Springer Series in Design and Innovation 37

Francesca Zanella · Giampiero Bosoni · Elisabetta Di Stefano · Gioia Laura lannilli · Giovanni Matteucci · Rita Messori · Raffaella Trocchianesi *Editors*

Multidisciplinary Aspects of Design

Objects, Processes, Experiences and Narratives





Editor-in-Chief

Francesca Tosi, University of Florence, Florence, Italy

Series Editors

Claudio Germak, *Politecnico di Torino, Turin, Italy*Francesco Zurlo, *Politecnico di Milano, Milan, Italy*Zhi Jinyi, *Southwest Jiaotong University, Chengdu, China*Marilaine Pozzatti Amadori, *Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil*Maurizio Caon, *University of Applied Sciences and Arts, Fribourg, Switzerland*

Springer Series in Design and Innovation (SSDI) publishes books on innovation and the latest developments in the fields of Product Design, Interior Design and Communication Design, with particular emphasis on technological and formal innovation, and on the application of digital technologies and new materials. The series explores all aspects of design, e.g. Human-Centered Design/User Experience, Service Design, and Design Thinking, which provide transversal and innovative approaches oriented on the involvement of people throughout the design development process. In addition, it covers emerging areas of research that may represent essential opportunities for economic and social development.

In fields ranging from the humanities to engineering and architecture, design is increasingly being recognized as a key means of bringing ideas to the market by transforming them into user-friendly and appealing products or services. Moreover, it provides a variety of methodologies, tools and techniques that can be used at different stages of the innovation process to enhance the value of new products and services.

The series' scope includes monographs, professional books, advanced textbooks, selected contributions from specialized conferences and workshops, and outstanding Ph.D. theses.

The volumes of the series are single-blind peer-reviewed.

Keywords: Product and System Innovation; Product design; Interior design; Communication Design; Human-Centered Design/User Experience; Service Design; Design Thinking; Digital Innovation; Innovation of Materials.

How to submit proposals

Proposals must include: title, keywords, presentation (max 10,000 characters), table of contents, chapter abstracts, editors'/authors' CV.

In case of proceedings, chairmen/editors are requested to submit the link to conference website (incl. relevant information such as committee members, topics, key dates, keynote speakers, information about the reviewing process, etc.), and approx. number of papers.

Proposals must be sent to: series editor Prof. Francesca Tosi (francesca.tosi@unifi.it) and/or publishing editor Mr. Pierpaolo Riva (pierpaolo.riva@springer.com).

Francesca Zanella · Giampiero Bosoni · Elisabetta Di Stefano · Gioia Laura Iannilli · Giovanni Matteucci · Rita Messori · Raffaella Trocchianesi Editors

Multidisciplinary Aspects of Design

Objects, Processes, Experiences and Narratives



Editors

Francesca Zanella Department of Engineering "Enzo Ferrari" University of Modena and Reggio Emilia Modena, Italy

Elisabetta Di Stefano Department of Humanities University of Palermo Palermo, Italy

Giovanni Matteucci Department of Philosophy and Communication Studies University of Bologna Bologna, Italy

Raffaella Trocchianesi Department of Design Politecnico di Milano Milan, Italy

Giampiero Bosoni Department of Design Politecnico di Milano Milan, Italy

Gioia Laura Iannilli D
Department of Philosophy
and Communication Studies
University of Bologna
Bologna, Italy

Rita Messori Department of Humanities, Social Sciences and Cultural Industries University of Parma Parma, Italy



ISSN 2661-8184 ISSN 2661-8192 (electronic) Springer Series in Design and Innovation ISBN 978-3-031-49810-7 ISBN 978-3-031-49811-4 (eBook) https://doi.org/10.1007/978-3-031-49811-4

This work was supported by Centro Studi e Archivio della Comunicazione, Università di Palermo and Politecnico di Milano.

© The Editor(s) (if applicable) and The Author(s) 2024. This book is an open access publication.

Open Access This book is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this book are included in the book's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the book's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Paper in this product is recyclable.

