserted into a demonstration video, in which a panel of users was shown how the interface reacted both with a synthetic voice and an actor's voice. The actors immediately called this concept "playing the machina" precisely because, while interpreting a sort of advanced artificial intelligence, one of the goals was to make it clear that the vocal interface was still different from a human voice, albeit similar and expressive. Such an approach allowed the research team to create a sort of drama in which the Personas-characters interacted with character interfaces within predefined use cases. From the point of view of the narration, the construction of the identity of the characters' interfaces was therefore very impactful, both from the point of view of the behaviors to be adopted and the writing of the

lines. With regard to the research in collaboration with a company, the project focused on proposing new interaction concepts for an informative-educational exhibition on the topic of sustainability. In this case, of particular interest was the part of the concept generation where the Dixit game cards were used, in particular its Journey expansion. It is a deck of 84 cards illustrated with mostly dreamlike characters and contexts, the game is based on the free mental association between illustration and thought. Other possible design-oriented examples should be cited like the Intùiti creative cards [45] or the cards set developed by Near Future Lab [46]. However, the choice of the Dixit Journey cards had a specific purpose: to free the mind of the working group from the technicalities and the huge quantity of technologies founded in the analysis of the case studies, in order to focus on the interaction-narrative combination. Each component of the team could choose a maximum of 5 cards that fostered his/her concept and then write at least 3 story-concepts. The obtained story-concepts highlighted: the scenic environment to be recreated (a micro world-building), the peculiar interaction to be designed (the action of digging, separating, connecting, etc.) and the fundamental plot in a nutshell (often coinciding with the search, but also with many specific traits such as the battle with an enemy). The use of cards with a strong narrative and evocative potential has, in fact, greatly enhanced the phase of concept by imposing a narrative vision on the narrative even before reaching the journey maps.

6 Conclusions

At the conclusion of the two projects described above, the research team conducted a qualitative survey with the involved stakeholders to understand if there were any notable differences compared to the usual approach. On the one hand, the research team praised the possibility of wandering more during the concept phase, imagining new interactions in an almost cinematic way, without too many constraints related to retracing technological scenarios and current trends; on the other hand, it underlined the risk of slipping out of the margins of design fiction, transforming everything into science-fiction. For its part, the company found the continuous use of narration very engaging, although during the presentations they had doubts about the actual feasibility of the entire process in that form. The process from now on needs to be deepened in some of its techniques, especially in the last part that remains to be experimented: design hands on and prototyping.

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