DSS 2025
DESIGN STUDIES SYMPOSIUM

FAILING (well) in Design Writing

Edited By

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The fascinating contributions to this volume provide refreshing perspectives on a topic that is rarely acknowledged and less so discussed – failure.

The modern world is very goals oriented – the paradigm and promises of technology are linked to progress – and success. But we must always ask – what *is* success – how is it measured, in what way, when, and by whom? As we are reminded, 'to err is *human*' (quoting the famous words of Alexander Pope). We are not machines – nor are we divine – and we make mistakes.

This project's focus on writing reiterates the need for critical reflection – and increasingly so in our current, technologically driven, yet often unreflective and *in*human seeming world. Failure is a mark of our humanity – as imperfect beings. As the provocations and reflections here emphasize - failure *happens*. Failing *well*, is a part of learning, a part of design – and a part of being human.

Congratulations to all those involved in this valuable endeavor of revealing the importance of failure, as an essential component of our development and continued growth.

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FAILING (well)
in Design Writing

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DESIGN STUDIES

Introduced as the first graduate program in the field in Turkey, the Design Studies Master's and Ph.D. programs are structured under the Graduate School and the Faculty of Fine Arts and Design at the Izmir University of Economics. The programs provide architects, interior architects, visual communication designers, graphic designers, industrial designers, fashion designers and applicants from related disciplines a unique research opportunity. With studies informed by this broad approach, ultimately, students are provided with opportunities to engage with the projects in a theoretical framework and conduct their dissertation, pursuing careers in both design-related professions and academia.

The programs in Design Studies are structured with the goal that the theoretical and practical aspects of successful graduate education can be effectively joined in a constructive way for graduates of various disciplines. Emphasizing the relations between various subjects and approaches provides the students with a broader professional training that equip them with substantial and creative skills, unique experiences, and specialized knowledge.

Design Studies graduate program students conduct their research in a multi-disciplinary/ cross-disciplinary way in the fields of studies and key research topics listed in the website.

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Preface

DSS2025 – 23rd May, 2025
Opening Talk
Prof. Dr. Deniz HASIRCI

Failing (Well) in Design Writing:
Learning from Design Writing/Research Failures

1. **Introduction**

Welcome to DSS2025! It is an absolute delight to meet at yet another, now traditional (in the best sense of the word) Design Studies Symposium. At a time when only excess successes are celebrated, we chose to focus on "failing". The following piece attempts to explain the reasons and means by which we approach the framework.

"To Err is Human…" (Pope, 1711). Alexander Pope, also known as the poet of the Enlightenment, has lent this famous line from his 1711 discourse, "An Essay on Criticism", to many contemporary organizations, primarily, due to its applicability and timeless essence.

"… to Forgive, Divine," is what follows the first part of this sentence and is a reference for this symposium as well. Forgiveness requires an assessment, an evaluation of what has happened and to make a decision to see the failure in another light for the future. Learning from mistakes is at the core of DSS2025. This poem is also the source of the famous lines, "A little learning is a dang'rous thing" (frequently misquoted as "A little knowledge is a dang'rous thing"), and "Fools rush in where angels fear to tread" (Pope, 2024). These words have become a part of the popular lexicon, and are quite frequently used.

"Failure" is an ancient word. It dates back to the year c. 1200,

> Fail (verb): c. 1200, "be unsuccessful in accomplishing a purpose;" also "cease to exist or to function, come to an end;" early 13c. as "fail in expectation or performance," from Old French falir "be lacking, miss, not succeed; run out, come to an end; err, make a mistake; be dying; let down, disappoint" (11c., Modern French faillir), from Vulgar Latin fallire, from Latin fallere "to trip, cause to fall;" figuratively "to deceive, trick, dupe, cheat, elude; fail, be lacking or defective." De Vaan traces this to a PIE root meaning "to stumble" (source also of Sanskrit skhalate "to stumble, fail;" Middle Persian škarwidan "to stumble, stagger;" Greek sphallein "to bring or throw down," sphallomai "to fall;" Armenian sxalem "to stumble, fail"). If so, the Latin sense is a metaphorical shift from "stumble" to "deceive."

> Fail (noun): late 13c., "failure, deficiency" (as in without fail), from Old French faile "deficiency," from falir (see fail (v.). The Anglo-French form of the verb, failer, also came to be used as a noun, hence failure (Onions, 1993; Merriam_Webster, 2024).

Failure has been defined as; "a failing to perform a duty or expected action"," a state of inability to perform a normal function", "lack of success", and is also used in reference to "one that has failed" (https://www.merriam-webster.com/dictionary/failure). Although one might give a date to the birth of the word, failure as a cognitive concept has been around since the dawn of human beings. We may find the concept in philosophy, business models, and literature.

However, in art and design, there is more freedom to allow for a more varied and nuanced definitions of failure.

"Not success", "a vision not meeting expectations", and addressing it as a significant part of the "trial and error" process are all mentioned by persons in the creative industry such as, Kickstarter cofounder Perry Chen, playwright Carlos Murillo, soprano Janai Brugger, and graphic novelist Gene Luen Young (NEA Arts, 2014).

These may be followed by what one does with the so-called failure, whether it be a paper rejection, a book's financial flop or an unpopular research finding. Working through setbacks, learning and putting to use the reasons for the failure, finding strength through the weakness, and seeing the exact failure as an opportunity.

2. Failure as a Concept

The automotive industry is no stranger to the concept of failure. Several of what has been passed on from Henry Ford's words allude to failure of one kind or another (Andersen, 2013);

> "The only real mistake is the one from which we learn nothing.
> Don't find fault, find a remedy.
> Failure is simply the opportunity to begin again, this time more intelligently.
> Even a mistake may turn out to be the one thing necessary to a worthwhile achievement.
> "There is no failure except failure to serve one's purpose."

Throughout time, philosophers have discussed failure incessantly.

Aristotle has mentioned the variability of failures as such;

> "It is possible to fail in many ways (for evil belongs to the class of the unlimited and good to that of the limited), while to succeed is possible only in one way (for which reason also one is easy and the other difficult. To miss the mark easy, to hit it difficult); for these reasons also, then, excess and defect are characteristic of vice, and the mean of virtue; For men are good in but one way, but bad in many..." (2014).

Friedrich Nietzsche (1880s) has stated;

> "Only idiots fail to contradict themselves three times a day," which is a glorification of errors, one might say (2014).

A personal favorite from Oscar Wilde (1893), A Woman of No Importance:

> Mrs. Allonby states, "We women adore failures. They lean on us…" (2007).

Finally, Samuel Beckett invites his readers to fail "better" in Worstward Ho (1984);

> "Ever tried. Ever failed. No matter.
> Try again. Fail again. Fail better."

Thus, we are in good company as we speak about failure in design studies, design practice, and design sciences.

2.1. Failure and Design Sciences

Lived experience is important and can provide an angle we cannot see through theory alone. However, if we only prioritize lived experience, there will be no room for theory, and the wisdom that follows. Moreover, large scale conversation is not possible, because a distanced understanding of the commonalities, differences and patterns are significant. More research and more journals does not mean we come closer to truths or democratic representation of design sciences. Academic institutions are self-correcting mechanisms – thankfully. It is rewarding to be a part of an institution that does this well.

In science, the aim is to uncover a piece of information that predecessors were not aware of. Better yet, to disagree with an accepted theory. No academic scholar is glorified for repeating what was already "out there". Science also supports conformism at times, due to well-accepted texts or powerful voices, often a Western male. "The Vitruvian Man" of by Leonardo does exist in academia as well. Especially, when the Vitruvian Man attempts to explain who one is to the world, before one has a chance to do this by themselves.

2.2. A Celebration of Self-Correction

In the design sciences, the self-correcting mechanism works fast, with the development of new methods and technologies. Developments in every field are influential on design research. Moreover, this works in both ways –any development in the design field has the potential to affect all fields. How wonderful is that? In design, perhaps more than others, one embraces and takes pride in the self-correcting mechanism.

The scientific design community needs to trust research published by others to flourish, always building upon and referencing one another, either developing or denying published work. One looks for proof and looks for blind spots and flaws. The scientific community knows that this is how both the theory and practice of design progresses. These mechanisms are the heart of science and not the technologies themselves (Harari, 2024). Hence, failing is a vital part of development and of evolution.

One can name several brilliant minds in design, and none are without errors. Humans are imperfect, one embraces this thought, and actively looks for those errors to attempt to correct them. Now, correction gets interesting in the design field, as there is not one solution, but often several. Therefore, when one encounters a design model or theory, one must celebrate not only the courage to willingly subject oneself to critique, but also the fact that this model or theory has faced harsh critique from around the world and managed to endure.

Everyone loves a good critique, though it requires training and guidance. Critique is an in-built aspect of the design field and unlike a holy book, much invited, and even celebrated. Critique is also embedded in design studies writing, as one refers to, agrees or disagrees, and builds upon prior work (Hopkins, 1994). Bates (2000) has discussed the significance of art critique as a teacher, Barrett (2000) has focused on the studio critiques of student artwork.

Malecha (1985) has written about the design studio extensively, with several articles citing this work. Bloxham, Boyd, and Orr (2011), has studied the role of assessment criteria in higher education, and Daracott (1991), a comprehensive understanding of artwork critique. Belluigi (2016), dwelled upon the definitions and constructions of roles in studio teaching and learning, while Graham (2003), researched the studio design critique and comparisons of student and faculty expectations. Originality and novelty criteria stand out in the assessment of creative evaluation in design (Amabile, 1983; Charyton et al., 2011; Christen and Ball, 2016; Jansson and Smith, 1991; Shah et al., 2000). Budge (2016), correlated art and design practice with university art and design teaching, to observe successful approaches and effectiveness in both areas. Effectiveness and the opposite go hand in hand in design, and is an ever-evolving pursuit.

If failing is human, Artificial Intelligence and its role as the "unfailing" will have effects on Design Studies. Two issues crucial to design sciences are seldom discussed regarding Artificial Intelligence; one is; will it choose or deny self-correction. Secondly, the environmental consequences of AI. The means by which all the new data is stored, the energy it consumes, and the environmental hazard to provide for the archiving of new data. Both issues are critical for Design Studies, and will increasingly continue to be so in the future.

3. DSS2025 Theme
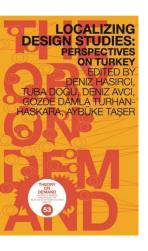
Previous Design Studies Symposia themes included, "Face-to-Fest (organized by Head of Design Studies-2022, Assoc. Prof. Dr. Emre Ergül)", "Realities and Frontiers in Design Studies" and "Design Dialogues", with a distinct identity and publications that followed (organized by Head of Design Studies 2023-2025; Hasirci et al., 2023; Hasirci et al., 2024 a-c). (Figures 1-3). In the former symposium, held face-to-face with a hybrid participation option, the focus was on research that ranged from case and field applied concepts to quantitative data surveys, to social, theoretical, and historical studies from all subareas of design. Not addressing the immediate crises of the time seemed impossible, thus the aim was to discuss the parallel and corresponding realities of design in the post-pandemic era. As the post-Covid period and unprecedented earthquake in Hatay-Turkey, raised new questions the role of design in our everyday lives, while the advent of dynamic technologies in design brought consideration of the surrounding design realities. Quality applications were received from the students enrolled in different Graduate Programs related to the field of design. The output of the symposium included a proceedings book containing abstracts of accepted applications, as well as an international reader titled, "Localizing Design Studies: Perspectives from Turkey" (Hasirci et al., 2024a).

Figure 1. DSS Symposia

Figure 2. Design Studies program publications
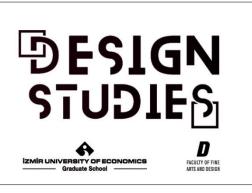
Figure 3. Design Studies program logo designed by, Gözde Damla Turhan-Haskara

In the latter, the aim was to seek research that utilized critical design studies, investigating the diverse scales involved in diverse dialogues, considering social, cultural, and functional perspectives. This theme was "Design Dialogues". Dialogue refers to a mutual active interaction where two or more individuals engage in a verbal or written conversation, and may be realized as both a literary and visual representation of such exchanges. Though dialogue is at the heart of the design studies field, the need for the additional emphasis was due to the fast-paced processes that sideline theoretical and philosophical discussion and that leave certain voices on the periphery. Due to the current state of Artificial Intelligence induced technology and the ease with which one can create a product or presentation without the necessary studied conceptual and theoretical basis, quite frequently, young designers focus on the application without the necessary story. This results in half-baked results often lacking in human creativity and original solutions that depend on unexpected and interdisciplinary correlations.

The dialogue that is necessary and, on the decline, can typically occur among the researchers and participants, among the shareholders, and between the designer and the users. Therefore, research that discussed; theoretical examination of how design processes manifest at both macro and micro levels, empirical investigation into how interactions in design between different regions and cultures affect local, regional, and international realities, analysis of the hyperreal nature of artificial intelligence dynamics, focusing on the blurring of boundaries between the virtual and the real, exploration of the complex methodologies utilized in design studies, both theoretical and empirical, were highly encouraged. The abstracts book and the selected works books were published by IUE Publications.

The current symposium focused on "writing" and how to approach writing, as it was a recurring issue that stood out in the Design Studies program student meetings held every semester. I know how much I have learned from errors in writing as well as others' mistakes. I have been rejected many times, and have also rejected flawed papers myself. Rejection is good. Failing is tolerable. It makes one tougher. It is best if one knows the reason behind rejection. Bringing these two topics together, we aim to grow tougher together, and also to enjoy the process. The DSS2025 theme focuses on alleged "failures" in design research, design writing and publishing, and seeing mishaps as opportunities for growth and learning. Oftentimes, we struggle to define success in design research due to its interdisciplinary, over extending, and layered nature, yet there is much clarity in knowing when something has failed.