Contents

OBJECTS

Beyond the Beauty-Utility Diatribe: Towards New Aesthetic Categories	
for the Eco-design	3
Elisabetta Di Stefano	
"The Useful-Beautiful Couplet": On the Aesthetic Appraisal of Designed	
Objects Jane Forsey	11
Imaginative Object and Mimetic Object	21
OBJECTS. Objects Between Anthropology and Material Culture	
Seaweed Fabrics for Fashion Design. A Field Research Experience	31
Material Objects as Dispositive of Memory	41
Objects Between Material Culture and Visual Culture	56
Puppets' Tales. New Design Perspectives for a Multimedia Archive of a Humanity's Intangible Heritage	65
Anonima Castelli. Objects, Design and Cultural Heritage	75
OBJECTS. Political and Social Value of Objects	
Through the Mirror. Concept Maps to not Lose (One's Way Between)	
Objects Silvia Berselli	87

For F☆ck's Sake. The Political Narrative of Sex Toys in the Communication	1.00
of MySecretCase Silvia Biasetton and Noemi Biasetton	103
Telephones in Italy, the Italtel Study-Case	116
Design and Self-reproduction: A Theoretical-Political Perspective	127
OBJECTS. Philosophy and Representation	
Everyday Design: The Aesthetic Dimension of Alternative Use	139
Digital Objects' Aesthetic Features. Virtuality and Fluid Materiality in the Aesthetic Education	147
The Value System of Objects Through the Interpretation of Photographic Language	156
Objects, Things, Hyperobjects. A Philosophical Gaze on Contemporary Design	165
OBJECTS. Symbolic Value and Use Value	
The Evolution of Yacht: From Status-Symbol to Values' Source	177
Liberating the Imprisoned Soul of Dorian Gray: Cultural Affordance as Design Tool to Rediscover Cultural Values	187
The Extraordinary Everyday. The Post-Crafts in the Historical City	197
PROCESSES	
Archives and Processes	211

25 Ways to Hammer a Nail. "Postcrocian" Aesthetics and Everyday Life's Poetics in Enzo Mari **Rita Messori**	225
PROCESSES. Contemporary Strategies and Perspectives	
Design Through Body Memory for the Regeneration of Urban Areas	235
Environmental Re-design of the Top San No Touch 2.0 Portable Toilet: The Contribution of the Bio-inspired Approach Mariangela Francesca Balsamo	244
How to Use Strategic Design Process to Address Complex Challenges: A Practical Case of Application to Discuss Strategic Design Process' Fundamental Traits	254
Gianluca Carella, Michele Melazzini, and Francesco Zurlo	234
Design for Emergencies: The Contribution of Design Culture in Emergencies	263
PROCESSES. Histories of Processes and Processes for History	
Exhibiting Design as a Process Fiorella Bulegato and Marco Scotti	275
Toward Paris! 45 Years of Domus for a Design à la Français	285
Archival Projects. Tools and Methods for Promoting the Corporate Culture Starting from Historical Brand Elena Dellapiana, Ali Filippini, Chiara L. Remondino, and Paolo Tamborrini	295
Working in Regress and Beyond, with Rural Material Culture [1] Elisabetta Rattalino	304
PROCESSES. Design Methodological Processes	
Air as a Design Tool: Raw Material, Infra-material Space, and Transformative Matter	315

Evasion Design for the Novacene Era Design and Production of Cultural	
Imaginaries Mario Ciaramitaro and Pietro Costa	325
The Physical Model as an Evolution of the Design Process: From the "Capostipite" to the Finished Product	334
The Felicitating Factor. Cinzia Ruggeri's Clothing Project	344
Environmental Affordances: Some Meetings Between Artificial Aesthetics and Interior Design Theory Fabrizio Gay and Irene Cazzaro	354
PROCESSES. Dematerialized Processes	
The Critical Forms of Design Futures Scenarios: Introducing Unconventional Ways of Scenarios Making	367
How Do Design Narratives Play a Role in Cognitive and Social Processes? An Explorative-Systematizing Expert Interview	377
Human-AI System Co-creativity to Build Interactive Digital Narratives Anca Serbanescu	388
Envisioning Technological Artefacts Through Anticipatory Scenarios and Diegetic Prototypes	399
EXPERIENCES	
Feeling Through Technology	411
EXPERIENCES. Education and Culture	
Storytelling as a Tool to Design Museum Experiences: The Case of the Secret Marquise	423

Contents	X111
Open Communication Design A Teaching Experience Based on Anti-disciplinarity, Thinkering and Speculation	434
Fashion Education: Cultivating Fashion Designers-Plants	443
Accessible Experiences. Designing Synaesthetic Access to Culture Dina Riccò	452
Misleading Design Implications of Adopting Embodied Interface in Everyday Objects	462
EXPERIENCES. Transitions	
Communication Design for Welfare, the Challenge of Preserving Human Interactions in Remote Participation. Rethinking and Redefining Collaborative Activities for a Virtual Environment Valeria Bucchetti, Michela Rossi, Umberto Tolino, Benedetta Verrotti di Pianella, and Pamela Visconti	475
Aesthetics of Design for Social Innovation. Pathways for a Dialogue with Everyday Aesthetics	485
Designing Employee Experience to Experiment with Novel Working Modes. Action Research Project to Support Organizations in Engaging Employees in a Post-pandemic Scenario	493
Design for Behavior Change in Design Education. A Case Study	503
EXPERIENCES. Can Experiences Be Measured?	
Italian Cultural Institutions Across and Beyond Covid-19: Designing Digital Cultural Experiences in Extra-Ordinary Times Ilaria Bollati, Valeria Morea, Federica Antonucci, and Marta Spanevello	513
Beyond Visualisation Data as Raw Material for Uncoded Experiences Lucilla Calogero	526