Rosenbak (2017: 5) has discussed the significance of "the system that produces and allows for these so-called successes and failures", and we find it eminent to highlight this issue, which is of key significance in academia. Design research writing and publishing is both a battlefield and an obligation for graduate students, as they both try to understand the system and pass through the many thresholds of quality publication in the design field. We believe that debating failures of design research as well as writing will enable comparisons of approaches and methods, as well as highlighting tips on how to get past publishing struggles, with the support of experienced researchers and authors. The aim is for the event to be an effective one for both young and more experienced researchers in the Design Studies field.

For the DSS2025 symposium, we invited graduate students (and their advisors or collaborators), to share their research in the broad framework of design studies. The symposium housed a one-on-one writing workshop as well as Q&A sessions on failures in writing we could all absorb key guidelines from. Keynote speakers in editorial positions shared valuable insights for all authors in Design Studies. As a practice of design writing in action, one of the important goals was to publish a full-text book, ready for DSS2025, so that research within the design failure theme as well as design studies in general may be documented and shared for future generations of Design Studies researchers, which we realized.

The theme that follows this will be an acknowledgement of the Design Studies program at Izmir University of Economics, as it turns twenty years old. Twenty years is an adequate time and it is believed that it will be possible to take stock on the growth and many accomplishments of the program. Heads of Design Studies throughout the years and graduates of the Master's and PhD programs are expected to contribute to the comprehensive and holistic understanding of not just the program, but an interdisciplinary understanding of Design Studies as a field. Assessing the identity of the program, concretized through the system, its logo, guide booklets for students, social media, and general representation is an asset to be kept in the future as well.

4. Conclusion

To conclude, one may once more gain strength from Alexander Pope's words.

Pope wrote "An Essay on Criticism" when he was just 23, and it is best to look for the youthful lens. Pope was accessible, especially at the time, and was influenced by Aristotle, Quintillian, Horace's Ars Poetica, and Nicolas Boileau's L'Art Poëtique (2024). Written in bite-size couplets, the language is quite straight-forward and conversational. The poem involves how one should write, critique, fail, and learn. It defines what he sees as a good critic, and there is much wisdom in this young poet's work;

> … And while self-love each jealous writer rules,
> Contending wits become the sport of fools:
> But still the worst with most regret commend,
> For each ill author is as bad a friend.
> To what base ends, and by what abject ways,
> Are mortals urg'd through sacred lust of praise!
> Ah ne'er so dire a thirst of glory boast,
> Nor in the critic let the man be lost!
> Good nature and good sense must ever join;
> To err is human; to forgive, divine.

Thank you and welcome, once more, to DSS2025!

References

Andersen, E. (2013). 21 Quotes from Henry Ford On Business, Leadership and Life. Forbes Magazine, 31st May, 2013.

Aristotle, (2014). "Complete Works of Aristotle, Volume 2: The Revised Oxford Translation", p. 1748, Princeton University Press.

Bates, J. (2000). Becoming an Art Teacher: Wadsworth Belmont CA: Wadsworth Thompson Learning.

Barrett, T. (2000, February). JSTOR: Theory into Practice. Retrieved January 25, 2014, from Studio Critiques of Student Art: As They Are, as They Could Be with Mentoring: http://www.jstor.org/stable/1477438

Beckett, S. (1984). Worstward Ho. Grove Press.

Belluigi, D. Z. (2016). Constructions of roles in studio teaching and learning. International Journal of Art and Design Education, 35(1), 21–35. https://doi.org/10.1111/jade.12042

Bloxham S., Boyd P. & Orr, S. (2011). Mark my words: The role of assessment Criteria in UK Higher education grading practices. Studies in Higher Education 36(6): 655–670.

Budge, K. (2016). Learning to be: The modelling of art and design practice in university art and design teaching. The International Journal of Art & Design Education, 35(2), 243–258. https://doi.org/10.1111/jade.12060

Christensen, B. T. and Linden J. Ball. (2016). Dimensions of creative evaluation: Distinct design and reasoning strategies for aesthetic, functional and originality judgments, Design Studies, Volume 45, Part A, Pages 116-136.

Cennamo, K. (2016). What is studio? In E. Boling, R. A. Schwier, C. M. Gray, K. M. Smith, & K. Campbell (Eds.), Studio teaching in higher education: Selected design dases (pp. 248–259). Routledge.

Daracott, J. (1991). Art Criticism: A User's Guide. London: Bellew Publishing.

Harari, Y. N. (2024). Nexus: A Brief History of Information Networks from the Stone Age to AI. New York: Random House.

Hasirci, D. Doğu, T. Avcı, D., Turhan-Haskara, G. D., Taşer, A. eds. 2024a. "Localizing Design Studies: Perspectives on Turkey", Institute of Network Cultures: Theory on Demand. INC Publications

Hasırcı, D., Yavuz Velipaşaoğlu, D., Doğu, T. Avcı, D., Turhan-Haskara, G. D., Bayrak, A. R. eds. 2024b. DSS2024, Design Studies Symposium 2024 Full Text Book. Design Dialogues. İzmir: IUE-İzmir University of Economics Publications.

Hasırcı, D., Yavuz Velipaşaoğlu, D., Doğu, T. Avcı Hosanlı, D., Turhan-Haskara, G. D., Bayrak, A. R. eds. 2024c. DSS2024, Design Studies Symposium 2024 Proceedings Abstract Book. Design Dialogues. İzmir: IUE-İzmir University of Economics Publications.

Hasırcı, D. Doğu, T. Avcı Hosanlı, D., Turhan, G. D., Taşer, A. eds. 2023. DSS2023, Design Studies Symposium 2023 Proceedings Abstract Book. Realities and Frontiers. İzmir: IUE-İzmir University of Economics Publications.

Hopkins, J. (1994) "Critics' Forum." Landscape Design: pp. 24-25. Hokanson, B. (2012). The Design Critique as a Model for Distributed Learning. Retrieved January 18, 2014 from http://hokanson.design.umn.edu/publications/HokansonDesignCritique2012.pdf.

Malecha, M. J. (1985). The Design Studio. La Verne, CA: Architecture and Research Press.

McDonald, J. K.; Michela, E. "This Uncertain Space of Teaching": How Design Studio Instructors Talk about Design Critiques along with Themselves When Giving Critiques. Journal of the Scholarship of Teaching and Learning, [s. l.], v. 22, n. 1, p. 48–66, 2022. Retrieved: https://research.ebsco.com/linkprocessor/plink?id=cc33cab4-67b1-3bcd-860a-3b0f75522209. Accessed: 10 Jan. 2025.

Merriam-Webster: America's Most Trusted Dictionary. (2024). https://www.merriam-webster.com/failure. Accessed: 10 Dec. 2024.

NEA Arts. (2014). The Art of Failure: The Importance of Risk and Experimentation. National Council on the Arts. Number 4.

Nietzsche, F. (2014). The Complete Quotations of Friedrich Nietzsche. Friedrich Nietzsche (Author), Steven Quayle (Translator). Lexido.

Onions, C. T. (Editor) (1993). G. W. S. Friedrichsen (Assistant), R. W. Burchfield (Assistant). The Oxford Dictionary of English Etymology. Oxford University Press.

Pope, A. (2024). An Essay on Criticism, Alexander Pope, https://www.poetryfoundation.org/articles/69379/an-essay-on-criticism. Accessed: 13 Dec. 2024.

Schultz, C. K. N. Transforming Pedagogies: Adapting Art School Peer Group Design Critique (The 'Crit') for the Humanities. Practitioner Research in Higher Education, [s. l.], v. 14, n. 1, p. 41–49, 2021. https://research.ebsco.com/linkprocessor/plink?id=07abacba-a4ba-33a5-a867-5c6bec9dc543. Accessed: em: 10 jan. 2025.

Wilde, O. (2007). A Woman of No Importance. Penguin Books; New Edition.

Editorial
Failing (Well) in Design Writing Learning from Design Writing/Research Failures

Prof. Dr. Deniz HASIRCI, Assoc. Prof. Dr. Gökhan MURA, Dr. Emre YILDIZ

At a time when predicting the future of design and design writing in particular has become challenging, to say the least, we are thrilled to gather the creative thoughts of graduate students, approaching the topic from many angles, leading to layered responses as well as queries on Design Studies.

We are overwhelmed by thoughts on the future of what we love to do -to design, talk, and write about design. Definitions and practices of design are changing rapidly. One aspect we are in need of is not only learning from failures within the field, but also reimagining definitions of what failure means today and for the future. Hopefully, critical thinking and deep communication will be at the heart of these definitions. The theme "Failing (Well) in Design Writing" invites open discussions on these issues. This book aims to be a record of this time and place in history.

Speaking of it, the history of design can also be considered as the history of failures in design. Where successful design is often celebrated and recognized with its quality, innovative utility, or its exemplary processes as well as the genius behind it, the failures also become pedagogic examples for all of us to learn from. For writing a smarter historiography, we should point to failures as much as we show successful designs, and we should note the reasons for failures in history as well as the glamour of successes.

Sometimes the "lucky" failures create coincidental successes challenging our preconceptions and teach us the value of bold deviations. When Fiskars decided to manufacture their scissors with plastic handles, they decided to make it black, but the first batch came out orange from the injection molding as they have previously manufactured orange squeezers made in orange plastic. They decided to keep their plastic scissor handles in orange color, and it made the good design an iconic one (Figure 1).

Figure 1. The Failure that Made the Fiskars Scissors Iconic.

Similarly, Post-it notes are developed as a result of a lucky failure where the company developed a weak adhesive that allows the glued paper to be removed and stuck again, allowing a movable note that can be applied by almost anyone almost everywhere, then to reconsider their decision. It is ironic that this very product may be the most famous design research tool allowing designers to rethink, iterate and change their ideas in various steps of the design process. Post-it might be the embodiment of the importance of reassessing previous decisions and reorganizing thoughts based on reflections on the failures.

Lucky failures in design give us exemplary anecdotes, but not so lucky failures are also not short of pedagogical value. A certified failure allows us to reflect on our current and future failures. The nature of the design process requires reflections, iterations, learning from failures of your own as well as others' where a systematic way of thinking is applied to propose critical and creative solutions to overcome wicked and complex problems. In other words, design is an iterative process where failures allow us to rethink our strategy to approach a certain problem or to overcome a certain obstacle. The failures appearing in

different stages of the design process also allow us different opportunities. The failures in the fuzzy front end might fuel the creativity of the designer by steering the designer towards different, previously less travelled paths, where failures in further steps of the design process serve as catalysts for change, forcing designers to rethink their approach, understand their audiences better, and evolve their techniques.

Just like design practice, design research and design writing is also always shaped by an iterative process— marked not only by insight and experience, but also by missteps, gaps, and revisions. In design practice, where defeat is intrinsic to arriving at meaningful outcomes, scholarly contributions in design also evolve through cycles of experimentation and reflection. This ethos finds a maybe-unevitable parallel in the development of recent AI systems, which researchers nowadays use more than often as a tool of assistance and sometimes - of indolence. For these AI tools, humans are integral to the learning process—labeling datasets, solving CAPTCHA tests, and unintentionally training these algorithms through everyday tasks (Figure 2). These systems do not "learn" perfectly from the start like we learn things from books; they fail, sift through, and gradually improve, analyzing the failed tasks and creating absolute facts out of them. Likewise, design research advances not through solitary brilliance, but through a communal process of attempts, lapses, and repeats.

Figure 2. CAPTCHA tests, teaching Machine Learning Algorithms how to read distorted type, in order to identify letters and convert printed books into digital text libraries.

No single researcher can capture the full scope of any field, and no single text can claim absolute completeness. Instead, design literature emerges through a collective endeavor—where one scholar's unfinished thoughts become the starting points for another's quest, where overlooked questions are later illuminated, and where previous questionnaires are reconsidered. It is this mechanism for handing off, responding to, and revising each other's work that the process for design research moves forward. Embracing this structure means acknowledging that our failures, dead ends, and incomplete deductions are not liabilities—they are essential contributions.

As editors, we plead for a culture of transparency and continuity in design research: one that honors not just what is concluded, but also what is inconclusive. By documenting not only what we achieve, but also what we miss, we offer future researchers a broader map of our intellectual terrain. This can be a culture not merely of success, but of generous failure—an understanding that hands over the torch of knowledge not as a finished product, but as an evolving inquiry.

In this regard, we embrace a multifaceted understanding of failure in the broad topic of design, as we discuss design products, design processes, and critically, how failure reflects on scholarly work in design. The field of design has been a reflection of cultural values. Design is not created in a vacuum, continuously reflecting an intertwined connection to culture, reinforcing, and challenging the cultural contexts in which it exists. These values are at the focus of our discussion, as they will have the capability of holding true despite the changes in technology.

With these value-laden intellectual discussions at the core, it is clear that this is a turbulent time that we can use to our advantage, reflect on in terms of our position in which we can see both sides -both taking stock and rapidly adapting to the unprecedented changes in design products, design processes, as well as design writing. What will happen to writing in our precious field, we will experience together. We would like to end on a positive note, sharing responsibility and empowering particularly younger scholars, through the sharing of our own stumbles, mishaps, and failures that will shed light on our route going forward, enabling us to actively, collectively shape the future of design studies.

Gökhan Mura, Emre Yıldız, Deniz Hasırcı

Keynote Speech
FAILING FAIRLY WELL in DESIGN RESEARCH

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Although commonly associated with negative meanings, the word "FAIL" is often used in education as an acronym for First Attempt In Learning. In this context, the question for those who fail becomes, "Did you learn something from this trial?"—emphasizing the sincerity of the effort rather than the result. The process of failure itself can be inspirational if shared, especially with others pursuing similar endeavors. It's surprising how often failure stories appear in our exposure to knowledge—be it a traditional lecture, a YouTube video, or an interactive workshop.

Design Research, situated within the broader domain of the Social Sciences, is relatively new. Its very nature is that of a learning community, often more open to innovation than other well-established disciplines. One might assume, given its roots in the creative practice of design, that Design Research is inherently more receptive to new ideas and creativity. It might seem easier to gain recognition—such as getting published— within this field. However, to set the record straight: creativity in design and creativity in design research are not the same. In research, creativity is limited by the existing body of knowledge and must align with scholarly rigor, unlike the broader freedoms enjoyed in design practice.

In this talk, I'd like to explore how one can "fail fairly well"—that is, learn something from a rejected paper, perhaps your first attempt at publication. But before we get into that, let me emphasize the importance of working with an advisor who is a mentor not because of convenience or proximity, but because of their proven expertise—evidenced by publications in top-ranking peer-reviewed journals, completed research projects, and recognized contributions to the field. If you work with someone who hasn't published, your journey may be unusually difficult—or deceptively easy, as there are journals today for almost anyone to get published. With the pressure to "publish or perish," the easier route may be tempting, but it will likely damage your career in the long run. It's inherently a good idea to join a research group with readily available track record of grants and research agenda (Kepez, 2015).

Drawing on my 20 years of experience reviewing for organizations such as the Environmental Design Research Association (EDRA), the International Association for People and their Environment Studies(IAPS), as well serving in Review Boards for Archnet-IJAR:International Journal of Architectural Research and Open House International, reviewing for other top ranking journals on invitation ,and being invited as external evaluator consultant or referee for grant proposals for TÜBİTAK, I've distilled key points to consider before submitting any research. If you've addressed all these points and still failed—that's where the learning begins. I'll walk through these elements, part by part, highlighting what to do—and what not to do—in your research or grant proposal.

Title and Abstract: Your title and abstract are the promotional package for your research. Reviewers will read them first to "hunt" for flaws—an unclear sample size, methodological issues, or missing reliability checks. They will scrutinize your abstract. Opening with a compelling statistic or a widely acknowledged fact will capture attention. Your research aim should be clear and realistic, and you should avoid overpromising. Tie your aim to facts, mention the potential impact of your research, and avoid humblebragging. Report your most important finding in the abstract and explain how it fits into the broader knowledge domain.

Full Text Writing: Always follow the guidelines provided by the submission platform—whether it's a journal, conference paper, or other venue. Expand on your abstract without repeating it verbatim. Reword as needed to avoid redundancy, but ensure conceptual consistency. Many papers I've reviewed present different aims under different headings, giving the impression that the authors are unclear about their own objectives. As a design researcher, you should state your aim clearly and directly—not creatively.

Literature Review: The literature review is often the most vulnerable part of a paper, even when other sections are strong. Reviewers vary in expectations for how literature should be reported. A reliable strategy is to begin with existing published literature reviews and keyword-based literature maps available through academic publishers. These can help you identify foundational texts—e.g., Hillier (2007) on Space Syntax, Sanoff (2019) on Community design, and Ulrich (1984) on healing environments.

Your work must cite both the foundational articles and those that have extended the field. Knowing how the body of knowledge evolved is crucial to demonstrating scholarly maturity. Don't hesitate to cite key original arguments and their recent reinterpretations. This will also strengthen the section where you argue for the

significance of your research. Aim to fill a gap already identified in existing scholarship—often found in the "future research" sections of past papers.

Citing sources isn't about quantity but strategic relevance. Think of it like building a wall with uniform, well-placed bricks that provide strength, rather than a chaotic pile of mismatched stones. Citations should appear not just in the literature review but throughout the paper—for methodology, statistics, or background justification and where necessary.

Research Questions and Methodology: Depending on your identity as a design researcher, you may or may not formulate explicit research questions. Qualitative studies often emerge from a search for meaningful questions, while quantitative work—often following published and well-received qualitative groundwork—tests hypotheses. Mixed methods are also valid. What matters is that your approach is clearly communicated throughout the text.

Your methodology section should be clear, rigorous, and aligned with the method(s) used. Most research techniques—e.g., diary keeping, questionnaire design, interviews, observation—are adapted from social sciences. Design researchers often observe environments more sensitively. For example, a "neighborhood" is a census unit for a sociologist, but for us, it may involve nuanced observations of outdoor usage patterns. If you alter a standard method, justify your innovation and ideally provide comparisons with the original. Include a visual diagram of your research design and describe all instruments used for data collection.

Data Analysis and Findings: Clearly state how your analysis was performed. If using statistics, present findings both in tables and in narrative form—don't just rely on p-values. Ensure your sample size meets statistical standards and clean your data for outliers before analysis. This section should reconnect with your original research aim and questions and interpret findings accordingly. If you are not qualified to perform any inferential statistics, it's good to have a consultant on board, but not just for analysis but also during the design of the data collection instrument.

Design Implications: A distinctive and growing requirement in design research is to articulate design implications—how your findings can inform actual design practice. These might be guidelines for an interior space, a website, a neighborhood plan, a media interface, or a robot's user experience. This is a rare case where practice and research are tightly interwoven, giving design research an edge in influencing real-world applications.

Following on examplary work of the scholars mentioned earlier, their seminal design research has led to more humane hospital environments (Ulrich 1984), participatory design tools (Sanoff 1999), and analytical frameworks for urban design (Hiller 2007). In my own work, I've contributed to design guidelines for improving daily life in long-term care facilities, supported students and teachers in designing active learning classrooms, and developed an automated behavior mapping through sensors (Kepez 2006; 2017; 2020; 2024).

Final Thoughts: To fulfill design research's promise as a foundation for better design practice, we must learn to fail fairly well—through criticism received and reflected on in peer review. Without this collective effort, research-based design guidelines would never be refined enough to influence practice. Failing well is not a sign of defeat, but a necessary step toward progress.

References

Arsan, T. and Kepez, O. 2017. "Early Steps in Automated Behavior Mapping via Indoor Sensors." Sensors 17 (12): 2925. https://doi.org/10.3390/s17122925.

Hillier, B. (2007). Space is the machine: a configurational theory of architecture. Space Syntax.

Kepez, O. 2006. Effect of Space on Health and Well -Being: An Environmental Assessment for Home -like Long Term Care Settings. Ann Arbor: ProQuest LLC.

Kepez, O. 2015. "Graduate Education As a Research Environment (Original Title: Bir Arastirma Ortami Olarak Lisansustu Egitim)." In Book of Full Paper Proceedings ICLEK: National Congress (I) on Graduate Studies in Interior Architecture, edited by Özge Cordan, 45–52. Istanbul: Istanbul Technical University.

Kepez, O., & Üst, S. (2024). Furniture configurations in an active learning classroom make further differences in student outcomes. Archnet-IJAR: International Journal of Architectural Research, 18(1), 121-141.

Kepez,O. and Ust,S. 2020. "Collaborative Design of an Active Learning Classroom with High School Students and Teachers." Archnet-IJAR: International Journal of Architectural Research 14 (3): 525–41. https://doi.org/10.1108/ARCH-11-2019-0262.

Sanoff, H. (1999). Community participation methods in design and planning. John Wiley & Sons.

Ulrich, R. S. (1984). View through a window may influence recovery from surgery. science, 224(4647), 420-421.

Short Bibliography on Design Research Methods

Agresti, A. and Finlay,B. 2009. Statistical Methods for the Social Sciences. 4th ed. Upper Saddle River, N.J: Pearson Prentice Hall.

Blair, J., Czaja, R. F., & Blair, E. A. (2013). Designing surveys: A guide to decisions and procedures. Sage publications.

Creswell, John W., and Creswell, J.D. (2018) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Fifth edition. Los Angeles: SAGE.

Groat, L. N., & Wang, D. (2013). Architectural research methods. John Wiley & Sons.

Sanoff, H. (2016). Visual research methods in design (Routledge Revivals). Routledge.

Yin, R.K. (2018) Case Study Research and Applications: Design and Methods. Sixth edition. Los Angeles: SAGE.

Part 1

The Transformation of Space by Digital Art: Success And Criticism Through The Works of Refik Anadol

Aleyna GÜNAY, Asst. Prof. Dr. Didem YAVUZ VELİPAŞAOĞLU

Machine Memoirs: Space An experiential interior formed by the reflection of digital memories to the space. (Anadol, 2021)

The Transformation of Space by Digital Art: Success And Criticism Through The Works of Refik Anadol

Abstract

Digital installation art and interactive design transform spaces through redefining spatial perception, functionality and people interaction. These contemporary techniques challenge traditional definitions of architecture and art beside affect the way spaces are experienced. The space that is enriched through digital elements become more dynamic and interactive. Therefore, it creates a new experience. Accordingly, the research focuses on Refik Anadol's works which have been highly praised by many critics while also being deemed irrelevant by some others, ultimately giving rise to new failures and achievements in writing culture. Anadol utilizes technology and data-oriented machine intelligence for the artistic creation. Refik Anadol transforms the space to a living organism through data-based visualizations and digital installations supported by artificial intelligence. He tries to define new interaction forms between art and the audience. However, some critics praise Anadol's works but others find his works uninteresting or problematic. The paper will explore which narratives Anadol's works presentsed and how they are criticized, and what contexts does the literature of art and the culture of criticism deal with Anadol's works. This paper discusses how Refik Anadol transforms space with digital art and how the works that are found unrelated or problematic create successes and failures in writing culture.

Key Words: Digital Art Controversies, Critique of Data-Driven Aesthetics, Digital Installation Art, Interactive Design, Spatial Transformation

The research questions How does Refik Anadol's digital art transform spaces and how are his works critiqued in art writing and criticism?

Digital Installation In Art and Interactive Spaces

Installation art is described as site-specific art. It is created specifically for the place. Also, installation is known for an art application where objects are placed in the space with a certain order and planning. Site-specific means that it is unique to a certain place (Kwon, 2002:11).

Lisa Moran states that installation is a work of art completed by the integration of objects with space by coming together. Installation art can include traditional art concepts such as drawing, sculpture, painting; also include non-traditional art concepts such as found object, ready-made object and text. It combines technology with the traditional understanding of art. Also, installation art can contain interactive elements that let the audience take part in the artwork. Unlike the traditional arts such as sculptures and paintings, people are asked to incorporate into art. People are becoming part of the artwork. Digital installations combine different art fields by combining sound, hologram, virtual and real space. Therefore, digital installations can appeal to the viewer's various senses such as sight, hearing, touch. The viewer is not only an observer; also feels and experiences. A stronger and digital connection is established between the audience and the art (Çınar and Köse, 2021).

Refik Anadol & Digital Media Art

Refik Anadol's artworks are digital installations based on data analysis and machine learning. The technology is included in Anadol's art. Anadol creates digital artworks through machine learning and AI algorithms. His artworks present an experience full of auditory and visual expression to people. He transforms digital data to visuals that include different color, sound, light and move. He creates visual stories through machines and technological applications. The integration of sensory elements such as sound and light increases the emotional impact of the works and makes them interesting. (Açıcı&Çelenk, 2022). The digital installation artworks of Refik Anadol offer people visionary experience. Anadol tries to explore the relationship between humans and technology through his works. He blurs the line between real and virtual by creating immersive environments. Refik Anadol's artworks are dynamic and interact with the environment.

Machine Memoirs: Space

Machine Memoirs: Space is an AI art installation. Anadol aims to make the space images visible by converting to artistic narrative with AI. Anadol transforms the images of the space to a fluid and dynamic art form through AI. Data sets related to the space were converted into audio and visual works. The data are reflected to the exhibition area through colorful light reflections, dynamic forms and fluid movements (Açıcı&Çelenk, 2022). Also, datas are converted to sound. The exhibition Machine Memoirs: Space turns

space into an experience space shaped by dynamic data flows. Visuals and data sculptures generated by AI are not static backgrounds in the exhibition. The space data turned into artistic form blurs the boundaries between real and virtual.

Image 1 Machine Memoirs: Space An experiential interior formed by the reflection of digital memories to the space. (Anadol, 2021)

Image 2 Machine Memoirs: Space a dynamic interior where stillness is replaced by a fluid experience. (Anadol, 2021)

Machine Hallucinations

Refik Anadol created it as a digital installation series. Refik Anadol explains that he is an AI and data artist and uses large-scale AI installations to create this serie. An AI-powered machine generates abstract images using a dataset of images related to a specific topic. The image constantly grows, evolves and transforms; abstract organic shapes appear and disappear. An incredible feeling of depth is created in the image (McCarthy,2024).

Space is not fixed in this process. It is defined as a dynamic and constantly changing structure and is reshaped in a fluid, multi-layered and abstract way. Dynamicity erases the physical boundaries of the space. It allows to go beyond the static and fixed perception of the space. Therefore, dynamism and motion are added to the space. The perceptual experience of the visitor is enriched. The visitor perceives the space as a visual experience. A constant change and innovation are dominant in the space instead of stasis.

Image 3 Machine Hallucination — NYC the space transforms a dynamic structure that is constantly changing with visual projections. (Anadol, 2019)

Image 4 Machine Hallucination — NYC (Anadol, 2019)

A Critical Look at Refik Anadol and His Works

Anadol produces works that he called machine hallucinations. Anadol uses DGAN and StyleGAN algorithms to create his works. Anadol uploads a plenty of data to AI. AI analyzes the data and learns the patterns, colors and compositions. AI generates new images that were not in the archive before by using information it learned. Anadol describes that action as a hallucination (Eryılmaz, 2024).

Unsupervised: Machine Hallucinations is one of the exhibitions of Refik Anadol that reflects the combination of AI, machine learning and art. It was exhibited in the Museum of Modern Art in New York. In this project, MOMA's digital art collection was used as a huge data set. Anadol named the exhibition the Unsupervised because AI is not guided by humans and learns on its own. The statement of Anadol was criticized. Anadol emphasizes that the relationship established by the machine between the modern artworks in the archive is unsupervised. Anadol claims that the machine reveals the subconscious of people with its mysterious powers. Eryılmaz (2024) explains that Anadol ignores two parts. Those are that Anadol thinks MOMA archive represents humanity and he explains AI as a very powerful machine with advanced imagination without human control.

Eryılmaz (2024) mentions that Refik Anadol's works supported by AI are questioned in terms of creativity. Although AI produces new images through DGAN and StyleGAN by analyzing existing data, the resulting works may not be completely new or an independent product. AI performs operations on the data sets given to it. At that point, critics question whether this process performed by the machine is a real creativity (Eryılmaz, 2024). Di Placido (2023) states that AI could not learn as humans; proceeds the data through pattern matching. Di Placido (2023) claims that AI is not able to be creative like humans because it does not have consciousness. According to Di Placido (2023) AI lacks of human creativity, intention and perspective. It just blends the previous works. Di Placido (2023) defends that there is vitality and human experience in the base of the art and explains that Hayao Miyazaki reacted to the AI artwork as an insult to life itself. Garcia (2024) argues that AI cannot imitate the depth and originality in human-made art without human experience and emotion.