Designer and AR Technology: The Relationships Between the User and Virtual	534
Antonio de Feo and Luca Casarotto	334
The Robotic Service Objects. Design Approach for the Multidimensional Evaluation of Robotic Aesthetics	544
EXPERIENCES. Tourism and Mobile Experiences	
Designing a New User Experience for the Travel Sector: A Research Project Reimagining the Role of Travel Stakeholders in the Digital Post-pandemic Age	555
Venanzio Arquilla, Federica Caruso, Davide Genco, and Chiara Parise	333
Operazione Arcevia. Existential Community. The Reality of the Experience and the Utopia of the Vision	569
Collaborative Dialogues Between Souvenirs and Territories: From Evocative Objects to Experience-Objects Marina Parente	584
NARRATIVES	
For a Novel and Transversal Narration of Extemporaneous Places of Artistic and Design Thinking: The City's Network of Crossroads Between Art and Design: The Milanese Case in the 20th Century	595
Design Narrative	603
NARRATIVES. Communications, Strategies, Tools	
Space as a Narrative Interface. Phygital Interactive Storytelling in the Field of Cultural Heritage	613
Worldbuilding Practice as a Collaborative and Inclusive Design Process. The Case of ACTS-A Chance Through Sport	623

Contents	XV
The Role of Infographics in the Representation of Design Research	632
The Open Logo and the Closed History Notes of a Social History of Visual Identities	640
An Advanced Design Tool for Archiving, Mapping, and Narrating a Complex System: The ADU Packaging Innovation Observatory	649
NARRATIVES. Cultural Heritage, Museums, Territories	
From Narrative to Phygital. An Experimental Semantic Survey	661
Enhancing Local Cultural Heritage by Designing Narrative and Interactive Exhibitions. MEET at the "Museo del Territorio di Riccione"	671
Making Value: Storydoing Actions for Cultural and Creative Industries Simona Colitti, Ami Liçaj, Lorela Mehmeti, and Elena Vai	682
Ustica, a Whole World in an Island Fragment	694
NARRATIVES.Interaction, Digital, Sustainability	
Craftmanship and Digitalization in the Italian Knitwear Industry. A Paradigm Shift for the Narrative of Made in Italy Martina Motta, Giovanni Maria Conti, Giulia Lo Scocco, and Rachele Didero	705
Design in the Metamorphosis of Matter	714
Counter-Narratives Against Gender-Based Violence. A Twofold Perspective on Choices in Interactive Dramas	724
Sustainable Mobility as a Sport	735

xvi Contents

NARRATIVES.	Critical A	nnroach.	Languages.	Explorations
MAINIMALL A EDO.	CITICAL IX	ppi vacii,	Languages,	LAPIOLAUOIIS

Provocation Through Narratives: New Speculative Design Tools	
for Human-Non-Human Collaborations	747
Francesca Casnati, Alessandro Ianniello, and Alessia Romani	
Designer as Drama Manager: Understanding the Roles of Narrative Within	
Design Processes for Change	756
Mariana Ciancia, Francesca Piredda, and Maresa Bertolo	
Interaction and Verisimilitude. How Narration Can Foster the Design	
Process Andrea Di Salvo	765
Conversation Design for Raising Awareness on the Responsible Use of the Internet: Co-design of a Chatbot Game with Secondary School	
Students	773
Mauro Filippi, Salvatore Di Dio, Domenico Schillaci, Stefano Malorni, Angelo Scuderi, and Sabrina Guzzo	
From a Word-Formation to a Concept-Formation: Mnemosphere	
as a Connective Tool in Interdisciplinary Design	783
Clorinda Sissi Galasso and Marta Elisa Cecchi	
Author Index	795



Counter-Narratives Against Gender-Based Violence. A Twofold Perspective on Choices in Interactive Dramas

Sofia Peracchi^{1(⊠)} and Ilaria Mariani²

¹ Namahn, Brussels, Belgium spe@namahn.com

² Department of Design, Politecnico di Milano, Milano, Italy

Abstract. Regardless of the increasing number of initiatives and activist counternarratives aimed at fighting the hetero-normative patriarchal beliefs, the current Italian social structure still justifies gender-based violence, while the number of abuses remains chiefly unaltered. Within such a complex framework, this study intends to advance the discussion on how IDNs can contribute to sensitive topics such as Violence Against Women and Girls (VAWG) to trigger social change, showing the relevance of involving its protagonists for better addressing such a complex and urgent issue, increasing the possibilities of encouraging positive shifts in ideals and behaviours. This study reports on the co-design of an IDN that involved both survivors and volunteers from an anti-violence centre, and how their engagement provided fundamental insights on the necessity to describe survivors' struggles sensibly and invite bystanders to reconsider their opinion on genderbased violence victims. Building on procedural rhetoric and narrative immersion, the artefact targets non-victims, putting them in women's shoes to emphasise how violence is never caused by the victim's choices but by those of the perpetrator. Ultimately, the results of the testing on 83 people who assessed the artefact with pre- and post-experience questionnaires are presented and discussed, showing the IDN effectiveness in tackling the topic and creating a meaningful experience.

Keywords: Interactive Digital Narratives \cdot Social Change \cdot Violence against Women and Girls \cdot Co-design

1 The Hegemonic Discourse on Violence Against Women and Girls

Despite the growing importance of activist initiatives [1, 2] and the construction of feminist political counter-narratives aimed at fighting Violence Against Women and Girls (VAWG) [3], the number of cases of gender-based violence in Italy is chiefly unaltered (ISTAT, 2021). The current hetero-normative patriarchal social structure still justifies sexist behaviours related to VAWG, such as victim-blaming [4], gender-based stereotypes, and rape myths [5, 6], which contribute to creating an inhospitable environment for survivors. The challenge is, therefore, identifying effective and impactful ways to address the issue, raise awareness of it, and eventually instil a change in how it is perceived.

In this context, it surfaces the role of counter-narratives [7, 8] as narratives that oppose the hegemonic discourse by exposing sexist attitudes and contributing to fighting VAWG [9]. Among their uniqueness, providing a different view on a contemporary and urgent social and cultural issue: that of the survivors. This study values the power of narratives with such a distinctive and intense perspective in shedding light on the corollary of daily behaviours that protects perpetrators and still justifies them [10]. Therefore, to address the challenge of facing the socio-cultural problem of gender-based discrimination supporting VAWG, the study involved Parma's Centro Antiviolenza.

1.1 The Italian Context

This study is situated in a field that urges a multi-level intervention. Communication represents just a part, still relevant, to instil change. According to ISTAT's report on gender-based violence in Italy [11], in 2020, over 15000 women reached anti-violence centres to escape violent relationships. 74.2% of the cases started before the pandemic but were worsened by it. Forcing the cohabitation with the perpetrator, the COVID-19 pandemic led to the deterioration of many abusive relationships while reducing the help requests and reports to the police.

This data adds to the worrying picture the 2018 ISTAT census on gender stereotypes and rape myths portrays. 58.8% of the population agrees with one or more gender stereotypes. 39.3% believes women can always avoid a sexual relationship if willing to, 23.9% thinks how women dress can provoke sexual assault, and 15.1% considers women inhibited by drugs or alcohol partly blamed for being sexually assaulted. The lack of education and the diffusion of misconceptions among the population creates a context that justifies perpetrators and undermines the victims' experiences. The situation is further aggravated by how mass media allow and often support the spread of victim-blaming narratives, requiring a change in media exploitation. The direction should promote greater empathy for the victims, giving space to counter-narratives that can give a voice to those who remain unheard and alter the perception and preconceptions of VAWG.

1.2 Digital Counter-Narratives Against the Hegemonic Discourse

Over the last decade, several grassroots initiatives started using digital media to present powerful counter-narratives able to challenge the hegemonic discourse, exposing sexist attitudes. Examples are the *MeToo movements* and the creation of online platforms such as *Everyday Sexism* or the app *Hollaback*!

Digital media have proven to be very valuable in allowing survivors to share their stories and organise collective actions to contrast patriarchal attitudes that still occur online and in real life. Across the world, there has been a revival of feminist attention to violence and rape culture [2], targeting occurrences of physical and sexual violence but also harmful practices trivialising rape, such as jokes, cat-calling and sexualized 'banter' [12]. Such initiatives occur especially on social media platforms, replicating traditional gendered power relations [2]. If the context on the one side facilitates attacks by providing distancing and mediation, it also gives women, subcultures, and minorities a

space for counter-voices to emerge. Those who were silenced and struggled for legitimacy can speak up and fight against wrongful social norms, exploiting and contributing to creating new languages, vocabularies, modes of engagement and resistance [9].