Also, AI produces artworks faster and automatically without requiring physical labor and time. Di Placido (2023) states that creation of an artwork is an effortful process and it needs the intention and perspective of the creator. According to Di Placido (2023) AI makes artworks effortless by entering some scripts to computer like an ordering fast food.

Anadol defines the process unsupervised. Eryılmaz (2024) states that the process can not be defined as completely unsupervised. Data sets and algorithms are designed by humans. Eryılmaz (2024) explains that it is programmed what the AI will learn by humans from the beginning of the process and AI produces products by depending on the data uploaded by humans. AI does not have the ability to imagine independent from human touch as Anadol defends.

Also, Anadol highly praises AI and machine learning. He defines the process of AI creating new product as a hallucination and he implies that this process has a capacity that cannot be fully explained, it is mysterious and materialist. Anadol aggrandizes AI and ignores the possible risks and limitations of AI with this approach. (Eryılmaz, 2024). Di Placido (2023) explains that many glitches and errors occur on the images created by AI because of the lack of human intention and being produced through a machine. AI needs intensive human labor. Human control is required to get proper results. Additionally, Eryılmaz (2024) states that Anadol's works are criticized because they are far from human experiences, culture and social dynamics. According to Garcia (2024) people live in the society that is culturally and historically rich believe that artworks created by AI cannot reflect the cultural, historical and personal elements like in the human artists's works. AI works with data. So, it is insufficient to understand the complexity and emotional aspects of human experience.

It is criticized that copyright issues can occur while Anadol produces his works. AI can use data sets without the knowledge of the work's owner. Garcia (2024) states that AI creates derivative works by learning style or content from existing works, the ownership of AI-created works may cause to legal problems. Eryılmaz (2024) states that Anadol uses materials, photographs and newspaper images that are open to the public but have copyright for its works. Eryılmaz (2024) mentions the owners of the original work do not receive any material or moral gain from it and the artists' labor may be used indirectly. Di Placido (2023) explains that artist were not asked for their permission to use their works to train the machines. Artists' works may be included in the data without their knowledge or permission. Di Placido (2023) believes that the art created by AI is cheaper and easy to get. Garcia (2024) explains that AI creates art quickly and cost-effectively, it can reduce the value and demand for man-made art.

Finally, Anadol is criticized because he thinks that the MoMA archive of the data in its possession represents the whole humanity for Unsupervised: Machine Hallucinations exhibition. Eryılmaz (2024) states that 85% of the artworks in the museum are owned by artists of North American and European origin. There is an imbalance in the geographical distribution of the collection. Eryılmaz (2024) explains that it is focused on Western art more in the collection. Also, Eryılmaz (2024) mentions that only 11% of the works were made by female artists. The works of male artists are more at the forefront. Garcia (2024) explains that there may be deviations and lack of diversity in the training data of AI algorithms Although AI appears to be neutral. Garcia (2024) advocates that AI needs to be educated with a wide variety of data from different cultures, opinions and experiences to produce more fair, rich and diverse content. According to Eryılmaz (2024) Although Refik Anadol says that AI is innovative and creative there are inequalities in the data sets used by AI. Anadol ignores inequality-based dataset in the archive. The data and information given to AI should be accurate and fair not to produce unfair and biased results.

Image 5 & 6 Anadol's 'Unsupervised' Machine Hallucinations— at MoMA. New forms are constantly generated by AI on a large media wall. (Gerhardt, 2022)

Image 7 Machine Hallucinations— at MoMA. AI explores dreams, hallucinations and irrationality (Gerhardt, 2022) forms are constantly generated by AI on a large media wall. (Gerhardt, 2022)

Conclusion

The way that Refik Anadol transforms spaces through digital installations and interactive designs receives praise and criticism. Refik Anadol's works are shaped according to the place where it is located and specific to the place. His works are not static objects like the traditional artworks exhibited in the exhibition. His artworks interact with visitors. Visitors can have an experience that is part of the space through Anadol's works. His works turn the space into a dynamic area rather than fixed structure. Anadol creates an experience area for visitors through projections, light installations and data visualizations. However, Anadol's works receive various criticisms. While Refik Anadol considers these works to be groundbreaking and creative, some critics question the creativity of AI in the production process. It is explained that AI is not completely independent of human intervention and does not produce works alone contrary to Refik Anadol claims. It is argued that AI is not a human-independent. The data is created by humans and uploaded to AI. Also, AI produces images by taking a reference from past works of art. It is believed that some copyright issues may occur. Although Anadol thinks of the MoMA archive as a data set representing humanity, the collection is Western-centered and gender-unbalanced. The artworks produced by Anadol through AI have gained criticism in terms of creativity, ethics and data usage. These discussions show how Anadol's art is evaluated and how it is shaped in different contexts.

Finally, when working with artificial intelligence more attention should be paid to ethical situations related to data source, authorship and copyright. Also, the user should check the dataset used by AI are not incomplete or biased to certain cultures, communities or perspectives. Otherwise, AI cannot produce inclusive and balanced results. There should be clearer rules for the ethical use of data to prevent it. Also, the data sets should include people from different backgrounds, different identities not a certain culture or group of people. Therefore, more creative and universal outputs can be produced. Ethical rules and

cultural diversity are crucial for AI to work fairly. Also, AI should work in harmony with people. It should support user's creativity instead of replacing them directly. The role of artificial intelligence in art production should be more balanced. All process cannot be driven by AI without human touch. The artwork cannot evaluated only the man product with the use of AI in the creative process. It is a production of human and artificial intelligence. It is appreciated that artists use AI in an innovative way. However, there are important points to consider. Those are to reflect different points of view, promote justice and follow ethical standards in data use when using artificial intelligence.

References

Anadol, R. (2024). Refik Anadol. Refik Anadol. https://refikanadol.com/

Bengi, S. I., & Akalın, A. (2019, 4). Bernard Tschumi ve "Olay Mimarlık". Online Journal of Art and Design, 27-28.

Cemile Zeynep Eryılmaz. (2024, July 14). REFİK ANADOL, YAPAY ZEKA ve JACKSON POLLOCK. YouTube. https://www.youtube.com/watch?v=uKo95P9h7PE&list=TLGGOmQ4zi8dRuUyMTAzMjAyNQ

Çelenk, A., & Açıcı, F. K. (2022). TASARIMDA YENİ YAKLAŞIMLAR: REFİK ANADOL VE MAKİNE HATIRALARI New Approaches to Design: Refik Anadol and Machine Memoirs. 78–84. https://doi.org/10.34189/asd.2022.17.005

Dani Di Placido. (2023, December 30). The Problem With AI-Generated Art, Explained. Forbes. https://www.forbes.com/

Garcia, M. B. (2024). The Paradox of Artificial Creativity: Challenges and Opportunities of Generative AI Artistry. Creativity Research Journal, 6–9, 11. https://doi.org/10.1080/10400419.2024.2354622

KÖSE, Ö., & ÇINAR, S. (2021). DİJİTAL KURULUMLAR VE ETKİLEŞİMLİ MEKANLAR. Art-e Sanat Dergisi, 14(27), 228–233. https://doi.org/10.21602/sduarte.883648

Kwon, M. (2002). One Place After Another-Site-Spesific Art and Loational Identitiy, London: The Mit Press.

McCarthy, M. L. (2024). Machine Hallucinations and AI Expectations: The Possibility of AI as the Newest Medium of Art (pp. 16–18, 20–22, 26–27) [Bachelor of Arts in Art History].

Shuying Hong. Bernard Tschumi's Research on "Event Architecture" and Its Design Strategy. Frontiers in Art Research (2020) Vol. 2 Issue 7: 40 https://doi.org/10.25236/FAR.2020.020705.

Yerce, N. E. (2007). Enstalasyon ve Mekân, Yayımlanmamış Yüksek Lisans Tezi, İstanbul: İstanbul Üniversitesi, Fen Bilimleri Enstitüsü

 Visual Resources

Image 1 Anadol, R. (2021). Machine Memoirs: Space An experiential interior formed by the reflection of digital memories to the space. [Online image]. In Refik Anadol Studio. https://refikanadol.com/works/machine-memoirs-space/

Image 2 Anadol, R. (2021). Machine Memoirs: Space a dynamic interior where stillness is replaced by a fluid experience. [Online image]. In Refik Anadol Studio. https://refikanadol.com/works/machine-memoirs-space/

Image 3 Anadol, R. (2019). Machine Hallucination — NYC the space transforms a dynamic structure that is constantly changing with visual projections. [Online image]. In Refik Anadol Studio. https://refikanadol.com/works/machine-hallucination-nyc/

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Image 7 Gerhardt, R. (2022). Machine Hallucinations— at MoMA. AI explores dreams, hallucinations and irrationality. [Online image]. In Artam. https://artam.com/makaleler/sergiler/refik-anadolun-moma-cikartmasi

FAILING WELL: RETRO TREND

Engin Berke YÜCEL, Asst. Prof. Dr. Elif KOCABIYIK SAVASTA

Note. Retro does not mean old; it is a design trend. Image of Volkswagen New Beetle. [Automoli. (n.d.). Teknik veriler Volkswagen NEW Beetle (9C). https://www.automoli.com/tr/vehicles/volkswagen/beetle/new-beetle-9c-1886/]the space. (Anadol, 2021)

FAILING WELL: RETRO TREND

Abstract: Retro design trend offers a nostalgic experience by bringing the aesthetic and functional elements of the past to the present and enables the development of different approaches in product design. We can see the depiction of the past and how life was lived in old products. The purpose of this research is to examine products that have previously failed but have become successful by using the gains they gained from this failure. Retro is one of the popular design trends of today. ''Is it possible to go from defeat to victory? What are the methods and examples of this?'' is the design research problem of this paper. Relationship between product design and the retro trend was explained with concrete examples based on the theme of failing well. Ultimately, a product's success in retro design is driven by its ability to engage users and the effectiveness of its marketing strategy.

Keywords: Trend Forecasting, Retro Trend, Design Language, Fail, Succes

1. Introduction

Retro design trend offers a nostalgic experience by bringing the aesthetic and functional elements of the past to the present and also enables development of different approaches in modern product design. When designing a new product, if the designer wants to look back and reflect on the past, the designer must make sure that the product caries traces of the past. We can see the depiction of the past and how life was lived in old products. The purpose of this research is to examine products that have previously failed but have become successful by using the gains they gained from this failure. A person who learns to turn failure into an advantage can be prepared for failure. This foresight is important in the product design market. Thanks to this foresight, the investments to be made, the production methods to be used and how products are designed would be determined to be in a more advantageous position in the market. ''Is it possible to go from defeat to victory? What are the methods and examples of this?'' is the design research problem of this paper.

2. General Overview of Trends and Trend Forecasting

In this section, importance of having an idea about trends and where they might evolve was explained and examples were given. The main topic, retro trend, was also introduced.

2.1. What is Trend?

We can define the term of trend as ''A general development or change in a situation or in the way that people are behaving'' (Cambridge Dictionary,) ("Trend," n.d.).

The concept of trend is a very broad concept. It can be used in almost every subject. At the same time, it is possible to observe trends since very old times in human history. As Meinhold and Irons (2013) states that it is possible to show in human history – prior to the democratization of luxury in clothing – trends and tendencies in the form of phases as far back as the Paleolithic Age.

The concept of trend varies from sector to sector. To give an example from fashion industry, trends in fashion can even change from season to season. Especially with the help of social media, they can change faster now. A trend that emerges thanks to social media can suddenly end the popularity of previous trend. Also, although this is not our topic, this rapid change also negatively affects our environment.

There is a concept called microtrend in fashion industry. It can be defined as "Microtrends are trends in fashion that rise to the top incredibly fast but fall even faster." (Morris, 2021)

In short, impact and lifespan of every trend may not be the same, some trends may resurface while others may be forgotten by people. Lifespan, impact and rebirth of a trend also depend on sector.

2.2. Trend Examples

For example, futurism trend, which reflects products and designs of future, can be given as an example of a trend. Futurism trend refers to a style that embodies forward-thinking aesthetics and concepts, often characterized by innovation, advanced technology, and imaginative elements. It aims to create a vision of what future might look like, both in terms of form and function.

Elon Musk expressed his opinion about futuristic products at the "We, Robot" event held at Warner Bros. Studios in California by saying, "The future should look like the future." (Musk, 2024).

Of course, Tesla Inc.'s designs have always been a subject of debate. However, company's products reveal their innovative approach with their appearance and features. See Figure 1 below to examine the example.

Figure 1. Futuristic autonomous van of Tesla Inc. Company (Aslan, 2024)

2.2.1. Retro Trend Definition

Term trend is discussed, its definition and history by using resources. Next, briefly discussing what retro trend is. First of all, if we look at dictionary definition, retro means ''Looking or sounding like something from the past.'' (Cambridge Dictionary,) ("Retro," n.d.). Term itself originates from the Latin word retro, which means "backward" or "in a past direction." This etymological background emphasizes that retro design is not simply about age or antiquity; rather, it deliberately evokes style and aesthetics of past eras without being synonymous with merely being "old." (Online Etymology Dictionary,) (''Retro,'' n.d.).

Volkswagen Beetle is one of the most iconic vehicles in history, which Volkswagen started producing in 1938. This product is an old product. See Figure 2 below to examine the example.

Figure 2. Volkswagen Beetle ("Volkswagen New Beetle," n.d.)

The Volkswagen New Beetle is a redesign of this iconic car according to its design, origins and current design rules. Retro trend is defined as such. In other words, just because a product is old does not make it suitable for retro trend. Redesigning it while adhering to an old origin can make it suitable for retro trend. See Figure 3 below to examine the example.

Figure 3. Volkswagen New Beetle
("Volkswagen New Beetle," n.d.)