1.3 Interactive Digital Narratives: Immersion and Procedurality

Agency and interactivity are two main reasons why artefacts such as IDNs can successfully promote behavioural change [13], raising awareness and educating on specific topics. As argued in the literature [14–18], immersion stimulates enjoyment and persuasion, and interactivity deepens this process. Among the main features of such artefacts is the ability to favour the players' immersion in fictional worlds as secondary worlds. In the liminal space of fictional worlds, players can safely question their own perspectives and reformulate their thoughts and behaviours. IDNs can favour role-taking, a process able to impact attitudes or ideas by encouraging immersion in other roles. Putting players in someone else's shoes, they raise strong bonds with the character. Ultimately, procedural rhetoric mechanics can be applied to influence players' opinions through their computational properties [19].

Within IDNs, interactive drama [20] indicates dramatic stories in which the player takes the protagonist role in first-person. Specific first-person experience entails that the player's suspension of disbelief is never interrupted [20], seeking *dramatic agency*, the possibilities of interaction within rich stories with dramatic storylines. In interactive dramas, the player's interaction is what profoundly shapes the story, which, however, still has to maintain an author-given structure that keeps the overall coherence.

In this framework, this study intends to advance the discussion on how IDNs can contribute to an urgent, sensitive topic such as VAWG, showing the relevance of involving its protagonists for better addressing it.

2 Study Methodology

This study builds on the extensive research conducted between 2021 and 2022 [21]. Knowledge is gained through desk and field research. The literature review investigated an interdisciplinary body of scientific and grey literature regarding the issue of gender-based violence and the topic of interactive media aimed at social change. A case study analysis identified relevant interactive artefacts addressing the VAWG issue in the domains of Games for Social Change and IDNs. A survey completed by almost 200 participants depicted both the Italian population's interest in interactive media and their knowledge of gender-based violence and toxic attitudes.

The field research involved the volunteers of Parma's Anti Violence Centre together with testimonies of survivors who could provide first-hand knowledge on the topic. The Interactive Drama developed was tested and validated involving 83 people, plus the volunteers from the Center. The assessment relies on a pre-experience questionnaire (min 7 days before playing) and a post-experience questionnaire (right after playing). The two questionnaires were built to gather the players' position regarding the topic and how they experienced the IDN, but also to investigate their emotional responses to narratives on VAWG and their knowledge on anti-violence centres. The questionnaires

were specifically structured to detect a change of the player's perspective after playing. Ultimately, the post questionnaire also vetted the IDN effectiveness in conveying the message.

3 Embedding the Survivor Perspective

3.1 Co-designing with Volunteers

Volunteers and survivors were involved throughout the entire design process, from the field research and concept definition to the testing of the prototype. Their participation provided fundamental insights on the necessity to describe survivors' struggles sensibly and invite bystanders to reconsider their opinion on gender-based violence victims, better understanding the discrimination and abusive situations they confront daily.

The co-design took place from Spring 2021 to Winter 2022, mainly remotely, due to Covid-19 restrictions and the protection of victims' privacy. It included 3 volunteers and 3 survivors in interviews about the reality of gender-based violence in the Italian context, issues linked to toxic behaviours, and events and initiatives considered effective in raising awareness on the topic.

The co-design also included the collection of direct testimonies, gathered through interviews and an online survey, in which participants shared personal stories regarding VAWG and experiences of toxic behaviours related to gender-based violence. The data gathered and the co-design approach strongly highlighted how being at the intersection of multiple axes of discrimination further aggravates the victim's condition. Intersectional conditions, such as race, gender, sexual orientation, ability, and other aspects of identity, sustain a logic of oppression rooted in the larger structures that shape society [22]. It corroborates the role of norms supporting gender, cultural, and economic inequalities, hypermasculinity, and a culture-related acceptance of violence in "justifying" sexual violence.

3.2 Shaping the Interactive Drama Narrative

The testimonies gathered during the design process served as a precious base to build the interactive drama narrative. The story describes a day in the life of Dalila, a young Italian-Tunisian woman who is living in a violent relationship with her partner.

As the volunteers explained, women from a foreign family often struggle to find a robust support system that can guide them toward anti-violence centres: these victims reach out to the volunteers only when the situation has become truly dangerous. This lack of a support system given by the intersectional identity of the protagonist was a crucial dynamic to present as one of the reasons why victims fail to see a way out of a violent relationship. Therefore, the story follows Dalila's attempt to find support in her friends and family and unveils how their lack of interest contributes to worsening her situation.