2.3. Trend Forecasting Examples

Trend forecasting is process of using market research and consumer data to create predictions about customers' future buying habits and preferences. Trend forecasting provides designers with foresight that may help them design an item that their target audience likes and purchases. This means trend forecasting is actually a qualitative (''Trend Forecasting: What It Is and How to Use It (With Tips),'' n.d.).

There are two main types: short-term forecasting and long-term forecasting. Short-term forecasting is done to predict the future in less than 2 years. Long-term forecasting is done to predict cultural changes in the future in more than 2 years (''Fashion Careers: Guide to Fashion Trending Forecasting,'' n.d.).

There is another very important thing that affects trends and trend forecasting today: Technology. ''The data indicate that nature of fashion forecasting industry has changed dramatically in recent years; there have been a number of factors involved in this process of change. The key driver seems to have been the impact of technology. Technological innovations have changed the way in which information is exchanged, they have speeded up the process of information exchange and this has created a new culture and a more diverse market place.'' (Gaimster, 2012)

So, what should be taken into consideration when doing trend forecasting on a trend? What are subtleties of this work? ''First, to establish a complete baseline of historical data it is useful to do evolutionary analysis not only of basic silhouettes and shapes (e.g., Carman 1966, Weeden 1977) but also on trends in colors, fabric, and design details of specific objects (e.g., Turnbaugh 1979). In this manner the historical evolution of specific objects would be more completely documented, providing a more comprehensive framework for product planning and forecasting.'' (Sproles, 1981).

2.4. Trend Forecasting Methods and Tools

First of all, economists and business experts have different methods on this subject. They are interested in numbers. They work on how much a certain trend has sold in which years, how long it has maintained its position in market and potential sales numbers. However, for designers, situation is different. What is important for designers is to understand a trend. In order to have this understanding, designers may need to look at the origin of trend, its development and change, its current application and its implementers. This understanding requires qualitative research and is linked to forecasting methodologies.

3. Retro Trend in Design

The retro trend offers a nostalgic experience by bringing aesthetic and functional elements of the past to present just like a bridge. Inspired by design trends from past and added to them with modern sensibilities, something both nostalgic and fresh is created. Retro design is known for its bold color palettes, often featuring shades that scream the '60s or '70s. Patterns are big here too. Also think geometric shapes and psychedelic swirls. We can see bold color palettes and geometric shapes in 60s car designs. (''Retro Design Trends: Rewind to the 60s, 70s and 80s,'' n.d.).

In service sector, retro design is seen especially in decoration products in restaurants and hotels. Yasemin Çelik Kamalı (2019) completed a PhD thesis about İzmir City Hotels and the results showed that the most important soft innovation indicator in boutique hotels is decoration. Retro products are one of the most important part of design and decoration.

Of course, the interpretation and application of retro trend may differ in each sector or design field. To give an example from another field, in the field of fashion design, ''For instance, looking at the retro-fashion trend, key elements such as crafting, style revivals in designer-wear, and second-hand fashion might represent potentially different points of origin, but together they contribute to the same trend by forming a relational alliance'' (Mackinney-Valentin, 2013).

Retro trend products are designed by companies that embrace retro trend today. Other companies do not do this very often. For example, Arçelik Retro Buzdolabı, which was released by Arçelik for its 50th anniversary, can be an example of this. Arçelik does not frequently release retro products. In 2005, they released 2 (two) retro refrigerator models, one double-door and one single-door, to celebrate their 50th anniversary. See Figure 4 below to examine the example.

Figure 4. Arçelik Retro Buzdolabı 1955 K (''Arçelik`le buzdolabında 50 yıllık nostalji,'' 2005)

4. How to Fail Well, Retro Trend Product Examples

Polaroid made a name for itself with its photography technology in late 20th century. However, as digital cameras became more widespread, users began to look for quick and practical digital solutions, making it difficult for Polaroid to compete. Due to increasing competition, rapid market transformation and inability to adapt to innovations, company went bankrupt in 2001.

To touch upon the reasons why this failure turned into success:

•   Retro Nostalgia and Brand Value: Restructured as "Polaroid Originals" in 2017, the brand began to offer an analog, tangible, instant photography experience to today's users, bringing the textural and emotional values of the past to the forefront.

•   New Marketing Approach: Despite the monotony of the digital age, the "instant magic" and nostalgic effect of physical photography has become a powerful communication tool. Thus, it reached cult status, especially among the younger generation and retro enthusiasts.

See Figure 5 below to examine the example.

Figure 5. Polaroid ONE STEP 600 Instant Camera (''Polaroid Originals - 4715-600 One Step Close up anında fotoğraf makinesi - Siyah,'' 2005)

In 1985, Coca-Cola changed its formula for the first time in 99 years and launched a new version called "New Coke". The aim was to prevent Pepsi from gaining market share. However, consumers reacted strongly to the change in taste of original Coca-Cola. ''Not for long they didn't, for company switchboards were soon drowning in a torrent of as many as 8,000 calls a day from irate consumers suddenly deprived of the dependable drink that had always suited them just fine.'' (Cobb, 2019)

Coca-Cola quickly backed down from consumer feedback and brought back the original formula under the name "Coca-Cola Classic". The "New Coke" fiasco paradoxically strengthened the Coca-Cola brand. Demonstrated consumers' emotional attachment to the brand and the value of the original formula.

To touch upon the reasons why New Coke failed.

• Consumer Reaction: Crowded fans of the original formula showed anger. The emotional and nostalgic connection was broken.

• Marketing Failure: Consumer research was inadequate. It was assumed that taste would be liked, but emotional connection was not taken into account.

• Conflict with Brand Identity: Coca-Cola had a "classic", "traditional" brand image, but the formula change contradicted this image.

How New Coke turned into advantage:

• Confirmed Brand Loyalty: Consumer reaction showed strong brand loyalty to original formula.

• Public Relations and Crisis Management: Rapid stepping back and bringing back "Coca-Cola Classic" showed that the crisis was managed successfully.

• Marketing Lesson: The "New Coke" incident remained an important lesson in the marketing world. It emphasized the importance of consumer emotions and brand value.

See Figure 6 below to examine the example.

Figure 6. New Coke (From the archive: Coca-Cola changes its formula – April 1985,'' 2019)anında fotoğraf makinesi - Siyah,'' 2005)

5. Conclusion

As a result, we can say that primary methods of turning failure into success are understanding potential users and marketing. For example, if we look at the Polaroid Originals example, we can say that although a product with similar features failed years ago, it achieved success by correctly understanding users and re-launching a product that meets their demands at right time. In short, design and marketing strategies should be created by correctly understanding users' needs and market conditions.

Reference List:

Bigpara. (2005, August 02). Arçelik`le buzdolabında 50 yıllık nostalji. Hürriyet Gazetesi. https://bigpara.hurriyet.com.tr/haberler/genel-haberler/arcelik-le-buzdolabinda-50-yillik-nostalji_ID529891/

Cambridge University. (n.d.). Retro. In dictionary.cambridge.org. Retrieved March 13, 2025, from https://dictionary.cambridge.org/dictionary/english-turkish/retro

Cambridge University. (n.d.). Trend. In dictionary.cambridge.org. Retrieved March 13, 2025, from https://dictionary.cambridge.org/dictionary/english-turkish/trend

Cobb, J. C. (2015 July 10). What We Can Learn From Coca-Cola's Biggest Blunder. Time. https://time.com/3950205/new-coke-history-america/

Çelik Kamalı, Y. (2019). Soft Innovation Indicators In Hospitality Industry: A Research In Izmir City Hotels (YÖK ID No. 10296982) [Doctoral dissertation, Yaşar University] Ulusal Tez Merkezi

Fashion Retail Academy. (n.d.). Fashion Careers: Guide to Fashion Trending Forecasting. https://www.fashionretailacademy.ac.uk/resources/guide-to-fashion-trend-forecasting

White, M. (2019, April 25). From the archive: Coca-Cola changes its formula – April 1985. The Guardian. https://www.theguardian.com/business/2019/apr/25/coca-cola-new-coke-formula-1985

Gaimster, J. (2012). The changing landscape of fashion forecasting. International Journal of Fashion Design, Technology and Education, 5(3), 169–178. https://doi.org/10.1080/17543266.2012.689014

Indeed. (2025, March 4). Trend Forecasting: What It Is and How To Use It (With Tips). https://www.indeed.com/career-advice/career-development/what-is-trend-forecasting

Mackinney-Valentin, M. (2013). Trend Mechanisms in Contemporary Fashion. Design Issues, 29(1), 67–78. http://www.jstor.org/stable/24267103

Meinhold, R., & Irons, J. (2013). A critical inquiry into fashion. In Fashion Myths: A Cultural Critique (translated by John Irons) (pp. 9–36). Transcript Verlag. http://www.jstor.org/stable/j.ctv1xxspz.3

Morris, A. (2021, October 1). The dark truth behind fast fashion and microtrends. The Argus, Illinois Wesleyan University, pp. 3. https://www.jstor.org/stable/community.36507093

Online Etymology Dictionary. (n.d.). Retro. In https://www.etymonline.com. Retrieved April 15, 2025, from https://www.etymonline.com/word/retro-

Popphoto. (2021, April 14) Polaroid Originals releases a limited edition "Stranger Things" Upside Down camera. https://www.popphoto.com/polaroid-originals-limited-edition-stranger-things-upside-down-camera/

Volkswagen Beetle (2024, July 1) In Wikipedia https://tr.wikipedia.org/wiki/Volkswagen_Beetle
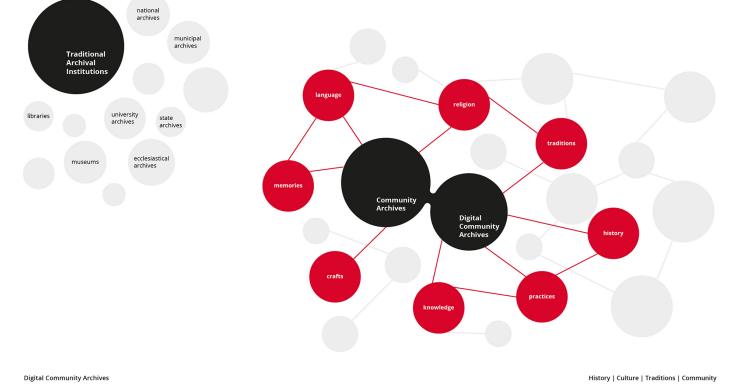
Volkswagen Beetle (2025, January 9) In Wikipedia https://tr.wikipedia.org/wiki/Volkswagen_New_Beetle

Webmasto. (2024, October 11). Elon Musk otonom yolcu minibüsü Tesla Robovan'ı tanıttı. https://webmasto.com/elon-musk-otonom-yolcu-minibusu-tesla-robovani-tanitti

Rethinking Digital Community Archives: Examining the Role of Design in Addressing Challenges and Opportunities

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Community Archives

Traditional Archival Institutions

national archives

municipal archives

libraries

university archives

state archives

museums

ecclesiastical archives

language

religion

traditions

memories

Community Archives

Digital Community Archives

history

crafts

knowledge

practices

Digital Community Archives

History | Culture | Traditions | Community

Digital Community Archives.
Virtual venues where the historical and cultural legacy, as well as the collective memory of a group, are preserved. Born outside traditional archival institutions, these archives fulfill three primary purposes by including the history, culture, customs, and ancestral knowledge of a community: they represent, preserve, and help maintain the cultural identity of that community.
Source: Created by the author, 2025.

Rethinking Digital Community Archives: Examining the Role of Design in Addressing Challenges and Opportunities.

Abstract

This paper presents the evolution of a research project analysing the function of design in the establishment of digital community archives, conceived as tools for the conservation, preservation, enhancement, and accessibility of the cultural heritage belonging to minority communities. With an eye toward participatory design strategies and data visualisation to increase accessibility and user experience, the study examines the transition of these archives from simple repositories to interactive platforms. Under a Research through Design approach, the study aims to propose guidelines for the design of graphical interfaces and interactive tools for the development of inclusive and dynamic digital community archives, thereby promoting active community involvement. Finally, future perspectives and challenges related to the integration of emerging technologies are discussed.

Keywords: Minority communities, Graphical interfaces, data visualisation, participatory design, digital community archives.

1. Introduction

In recent years, the debate on cultural heritage has benefited much from the influence of digital technologies, opening new perspectives for design as a tool for strengthening Cultural Heritage. Beyond the concept of cultural assets as exclusively tangible heritage, the term "heritage" encompasses intangible and immaterial expressions described by UNESCO as "Living Cultural Heritage." These "living human treasures" include ancient knowledge, practices, rituals, cultural expressions, as well as the oral traditions of a community, along with the places and human landscapes that host them (UNESCO, 2003). From this perspective, cultural heritage is a dynamic reality to be promoted and enriched rather than a fixed reality to be preserved.

In this context, digital archives have become even more relevant in the methods and practices of preservation, conservation, enhancement, and access to cultural heritage. From simple content repositories into interactive platforms capable of actively engaging end users, they have experienced a significant transformation. From this angle, design plays a crucial role in enabling these archives to be tools for participation and sharing as well as for preservation.

The results of an ongoing research project aiming at developing guidelines for the design of digital community archives - virtual environments preserving the history, culture, traditions, and historical knowledge of a community - are presented in this paper. Focus is on participatory design techniques and the use of data visualisation and information design tools to improve user experience. The main goal is to offer solutions that not only enable access to digital collections but also support their study, therefore promoting active engagement between users and materials.

This research contributes to the larger discussion on the role design can play in enhancing digital cultural heritage as well as on the necessity of creating inclusive and accessible tools.

The study aims to demonstrate how design can improve not only the usability but also the social value of digital community archives, transforming them into dynamic spaces for learning and interaction.

2. Community Archives

Early in the 20th century, the term "community archives" first emerged to refer to a non-traditional archival collection especially linked to a community – often one whose cultural heritage, both tangible and intangible, had previously been minimally or not at all recorded by archival institutions (Bastian & Flinn, 2019).

Community Archives are defined by the Society of American Archivists as "documentation of a group of people that share common interests, and social, cultural and historical heritage, usually created by members of the group being documented and maintained outside of traditional archives" (Society of American Archivists, 2005–2022). These archives are typically established and managed by the communities themselves, operating independently from traditional archival institutions — namely, entities historically responsible for the preservation, management, and accessibility of records and archival materials, such as museums, libraries, national, municipal, ecclesiastical, and university archives, only by way of example.

Whether ethnic, linguistic, religious, or otherwise, digital community archives today act as virtual venues where the historical and cultural legacy as well as the collective memory of a group are kept. These

archives fulfil three primary purposes by including the history, culture, customs, and ancestral knowledge of a community: they represent, preserve, and help maintain the cultural identity of the community.

From this perspective, digital community archives are effective instruments for safeguarding and protecting minority groups' cultural legacy. However, their success depends on their ability to actively engage the communities themselves.

Active user participation in the design process can greatly improve the user experience, as confirmed by traditions of participatory design and interface design. Design-wise, the evolution of visual interfaces for digital archives has often been approached from the user experience standpoint, with an emphasis on ergonomics and accessibility. However, in recent years, the approach has moved towards a more participatory paradigm in which users co-create content and metadata rather than being passive consumers (Profeta, 2020).

Rooted in human-centered design and focused on the active engagement of users in the design process, when participatory design is applied to digital community archives, this method leads to the co-design of interfaces and visualisation tools that reflect users' requirements and expectations (Sanders & Stappers, 2008).

Visual interfaces play a crucial role in accessing digital archives. Traditional digital archive interfaces rely primarily on text-based search models, which can be unintuitive for non-expert users (Whitelaw, 2013).

Research in data visualisation in this context suggests that the user experience can be significantly improved by integrating visual tools such as dynamic visualisations, interactive maps, timelines, semantic networks, and advanced search tools. Indeed, data visualization can facilitate information interpretation and foster new forms of interaction with the materials housed within digital archives. This research thus contributes to a wider debate on the need to move beyond the paradigm of the static archive, embracing more dynamic and interactive solutions.

3. Research Methodology

This study adopts a Research through Design (RtD) approach, a design research methodology in which the design process itself serves as both a means of investigation and a tool for knowledge production. Creation of artefacts, prototypes, or experiences – which serve as tools for investigation and critical analysis – generates knowledge.

Following a qualitative methodology, an in-depth literature review and stakeholder mapping in the first phase of the research helped to grasp their demands and interaction dynamics with community digital archives. Direct interaction with archivists and community representatives under semi-structured interviews, focus groups, workshops, and usability testing comprised this phase. Gathering user demands and their ways of interacting with digital community archives was the main goal.

The prototype of graphical interfaces for a digital community archives meant to preserve and enhance the cultural and historical heritage of one of Italy's biggest ethnolinguistic minorities, the Arbëreshë community, will be one of the main results of this research. Originally from Albania, the Arbëreshë arrived in Italy in the late 15th century after the Balkan migration brought about by Ottoman expansion. Maintaining a strong cultural and linguistic identity, approximately fifty Arbëreshë communities are scattered over southern Italy nowadays. The research will especially concentrate on the Arbëreshë population in the Sicilian region, which spans five municipalities and possesses a vast tangible and intangible cultural heritage.

The research methodology has so far been structured into several phases, with additional stages currently being defined:

1. Comparative analysis. An analysis of existing digital community archives to identify best practices and challenges related to user interfaces, data visualization, archival material classification. Through the comparison of current systems, it was possible to identify successful approaches to enhance interaction, navigation, and data representation.

2. Stakeholder and needs analysis. Gathering qualitative data through interviews and questionnaires targeted at two primary stakeholder groups:

a.   specialised personnel such as archivists, librarians and cultural heritage experts employed in research, study, or preservation and promotion of digitalised cultural heritage.

b.   local archive and specialised centre personnel comprise the Eparchy's archive as well as the Greek-

Albanian Seminary of Piana degli Albanesi in Sicily.

The aim is to gather knowledge on the contents of the archive, the preservation and classification schemes in place, and insights for the development of the digital community archives prototype.

3. Co-design workshops. Involving several players – archivists, local community representatives, interaction designers – to collect feedback on user needs and expectations.

4. Development of prototypes. Design of graphical interface prototypes for a digital community archive, inspired by the literature review, the comparative analysis of previous archives, and data acquired from interviews, focus groups, and stakeholder workshops.

5. Usability testing. Evaluation of proposed solutions through testing with a group of users – archivists, local community representatives, and interaction design professionals – to assess the effectiveness and usability of the developed interfaces.

6. Feedback gathering and iteration. Data collecting and analysis combined with progressive improvement of design principles grounded on usability testing.

Through this research strategy, the project aims to establish a set of guiding principles for the design of digital community archives focused on participation and accessibility, while also identifying design solutions that can be adopted across different archival contexts.

4. Evolution of the Research Project

The research thus far has shown that two primary elements determine the effectiveness of a community archive: the degree of involvement of the groups under study as well as the quality of the visual interface and the visualisation tools supplied.

For this reason, the main research output guidelines will concentrate on two main aspects: designing efficient interactive tools for digital community archives and optimising the visual interface.

More especially, these criteria must consider and combine the following requirements:

1. Clarity and simplicity of the interface: an improved search functionality, advanced filtering options, and a well-organised knowledge display.

2. Interactive tools: dynamic visualisations and interactive maps of the collections that let visitors investigate archives via thematic routes. Additionally, semantic networks to analyse relationships between documents and authors, as well as interactive timelines that enable chronological navigation through archival content.

3. Active community engagement and co-creation: direct user contributions are encouraged employing cooperative tools including annotations, tags, and comments.

4. Personalization of the experience: implementation of tools that let users save research paths, arrange and annotate content in a personalized style, and build private collections will help to customize the experience.

5. Accessibility and usability: Design must incorporate digital accessibility concepts to ensure inclusion for people with varying capabilities. This covers responsive design, support of several interaction modalities (textual, visual, and audio), and following web accessibility requirements (WCAG).

5. Future Perspectives for the Design of Digital Community Archives

Guidelines for the design of digital community archives aim to change the user experience of digital archives. A participatory archive is a venue for engagement and shared learning as much as a storehouse of knowledge. Through co-design tools, users actively contribute to enhancing digital collections rather than being passive consumers.

Furthermore, these techniques can be applied in many different settings, from digitized art collections to historical archives. New interfaces and interactive technologies also facilitate researchers, teachers, and those interested in cultural history to thoroughly explore collections, therefore benefiting them all.

However, several challenges remain, such as ensuring the long-term sustainability of projects and integrating new solutions with existing platforms. Future viewpoints include the integration of developing technologies, including augmented reality and artificial intelligence, to improve content categorisation and further enrich interaction within community archives.

6. Conclusions

This research project aims to demonstrate how design and data visualisation can play a key role in the design of digital community archives, transforming them into interactive resources.

The guidelines to be developed aim to give designers and cultural institutions and organisations, motivated in improving the user experience and supporting participatory activities, a reference framework. The chosen research strategy emphasises the important role design plays in digital innovation and the success interactive technologies have in enabling access to and study of digitalised cultural heritage.

Future developments may investigate the integration of developing technologies, such as artificial intelligence and augmented reality, to further increase user involvement and interaction with digital archives.

References

Bastian, J., & Alexander, B. (eds.). (2009). Community Archives: The Shaping of Memory. Facet Publishing.

Bastian, J., & Flinn, A. (2019). Community Archives, Community Spaces: Heritage, Memory and Identity. Facet Publishing.

Bastian J. (2023). Archiving Cultures: Heritage, community and the making of records and memory. Facet Publishing.

Bradley, K., & Puri, A. (2016). Creating an oral history archive: Digital opportunities and ethical issues. Australian Historical Studies 47(1), 75–91, https://doi.org/10.1080/1031461X.2015.1122072

Copeland, A. J. (2014). Community Archives. In Hastings, S.K. (eds.), Annual review of culture heritage informatics (pp. 85-98). Rowman & Littlefield.

Profeta G. (2020). Displaying open cultural collections. Design guidelines for cultural content aggregators. Tesi di dottorato. Politecnico di Milano.

Sanders, E. B. N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. CoDesign, 4(1), 5–18. https://doi.org/10.1080/15710880701875068

Society of American Archivists (2005-2022). Dictionary of archives termnology, https://dictionary.archivists.org

UNESCO. (2003). Convention for the Safeguarding of the Intangible Cultural Heritage. https://www.unesco.it/wp-content/uploads/2023/11/Convenzione-Patrimonio-Immateriale_ITA-2.pdf

Whitelaw, M. (2009). Visualising Archival Collections: the Visible Archive project. Archives & Manuscripts 37(2), 22–40.

Whitelaw, M. (2013). Towards Generous Interfaces for Archival Collections. International Council on Archives Congress 2012.

Whitelaw, M. (2015). Generous Interfaces for Digital Cultural Collections. Digital Humanities Quarterly 9(1).

Whitelaw, M. (2016). Representing Digital Collections. In Carlin, D., Vaughan, L., (eds.), Performing Digital, Multiple Perspectives on a Living Archive, 97–116, Routledge.

Empowering Women Through Design: The Visual Representation of Turkish Women in the Digital World

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Initial Image. The collage designed by the author features the Turkish women after the declaration of the Turkish Republic and Mustafa Kemal Atatürk.

Empowering Women Through Design:
The Visual Representation of Turkish Women in the Digital World

Empowering women is a collective responsibility for equality and a better future, and needs significant spotlight through design. Although it is an age of fruitful discussions of representation, currently there exist obstacles against women's visual voices in the design field. Starting with access to quality education and academic success, resulting in fulfilling careers and financial independence are major for women's empowerment. However, not all women have the opportunity to become self-sufficient due to various socio-economic and cultural factors. In this context, being exposed to powerful and inspirational women characters as role models can have a positive impact on empowering not only women, but also stronger communities in general. As powerful and inspirational characters, the pioneer women of the Turkish Republic carry a particular defining character. These women are inspirational since they were the first women in their professional fields and courageously embracing the opportunities brought by the new regime of our country, the republic. Therefore, their legacy is deeply significant and their representation is important for inspiring future generations and fostering women's empowerment. However, it is observed that the visual memory and visual representation of these women are not strong enough in today's digital world. The lack of a qualified visual archive limits the women's visibility and their possible impact. The inadequacy of visual representation causes perceptions of women's social roles to remain within a narrow framework. For this reason, the production of women's visual representation in the digital environment should be carefully reconsidered. This article examines the current visual representations of the pioneer women of the Turkish Republic in the digital world from the perspective of visual communication design. By discussing visual content on the internet, the study aims to reveal why existing visual representations need improvement and means by which this may be realized. It is anticipated that designers' greater contributions to this subject will help create visual narratives that will strengthen women's place in the collective memory and inspire future generations.

Keywords: pioneer women, visual representation, visual communication design, digital world, women's empowerment

The pioneer women of the Turkish Republic made great contributions to the consolidation of the republic as a newly established regime after the Ottoman Empire and built the republican woman identity. Therefore, they are remarkable characters who represent women's empowerment in our country with their deeply significant legacy for inspiring future generations. However, it is observed that the visual memory and visual representation of these women are not strong enough in today's digital world. Thus, the question arises: Does the visual representation of the pioneer women of the Turkish Republic in the digital world fail from the perspective of visual communication design? This article discusses the importance of the subject in the first section by giving the historical background of gender roles and women's rights in our country, then discusses the lack of a high-quality visual archive on the subject, the visual representation of the pioneer women of the Turkish Republic in the digital world over selected examples for the study and the designer's possible contributions.

Being A Woman in Türkiye

This article is written from the perspective of a young woman designer and academic. Today, there are still challenges faced by women that reflect the gender roles. Britannica defines gender roles as a culturally and socially determined set of expected behaviors, attitudes, and characteristics based on concepts of masculinity and femininity (Payne, 2025). The academic study of gender, triggered by second-wave feminism which developed a critique of gender inequalities in both personal relationships and social positioning (Pilcher & Whelehan, 2004). Before the foundation of the Turkish Republic (October 29th, 1923), gender inequalities -in both personal relationships and social positioning- were rooted in our country. After the First World War (1914-1918) and our War of Independence (1918-1922), the Ottoman Empire collapsed and the sultanate was abolished on November 1st, 1922. Therefore, on October 29th, 1923 our great leader Mustafa Kemal Atatürk proclaimed the new regime as a republic in the Grand National Assembly of Türkiye which was founded during the war period in 1920. Following the declaration, many social and political reforms were carried out to promote the development and progress of the Turkish Republic. Mustafa Kemal Atürk was a leader who strongly cared about women's rights and acted for them as it is seen in the photograph below (See Image 1).

Image 1. The photograph taken when Mustafa Kemal Atatürk was leaving İzmir Girls' High School after his visit in 1931.