Beyond the content perspective, the interaction with volunteers and survivors also impacted the narrative structure. The interviews disclosed how the main aim of the centres is to create a safe space for women, minimising potential triggers that may lead

them to relive traumatic experiences. For this reason, the narrative presents a structure aimed at protecting the player, enabling a gradual immersion into the reality of abusive relationships. The interactive drama not only presents detailed trigger warnings before the start of the experience, but its structure, divided into two blocks, aims at limiting the player's discomfort. The first part of the story is structured as a foldback narrative (i.e. a narrative with some events that cannot be avoided) that deals with "less traumatic" behaviours. The second section, a branching narrative with four endings, explores the more violent aspects of an abusive relationship. This structure favours a progressive immersion into the reality of gender-based violence, thus encouraging the player to assess their emotional state as the narrative progresses, interrupting the experience if necessary.

Beyond the participation in the initial stages of the study, volunteers were engaged in the testing of the final prototype, since the narrative includes information regarding anti-violence centres in Italy. This validated the information provided to the audience while ensuring that gender violence is depicted in a truthful yet respective way. Remarks and suggestions from this testing were implemented in the prototype before performing the testing with the audience.

In light of this, it is necessary to remark that the overall co-design experience strongly shaped the study and its outcome throughout the entire research and design process, informing both the narrative and technical aspects of the interactive drama.

3.3 Shaping the Interactive Drama Mechanics

Building on the testimonies collected, the artefact focuses on the theme of choice and how this concept can seem limited within a violent relationship. As the volunteers and the survivors stated, many women living in abusive relationships tend to blame themselves for their partners' behaviour, and they feel like they have no choice but to stay with them, even though they did not cause any of the sufferings they have endured. The dynamics and logic behind these beliefs are expressed through the affordances and agency of the medium [23, 24]. In particular, it exploits the element and dynamics of choice, which is central in interactive digital narratives [13, 25] but even more in the discourse related to VAWG.

Therefore, the artefact presents three types of choices, all meaningful:

- Choices made 100% by the player, which can range from low to high impact;
- Choices defined 50% by the player and 50% leading to a pre-defined outcome, granting coherence throughout the story;
- Choices dictated 100% pre-defined by the system and unavoidable. They depict the
 oppressive nature of abusive relationships and they stress the idea that violence cannot
 always be avoided, as it is never caused by the victim but always by the perpetrator.

Agency, and in particular limitation of it, becomes a powerful element which enables procedural rhetoric, aimed at conveying the idea that violence is never a victim's choice.

4 Come Vetro Temperato

The co-design methodology led to the development of *Come vetro temperato*, an online interactive drama targeted to 18 to 35 years-olds who never experienced gender-based abuse. The IDN aims to encourage social change in relation to gender-based violence, by informing the audience about anti-violence centres and inspiring empathy towards victims of abuse. The co-design informed and oriented the overall narrative and design choices. A high-level consideration regards ensuring wide accessibility and usability, keeping the experience simple and meaningful independently from the digital literacy level of the player. Although modern techniques and mechanics could be employed to create the interactive drama, the *Twine* software was chosen. It is by design a user-friendly open-source software with a rich community thriving on personal stories and discussions on serious topics. Moreover, *Twine* goes beyond being a software, acting as a hub detached from the mainstream and hegemonic discourse, welcoming and promoting projects aimed at social change, counter-narratives, and self-expression.

Advancing the reasoning, also the visual language and the modality of interaction were consciously designed to make the interaction as intuitive and user-friendly as possible. The IDN builds on the concept of the breakable glass which informs the visual part of the narrative, namely the background images of each passage. The title of the narrative was inspired by a quote from Don Quixote, which compares women to glass, resistant yet still breakable and difficult to piece back together once shattered. This concept is reprised in both the visual and textual aspects of the narrative, and it allows a more seamless immersion in the story.

The artefact exploits the mechanics and the affordances of IDNs to favour the role taking process and to inspire empathy in its player. Background illustrations exploit a visual treatment that dynamically evolves with the story. The more the player dives into the game, the more traumatic events Dalila will experience. This is also mirrored by the cracks in the background glass, which slowly becomes more and more broken. The progressive increase of cracks and the glow atmosphere are metaphorical representations of the effect that gender-based violence and the toxic behaviours have on who is subject to them (Fig. 1). The use of images and audio tracks is designed to accompany the experience without disrupting it, while also echoing the main visual and textual metaphor of the narrative.

Ultimately, to fulfil its awareness purpose, the narrative ends with a short landing page which provides information with regards to Italian anti-violence centres and their activities to support survivors and to educate the public about the issue.