Özlem Özdemir states that before the republic was founded by Mustafa Kemal in 1923, women had no rights and our great leader changed this. Social rights were provided to women, who had no place in society and were not even wanted to go out before the republic was founded. Before many Western countries, the Turkish Civil Code (1926) provided Turkish women the rights of divorce, custody, and inheritance with the obligation of official marriage. However, previously, only the men made decisions about women's lives (Özdemir, 2023) Additionally, Hanri Benazus states that before the Turkish Republic was founded, even women leaving the house was subject to some despotic rules imposed by men. With the declaration of the Republic, stage by stage, women seem to have gained some freedom (Benazus, 2008). Atatürk wanted women and men to be accepted as two genders with the same rights and responsibilities in life and he explained his ideas on this subject, which he expressed in many of his speeches, with the following words (Alacı, 2023):

"If a nation does not walk together with all its men and women towards a goal, then it is unnecessary to expect any progress on the path of civilization. If one member of a social structure is passive while the other is only active, this means that the social structure is paralyzed. If our social structure has not achieved sufficient success, it is because we have neglected our women up to now and excluded them from society. In the age we live in, women should be raised to higher levels in every field, and for this reason, our women will benefit from all kinds of educational and training opportunities like men and will be able to do all kinds of professions. In social life, men and women will advance together by helping and supporting each other. We must accept the fact that everything that exists in the world is the work of women." (Mustafa Kemal Atatürk)

Between 2020 and 2023, I was involved in the project titled Millî Mücadele Günlüğü Ajandası (The Diary of National Struggle Agenda) at İzmir University of Economics as a designer. The majority of the team members in the project were women who were working as academic and administrative staff of the university. The aforementioned citation about Atatürk's words was taken from one of the articles in the agenda prepared for the year 2023 and the article titled Türk Kadını (Turkish Women) was written by a woman academic, Assoc. Prof. Beral Alacı. This case regarding the agenda work is an example of how Turkish women have come a long way and achieved a lot in the first century of the Republic. The character of the republican woman was formed thanks to the reforms made with Atatürk's vision to ensure that women have equal rights with men; can go to school and choose the profession they want (Özdemir, 2023) and these are the essentials of the republican woman character. However, the dilemma over women and women's issues continues with its strongest effects (Benazus, 2008). For this reason, the more the young generation is exposed to strong female figures such as the pioneer women of the Turkish Republic through the most common media they use, it is possible to overcome women's issues. The visual representation of women should be reconsidered because it can affect what individuals think and how individuals act resulting in inspiring the young generation for women's empowerment. In this section of the article, the journey of Turkish women toward women's rights was briefly introduced by explaining gender roles, the political conditions of our country in the early 20th century, the vision of Mustafa Kemal Atatürk, and the role of the republic. In the following section of the article, the definition of visual representation, the relationship between visual representation and communication, and the current visual representation of the pioneer women of the Turkish Republic in the digital world with a focus on websites are discussed.

The Visual Representation of Women

In the second part of the article, the visual representation of Turkish women will be discussed. The visual content on the internet, which creates the visual representation of Turkish women in the digital world is analyzed from the perspective of visual communication design. It is focused on the quality of the visual representation. To begin with, visual representation is a way of communicating information, emotions, and concepts which designers use representations like typography and illustration, which color, imagery, and layout are crucial for visual representation according to Interaction Design Foundation. From cave drawings to data visualization, visual representation can be seen throughout human history (Interaction Design Foundation, 2016). "A picture is worth a thousand words" is the essence of visual representation because images have the unique ability to evoke emotions, tell stories, and communicate complex ideas in an instant (Design Match, 2024). The previous statement reveals the reason why visual representation matters. Because images have the unique ability to evoke emotions, tell stories, and communicate complex ideas, it's possible to influence people through visual representations; in other words, it can be a part of mass communication and mass media. According to the cultivation theory, one of the theories of the influence of mass media and was put forward by a group of researchers called the Cultural Indicators School led by Gerbner, mass media are as effective as opinion leaders in the cultivation and lifestyles of individuals (Aydın & Çam, 2016). What is shown in the images matters for mass communication and to influence individuals because the world can be learned from the figures, the faces, the gestures, the settings, the actions that are observed in images. Roland Barthes, French essayist and critic whose writings on semiotics (Britannica, 2019) believed that photographs were a kind of education because they helped us visualize good historical scenes (Media Studies, 2022) as an example of visual representation. Therefore, individuals are influenced by what is produced and designed for mass media communication as Roland Barthes believed. Visual representation as a production of design practice is important for influencing individuals through mass communication.

Today, digital technologies are widely used by the masses for communication purposes. As a product of digital technologies, internet serve as a means of mass communication tool. For this reason, the content communicated through websites and the way how the content is visually communicated matter in shaping the opinions of individuals. Visual representation on websites may help as an effective tool for influencing individuals who take the opportunity of the digital world to create positive change. Hence, within the frame of this study, the current visual representation of the pioneer women of the Turkish Republic in the digital world is discussed to create a positive impact on women's empowerment by focusing on analyzing the websites from the perspective of visual communication design. First of all, when the content was searched on the internet about the pioneer women of the Turkish Republic it was observed that the information about who they are and the visual information about them regarding how they are visually represented are quite dispersed among different websites which are not directly related with the subject. Therefore, it can be said that we are missing a qualified visual archive that provides information on such a remarkable issue for us as women and the Turkish Republic. The lack of a high-quality visual archive in the digital world creates a void in the visual representation of such powerful women who will possibly influence people with their stories to be successful. In terms of visual representation, currently, photographs can be found on the Internet but the existing visual material about these pioneer women is quite limited. Since images are powerful in conveying messages and influencing people, exhibiting various photographs with educational and professional themes of the pioneer women in a high-quality visual archive format will contribute to the visual representation of the pioneer women notably. However, under current circumstances, the way the subject is communicated on the Internet is not efficient enough from the perspective of visual communication design.

Visual communication design has three important criteria for conveying the message successfully. What is designed should be eye-catching, effective, and engaging for successful visual communication design. At this point, the impact of the current visual representation of the pioneer women of the Turkish Republic can be reconsidered within these criteria. For this study, four different websites were selected to discuss the current visual representation of the pioneer women of the Turkish Republic in the digital world. The websites are selected according to their functional structure. Two of them are digital newspapers, Cumhuriyet and Milliyet and the other two are digital media platforms, ListeList and Mediacat. The images below show the screenshots (See Image 2) from above the fold which is the part of a webpage that is visible without further scrolling (Lara, 2024) in other words it refers to the opening section of a webpage. The screenshots on the left were taken from newspaper websites and the ones on the right were taken from other platforms, one of them is a high-traffic digital media channel focusing on engaging and entertaining content (Listelist, no date), the other is a branding medium.
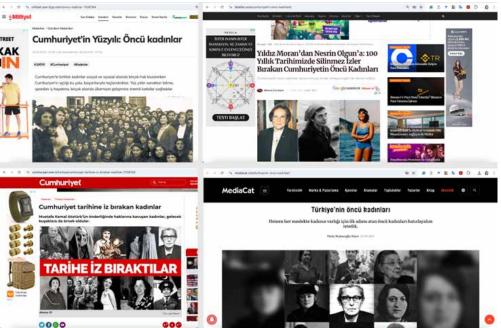
Image 2. Screenshots of the selected websites from above the fold

Barnwell states that perception affects our understanding of good and asks the question if we perceive good design as emphasizing aesthetics, form, function, profitability, and/or responsibility (Barnwell, 2011). The current visual representation of the pioneer women of the Turkish Republic in the digital world can be evaluated in terms of aesthetics, function, and responsibility considering the features of the digital environment. Designing content about the pioneer women is a responsible act for social benefit and publishing such remarkable content on a digital medium helps spread the content among more people than on a printed medium. However, it's observed that the selected examples aren't satisfactory in terms of aesthetics. Three examples (left-top, left-bottom, right-top) are quite chaotic and distracting since advertisement images pop up and other contents are displayed as small images on the web pages. Therefore, the main focus of the web page which is the pioneer women of the Turkish Republic loses power and becomes less effective with all the distractions around taking the attention. Consequently, the visual communication and representation fail. On the other hand, the Mediacat example (right-bottom) is relatively better than others with a clean design approach that helps the main focus. Yet, the quality of the visuals exhibited on the page is not good enough and their size differs which creates inconsistency in terms of the visual representation (See Image 3).
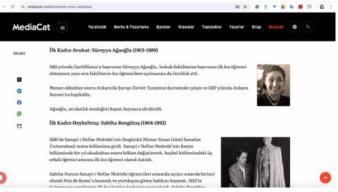
Image 3. The screenshot showing the design approach on the website

Designers structure our relationship with digital technology and make it work or fail as the interaction between computers and people is mediated by designers (Eskilson, 2023). Therefore, designers are responsible within this context. However, as it is discussed above the lack of a qualified visual archive and the current content about the subject of the pioneer women of the Turkish Republic in the digital world show that designers' interest is limited on the subject. The subject is important for the collective memory and has the potential to help progress toward women's empowerment by inspiring future generations. For this reason, the current visual representation needs the creative abilities of designers for effective communication.

The Conclusion

Women's empowerment is essential for equality and a better future. It's a collective responsibility that needs a significant spotlight through design. This study aims to point out empowering women through design with a focus on the visual representation of the pioneer women of the Turkish Republic. As powerful and inspirational characters, the pioneer women of the Turkish Republic carry a particular defining character. Their legacy is deeply significant because they were the first women in their professional fields and courageously embracing the opportunities brought with the foundation of the Turkish Republic. For this reason, their visual representation in today's digital world is meaningful for inspiring future generations and fostering women's empowerment. Unfortunately, it is observed that although there are contents representing the pioneer women on the internet, the quality is not satisfying in terms of the visual representation. The lack of a high-quality visual archive creates a gap in such a valuable subject for collective memory. The existing visual material about these pioneer women is quite limited on the Internet which results in limiting the effectiveness of their digital presence. The way the subject is presented on the selected websites for the study causes the visual communication of the subject to be less effective because of the design problems. Therefore, the visual representation fails and greater attention from designers is needed to enhance the representation through creative and impactful visual solutions.

Reference List

Aydın, D., & Çam, M. S. (2016). Bilgi Toplumu Dönüşümünde Türkiye'de Kadın Olmak. Dumlupınar Üniversitesi Sosyal Bilimler Dergisi, 224–247.

Alacı, B.(2023). Türk Kadını. Millî Mücadele Günlüğü Ajandası [Unpublished manuscript].

Barnwell, M. (2011). Design, Creativity & Culture: An Orientation to Design. Black Dog Publishing.

Benazus, H. (2010). Geçmişten Günümüze Kadınlar ve Kadınlarımız. Bizim Kitaplar.

Eskilson, S. J. (2023). Digital Design: A History. Princeton University Press.

İzmir Kız Lisesi ziyaretinin ardından okuldan çıkarken. (n.d.). In NTV. https://www.ntv.com.tr/galeri/turkiye/genelkurmay-arsivlerinden-ozel-ataturk-fotograflari,I2nSKUXpWEqXIjPfhsGX5g/1YY1_6R8kkW0S1PymxnHTg

Lara, C. (2022, September 5). Above the Fold vs. Below the Fold: Does it Matter in 2023. TheeDigital. https://www.theedigital.com/blog/fold-still-matters

ListeList. (2025). Linkedin.com. https://www.linkedin.com/company/listelist/?originalSubdomain=tr

Media Studies. (2022, October 29). Studium and Punctum | The Essence of Photography. Media Studies. https://media-studies.com/studium-and-punctum/

Özdemir, Ö. (2022). İlham Veren Cumhuriyet Kahramanları Öncü Kadınlar. Kırmızı Kedi Çocuk.

Payne, L. (2023, December 12). Gender Role. Www.britannica.com; Britannica. https://www.britannica.com/topic/gender-role

Pilcher, J., & Whelehan, I. (2004). Fifty key concepts in gender studies. Sage Publications.

The Editors of Encyclopedia Britannica. (2019). Roland Barthes | Biography & Facts. In Encyclopædia Britannica. https://www.britannica.com/biography/Roland-Gerard-Barthes

What is Visual Representation? (2016, June 4). The Interaction Design Foundation; Interaction Design Foundation. https://www.interaction-design.org/literature/topics/visual-representation?srsltid=AfmBOop31ZwTiZcn_EeGzT9hPlDmh5acrh1u1s_Tk2O8nUET7fgKgR6y

What is visual representation?» Design Match. (2024). Design Match. https://www.designmatch.io/vocabulary/what-is-visual-representation

FAILING TO GROW, GROWING TO FAIL: (SELF)REFLECTING FAILURES IN CO-DESIGNING WITH BIOBASED MATERIALS

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FAILING TO GROW, GROWING TO FAIL: (SELF)REFLECTING FAILURES IN CO-DESIGNING WITH BIOBASED MATERIALS

Abstract

Failure is an inherent part of design, yet in co-design practices that integrate human, machine, and living systems, failure takes on a complex, generative role. This paper explores failure as both a constraint and a productive force in co-design, positioning it within practice-based design research. By examining a case study where designers have engaged with non-human agents such as digital fabrication tools such as 3D printing, and biomaterials such as bacteria, this study reflects on how failure informs learning, iteration, and new material possibilities. Through the case study, this paper identifies recurring patterns of failure in co-design processes, particularly in bio-digital design practices. A central discussion revolves around three themes; intersections of agency, unpredictability, and adaptation in human-non-human collaborations. This paper contributes to the current discourse on failing well in co-design, framing it as a methodological and epistemological tool for expanding design knowledge towards a site for innovation, adaptation, and reconfiguration in co-design research.

Keywords: Co-design, 3d printing, biobased materials, design failures, Wetlab.

1.   INTRODUCTION

Failure is a constant in design, often regarded as a setback to be corrected. However, in co-design practices that bring together human designers, machines such as 3D printers, and living organisms like bacteria, fungi, or algae, failure transcends its conventional role. It becomes an essential component in understanding the intersections of agency, unpredictability, and adaptation within these human-non-human collaborations. In these practices, failure is not simply a mistake to be avoided but a valuable force that shapes design outcomes, material properties, and the dynamics of collaboration itself.

This paper explores the generative potential of failure in co-design, focusing on how the unpredictable interactions between human, machine, and biological agents create opportunities for adaptation and learning. By examining co-design in the context of bio-digital fabrication and speculative design, the paper interrogates the agency of materials and technologies, and how their unpredictability informs the design process. The discussion positions failure as a critical point where human intention, machine precision, and biological variability intersect—often in unexpected ways—forcing new adaptations in design thinking and practice.

Through a case study, this study reflects on an existing case where failure has been leveraged to foster innovation and learning within co-design. The research aims to uncover how these failures are framed, documented, and utilized, revealing the complex role they play in creating new design possibilities. By focusing on agency, unpredictability, and adaptation themes, this paper contributes to a deeper understanding of how failure can be reframed as a positive force for growth and transformation in co-design research.

2.   THEORETICAL BACKGROUND

This section explores key theoretical concepts surrounding the role of failure in co-design practices, with a particular focus on the intersections of agency, unpredictability, and adaptation in human-non-human collaborations. Drawing from existing literature in design theory, co-design, bio-digital fabrication, and material studies, the review highlights how failure functions not as a problem to be solved but as an essential element of the design process, particularly in environments where human designers, machines, and living organisms interact.