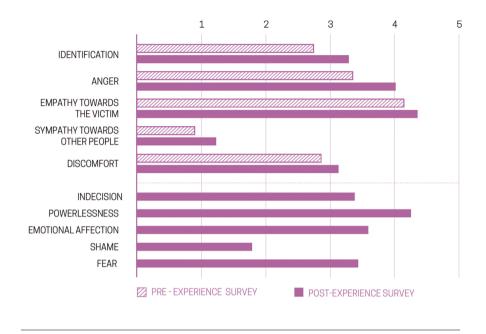
The artefact was tested and assessed by 83 people. Data was collected through 6-point likert scales from fully disagree (0) to fully agree (5). In comparison with the results of the pre-experience assessment, the post-experience one revealed very "positive" changes and responses. The players stated they felt engaged with the narrative (3.9) and demonstrated a higher emotional response to the IDN rather than a traditional narrative as testers in the pre-experience questionnaire (4.3 vs 4.1). Figure 2 summarises further results: noteworthy is that the experience increased the levels of identification, empathy, and sympathy; analogously, the increment of anger and discomfort are further signals of the effectiveness of the IDN in generating a meaningful experience. Also significant is that players felt high levels of indecision, powerlessness, and even fear but not shame.



Fig. 1. Progressive increase of cracks in the background illustrations.

Players agreed that the IDN helped them reflect on the topic (3.93) while challenging the cultural values of our society (3.95). They also state their willingness to

share the narrative with others (4.16) (Fig. 2). Furthermore, the narrative successfully inspired interest in the activity of anti-violence centres, which rose from 18% (in the pre-assessment survey) to 76%.



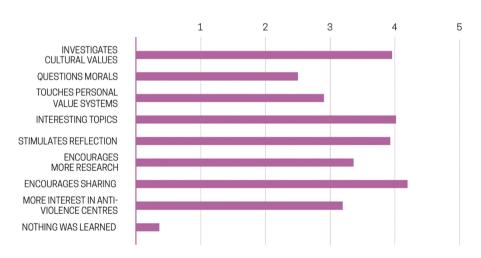


Fig. 2. The upper table describes players' emotional response to a traditional narrative of VAWG (assessed in the pre-experience survey) and to *Come vetro temperato* (post-experience survey). The bottom table shows the impact of the interactive drama on players.

The testing also highlights a possible critical issue regarding the crossed-out options. Since the IDN is open to a broad audience, not skilled players often did not understand the (procedural) rhetorical and metaphorical meaning of unavailable choices as a limitation of agency mirroring those experienced by those who suffer violence. The testing showed how the meaning behind such non-choices could be reinforced by increasing their number or showing the unavailability by making the cracks appear once the user hovers over the choice.

5 Discussion and Conclusion

Come vetro temperato proved that interactive dramas, as engaging narrative-based communication systems [26], can contribute to sparking social change [27]: on the one hand, inspiring empathy and supportive behaviours; on the other, raising awareness on the work of Italian anti-violence centres. In doing that, this contribution advances the discussion on how interactive narratives can contribute to sensitive topics such as VAWG to trigger social change, showing the relevance of involving its protagonists for better addressing such a complex and urgent issue, to encourage positive shifts in ideals and behaviours. Their expertise and testimonies helped design an artefact able to not only favour engagement and self-identification of its audience, but also to increase empathy towards survivors and awareness about anti-violence centres. The exploitation of the interactive medium and its affordances shapes every aspect of the IDN, to communicate the topic through an engaging and meaningful experience of play. The overall positive results of the study encourage the possibility for further research and experimentation, especially with regard to the representation of more intersectional perspectives on this issue and the employment of more modern and interactive technologies in the creation of IDN aimed at social change. The co-design, in particular, provided unique first-hand knowledge that had an enormous impact on the design process and its choices, from the narrative to the mechanics, aiming at increasing awareness and empathy towards victims and survivors

References

- Mendes, K., Ringrose, J., Keller, J.: #MeToo and the promise and pitfalls of challenging rape culture through digital feminist activism. Eur. J. Women's Stud. 25, 236–246 (2018). https:// doi.org/10.1177/1350506818765318
- Sills, S., et al.: Rape culture and social media: young critics and a feminist counterpublic.
 Fem. Media Stud. 16, 935–951 (2016). https://doi.org/10.1080/14680777.2015.1137962
- 3. D.i.Re, Veltri, C.: Ri-cambiare. Tra memoria e trasformazione: nuove strategie per rilanciare i Centri antiviolenza. Settenove (2017)
- Spaccatini, F., Pacilli, M.G.: Victim blaming e violenza di genere: antecedenti, funzioni e conseguenze. La camera blu. Rivista di studi di genere (2019). https://doi.org/10.6092/1827-9198/6669
- Burt, M.R.: Cultural myths and supports for rape. J. Pers. Soc. Psychol. 38(2), 217–230 (1980). https://doi.org/10.1037/0022-3514.38.2.217
- Ryan, K.M.: The relationship between rape myths and sexual scripts: the social construction of rape. Sex Roles 65, 774–782 (2011). https://doi.org/10.1007/s11199-011-0033-2

- Milner, H.R., Howard, T.C.: Counter-narrative as method: race, policy and research for teacher education. Race Ethn. Educ. 16, 536–561 (2013). https://doi.org/10.1080/13613324.2013. 817772
- Miller, R., Liu, K., Ball, A.F.: Critical counter-narrative as transformative methodology for educational equity. Rev. Res. Educ. 44, 269–300 (2020). https://doi.org/10.3102/0091732X2 0908501
- 9. Mendes, K., Ringrose, J.: Digital feminist activism: #metoo and the everyday experiences of challenging rape culture. In: #MeToo and the Politics of Social Change, pp. 37–51 (2019)
- 10. Flood, M., Pease, B.: Factors influencing attitudes to violence against women. Trauma Violence Abuse 10, 125–142 (2009). https://doi.org/10.1177/1524838009334131
- 11. ISTAT: Effetti della Pandemia sulla Violenza di Genere (2021). https://www.istat.it/it/files//2021/11/EFFETTI_PANDEMIA_-VIOLENZA_D_GENERE.pdf
- Keller, J., Mendes, K., Ringrose, J.: Speaking 'unspeakable things': documenting digital feminist responses to rape culture. J. Gend. Stud. 27, 22–36 (2018). https://doi.org/10.1080/ 09589236.2016.1211511
- Steinemann, S.T., Iten, G.H., Opwis, K., Forde, S.F., Frasseck, L., Mekler, E.D.: Interactive narratives affecting social change: a closer look at the relationship between interactivity and prosocial behavior. J. Media Psychol. 29, 54–66 (2017). https://doi.org/10.1027/1864-1105/ a000211
- Frasca, G.: Rethinking agency and immersion: video games as a means of consciousnessraising. Digit. Creat. 12, 167–174 (2001). https://doi.org/10.1076/digc.12.3.167.3225
- Green, M.C., Jenkins, K.M.: Interactive narratives: processes and outcomes in user-directed stories: interactive narratives. J. Commun. 64, 479–500 (2014). https://doi.org/10.1111/jcom. 12093
- Frasca, G.: Rethinking agency and immersion: video games as a means of consciousnessraising. Digit. Creat. 12, 167–174 (2001). https://doi.org/1462-6268/01/1203-0167\$16.00
- 17. Mariani, I.: Online players: engagement, immersion, and absorption across secondary worlds. In: Lee, N. (ed.) Encyclopedia of Computer Graphics and Games, pp. 1–6. Springer, Cham (2018). https://doi.org/10.1007/978-3-319-08234-9 235-1
- 18. Nilsson, N.C., Nordahl, R., Serafin, S.: Immersion Revisited: a review of existing definitions of immersion and their relation to different theories of presence. Hum. Technol. **12**, 108–134 (2016). https://doi.org/10.17011/ht/urn.201611174652
- Bogost, I.: Persuasive gaming in context. Presented at the (2021). https://doi.org/10.1515/978 9048543939-003
- Laurel, B.: Toward the design of a computer-based interactive fantasy system (1986). https://etd.ohiolink.edu/apexprod/rws_olink/r/1501/10?clear=10&p10_accession_num=osu148726 5143146814
- 21. Peracchi, S.: Interactive narratives against gender-based violence. A co-design approach to leverage stories, inspire empathy, and raise awareness (2022)
- 22. McCall, L.: The complexity of intersectionality. Signs J. Women Cult. Soc. **30**, 1771–1800 (2005). https://doi.org/10.1086/426800
- Hammond, S., Pain, H., Smith, T.J.: Player agency in interactive narrative: audience, actor & author. Presented at the AISB 2007: Artificial and Ambient Intelligence, Newcastle, UK (2007)
- 24. Tanenbaum, T.J., Tanenbaum, K., Wakkary, R.: Design fictions. In: Proceedings of the Sixth International Conference on Tangible, Embedded and Embodied Interaction, Kingston Ontario Canada, pp. 347–350. ACM (2012). https://doi.org/10.1145/2148131.2148214
- Dubbelman, T., Roth, C., Koenitz, H.: Interactive Digital Narratives (IDN) for change. In: Rouse, R., Koenitz, H., Haahr, M. (eds.) ICIDS 2018. LNCS, vol. 11318, pp. 591–602. Springer, Cham (2018). https://doi.org/10.1007/978-3-030-04028-4_69

- 26. Mateas, M.: Interactive drama, art and artificial intelligence (2002)
- Mariani, I.: Meaningful negative experiences within games for social change. Designing and analysing Games as Persuasive Communication Systems (2016). http://hdl.handle.net/10589/ 117855

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