2.1. Failure as a Productive Force in Design

Traditionally, failure in design has been viewed as an obstacle to overcome or an undesirable outcome to be avoided. However, within practice-based design research, scholars such as Donald Schön (1983) have re-framed failure as an opportunity for reflection and learning. Schön's concept of "reflection-in/on-action" emphasizes that designers learn from immediate failures during the creative process, allowing them to adapt and refine their work in real-time. This perspective underscores the importance of failure as a tool for understanding and improving the design process through iteration and critical reflection.

Similarly, Tim Ingold (2013) views making as a form of thinking, suggesting that the act of engaging with materials inherently involves a negotiation between human intent and material resistance. In this view, failure is not merely an error but a part of the ongoing dialogue between the designer and the material, with

failure often signaling a new direction or an unanticipated insight. This aligns with the exploration by Howell, Desjardins and Fox (2021) of failure in design as an agent of innovation, particularly in speculative design, where failure is seen as integral to experimenting with new forms and ideas.

2.2. Co-Design and Non-Human Agency

In co-design, the roles of non-human agents—machines and living organisms—introduce new layers of unpredictability and agency. Jane Bennett's (2010) concept of vibrant matter challenges the human-centered view of design, suggesting that materials, including machines and biological elements, possess their own vitality and agency. According to Bennett, materials are not passive objects manipulated by humans but active participants in the design process. This perspective reshapes how failure is viewed: failure becomes an outcome of the interaction between multiple agents with distinct forms of agency, rather than a fault in the designer's skill or intent.

Karen Barad's (2007) theory of agential realism further expands on this idea, proposing that materials, technologies, and humans co-constitute each other in dynamic, entangled ways. For Barad, failure cannot be understood as a separate entity; it is part of the ongoing entanglement of all agents involved. When machines misprint or biomaterials mutate unpredictably, it is not solely a result of human error but an effect of these co-constitutive relationships. This theory reinforces the idea that failure in co-design is an inherent feature of the collaborative process, where human and non-human agents are in constant negotiation.

2.3. Unpredictability and Adaptation in Co-Design

The unpredictability inherent in co-design emerges from the complex interactions between human, machine, and living systems. Machines such as 3D printers, while precise, can fail due to technical errors, misprints, or material constraints. Meanwhile, biological materials like bacteria, fungi, or algae introduce further uncertainty due to their autonomous behaviors, growth patterns, and environmental dependencies. These unpredictable events lead to the necessity for adaptation in the design process. In co-design, adaptation is not simply about overcoming failure but learning to work with it, adjusting design parameters or strategies as a response to unforeseen outcomes.

In the context of bio-digital fabrication, Chayaamor-Heil et al. 's work (2024) on co-design with living materials highlights how designers must adapt to the living systems they work with. Failure is seen as an invitation for deeper engagement with these materials, where unexpected growth patterns or reactions become the starting point for new creative directions. Similarly, Chayaamor-Heil et al. states that the collaborative design with living organisms emphasize that unpredictability, rather than being a barrier, can lead to novel insights and innovations that would not have been possible without the failure of controlled, human-centered processes.

2.4. Failure in Bio-Digital Fabrication and Speculative Design

The role of failure is particularly pronounced in bio-digital fabrication, where the boundaries between biological life and technology blur. The unpredictability of biological materials in these contexts requires designers to embrace failure as part of a speculative process, where the aim is not to control but to engage with living systems. Speculative design research, such as those explored by Krishnakumar et al. (2021), involve creating prototypes that intentionally fail in order to explore new possibilities for design, especially for novice designers. These failures expose the limitations of current technologies and open up new avenues for experimentation, demonstrating that failure can often lead to breakthrough innovations (Deininger et al., 2017).

By reviewing these theoretical frameworks and design practices, it becomes clear that failure is not simply an undesirable side effect but a generative force in co-design at the intersection of agency, unpredictability, and adaptation between human, machine, and living organisms. It creates a fertile ground for learning, rethinking, and innovating design processes.

3.   METHODOLOGY

This study adopts a case study approach by focusing on Wet Laboratory (WetLab) , a non-profit research lab founded in 2022, specializing in the exploration and development of biobased materials, particularly bacterial cellulose at the Izmir University of Economics, Faculty of Fine Arts and Design, Izmir, Turkiye. The case is explored through a tripartite framework that emphasizes the interplay of agency, unpredictability, and adaptation between human designers, machines, and living organisms (Figure 1). These three dimensions provide the lens through which the processes of co-design in WetLab's practice-based research are analyzed. Information regarding processes of making was collected from the lab head.

Figure 1. Agency-Unpredictability-Adaptation

Agency

This dimension investigates the roles and contributions of human designers, machines (such as 3D printers), and bacteria in Wetlab's design process. The analysis focuses on understanding how each actor exerts agency in shaping the design of biobased materials, particularly how the interaction between humans, machines, and bacteria drives the material's development.

Unpredictability

This dimension examines the unpredictable nature of the design process, considering the biological uncertainties of bacterial cellulose growth and the potential inconsistencies in machine-based fabrication. By exploring the unpredictable factors that arise in WetLab's projects, the study investigates how these uncertainties affect the design outcomes and decision-making processes.

Adaptation

This dimension focuses on how Wetlab's designers adapt to the challenges posed by unpredictability and failure. The research explores the strategies employed by WetLab to respond to these challenges and how such adaptations lead to evolving design practices and improved outcomes.

4.   CASE STUDY: AGENCY, UNPREDICTABILITY AND ADAPTATION AT WETLAB

Through these three interconnected elements of agency, unpredictability, and adaptation, the case of WetLab is analyzed to uncover how collaboration between humans, machines, and living organisms creates unique opportunities and challenges in the context of biobased material design. This tripartite framework guides the exploration of WetLab's design processes and sheds light on the complex dynamics involved in co-designing with living organisms and technology.

4.1. Wetlab

Wetlab is a non-profit research laboratory that focuses on the exploration and development of biobased materials, with particular attention given to bacterial cellulose. The lab merges biology, technology, and design in a unique co-design process, wherein human designers, living organisms such as bacteria, and machines including laser cutters and 3D printers collaboratively contribute to the creation of innovative and sustainable materials. Wetlab's work stands at the intersection of biodesign and digital fabrication, exploring the potential of using living organisms to shape material properties and functions in the built environment.

A critical aspect of Wetlab's design philosophy is embracing failure as an essential part of the creative process. Given the inherent unpredictability of biological growth and machine fabrication, Wetlab's designers adopt a flexible approach, where failure is viewed not as an endpoint, but as an opportunity to adapt and innovate. For instance, if bacterial cellulose does not form in the expected way, researchers may alter the environmental conditions or attempt new techniques to stimulate growth. Similarly, if a machine fails to produce the desired outcome, designers may adjust machine settings or reconsider their design strategies.

4.2. Agency at Wetlab

In the context of Wetlab, "agency" refers to the roles and contributions of the human designers, machines, and living organisms (bacteria) in the creation and development of biobased materials. This dimension of the study explores how each of these actors exerts influence over the design process, shaping both the material properties and the final outcomes of Wetlab's projects. At Wetlab, agency is not distributed in a linear or hierarchical manner but rather is a fluid and interactive process where the boundaries between human, machine, and living organisms blur and collaborate.

4.2.1. Human Agency

The human designer plays a central role in setting the vision, guiding the design process, and making decisions regarding the application of bacterial cellulose in various contexts. Human agency in WetLab is evident in how designers conceptualize the material's potential uses and how they select the specific

bacterial strains for cultivation, as well as how they integrate bacterial cellulose with other materials or design components. The decisions made by designers reflect a combination of intentionality, creativity, and adaptation to the evolving behavior of the bacteria and the limitations of digital fabrication techniques.

Humans at Wetlab are responsible for defining the design goals—whether for a functional building material, a lighting fixture, or a wearable textile—while also determining the methods for fabricating and shaping the cellulose. These decisions involve anticipating the characteristics of the biobased material, but also recognizing the fluidity of the final design, which may change based on the biological and technological factors in play.

4.2.2. Machine Agency

Machines are integral in translating the human design vision into physical form, facilitating the production and shaping of bacterial cellulose into usable products. The 3D printer and laser cutter serve as mediators between the human designer's intentions and the materiality of bacterial cellulose, shaping it into functional and innovative forms.

However, the role of machines is not entirely deterministic. The inherent limitations and variability of digital fabrication processes introduce elements of unpredictability that challenge the designer's control over the final product. For instance, a 3D printer may not always produce precise geometries, or a laser cutter may introduce imperfections in the material. These technical limitations give machines a form of agency that actively influences the design process, sometimes leading to unexpected results or requiring the designer to adapt their strategies. In this way, machines at WetLab become active collaborators that both shape and are shaped by the ongoing design iterations.

4.2.3. Bacterial Agency

At Wetlab, the bacteria themselves are recognized as active agents in the design process, contributing to the growth and formation of bacterial cellulose. Bacterial cellulose is a living material that undergoes continuous transformation throughout the cultivation process. The bacteria's behavior—such as how quickly or effectively they produce cellulose, how the material forms in various environmental conditions, or how the growth patterns vary, exhibits a level of unpredictability that influences the material's characteristics.

The bacteria's agency is most evident in the ways in which the material grows and develops in response to its environment. While human designers set the initial conditions for bacterial growth (e.g., temperature, nutrients, pH), the bacteria themselves have a degree of autonomy in how they respond to these conditions. This biological agency leads to varying outcomes in the material's properties, such as thickness, strength, texture, and even its potential for sustainability in specific applications.

4.3. Unpredictability at Wetlab

At Wetlab, unpredictability is a central element in the design process, primarily due to the inherent uncertainties in both biological growth and machine fabrication. The practice of working with living organisms such as bacteria, alongside advanced digital fabrication technologies, introduces numerous factors that can lead to unexpected outcomes, complicating the designers' ability to fully control or predict the final product. Unpredictability in WetLab's processes comes from two primary sources: the biological behavior of the bacteria and the variability of machine-based fabrication.

4.3.1. Biological Unpredictability: Bacterial Growth

Bacterial cellulose is a living material, and as such, it is subject to the unpredictable nature of biological processes. The growth patterns of the bacteria that produce cellulose are influenced by numerous factors, including environmental conditions such as temperature, humidity, pH, and nutrient availability. Despite careful control over these parameters, the behavior of bacteria can still be difficult to anticipate. For example, the bacteria may fail to grow uniformly, resulting in inconsistencies in the thickness, texture, and strength of the cellulose. In some instances, bacterial growth might be slower or faster than expected, or it may result in unexpected material properties, such as variations in water retention or structural integrity.

The variability in bacterial behavior can complicate WetLab's design process, requiring designers to adjust their approach frequently. For instance, if the cellulose does not form as intended or if growth is uneven, the designers must alter the conditions under which the bacteria are cultured, or re-evaluate the design assumptions. This unpredictability leads to a feedback loop in which the designers must continuously monitor and respond to the material's development, making the biological process a central, dynamic force in the overall design.

4.3.2. Machine Unpredictability: Digital Fabrication Constraints

In addition to biological uncertainties, WetLab also faces unpredictability arising from the use of machines in the design process. Digital fabrication tools, such as 3D printers and laser cutters, are used to shape bacterial cellulose and integrate it into various design forms. However, like the bacterial process, machines have their own set of limitations that introduce variability into the design. For instance, 3D printers may not always produce accurate or precise results, particularly when dealing with biologically-based materials that may vary in texture, moisture content, or structural integrity. Similarly, a laser cutter might not be able to cut through bacterial cellulose in a consistent manner, especially if the material is still in the process of growth or drying.

Such machine limitations add another layer of unpredictability to the process, as designers must anticipate the behavior of both the material and the tools. Misalignment, underperformance of machines, or malfunctions can lead to unexpected failures or deviations from the intended design. Designers at Wetlab must thus remain agile, continually adjusting their approach to accommodate the limitations and failures of both the biological material and the machines used to process.

4.3.3. Interaction Between Biological and Machine Unpredictability

One of the most complex aspects of unpredictability at Wetlab arises from the interaction between biological and machine-based uncertainties. These two sources of unpredictability often work together, creating even more complex challenges for designers. For example, the growth behavior of bacterial cellulose may affect how well it can be processed by a 3D printer or a laser cutter, and vice versa. If the cellulose has uneven thickness or structural inconsistencies, the machine may have difficulty handling it, resulting in distortions or failures in the fabrication process. Similarly, machines may introduce structural weaknesses or other inconsistencies in the material, which in turn affects the bacterial growth, further complicating the co-design process.

This dynamic interaction between biological and machine unpredictability forces WetLab's designers to embrace a mindset of flexibility and continuous iteration. Designers must constantly assess how the material and machines interact and be prepared to make adjustments based on both biological and technological factors. The unpredictability of the design process, therefore, does not just come from one source—it emerges from the feedback loop between the material and the machines, creating a collaborative process that constantly adapts to new insights and unexpected outcomes.

4.4. Adaptation at Wetlab

At Wetlab, adaptation plays a crucial role in navigating the complexities of working with living organisms and machines in the design process. Given the unpredictable nature of both biological and machine-based elements in Wetlab's research, designers must constantly adapt their methods, tools, and strategies in response to challenges and unexpected outcomes. The ability to adapt is not only necessary for overcoming difficulties but also serves as a catalyst for innovation and creative problem-solving.

4.4.1. Adaptation to Biological Uncertainties

Biological growth, particularly the cultivation of bacterial cellulose, presents an array of uncertainties that demand quick adaptation. The growth conditions for bacterial cellulose can vary from batch to batch, and unexpected outcomes—such as uneven texture or inconsistent material properties—are common. Wetlab's designers are accustomed to these variabilities and have developed adaptive strategies to manage them. For instance, when bacterial cellulose grows in ways that do not match the desired design, designers may alter the environmental conditions (e.g., temperature, humidity, or nutrient levels) to stimulate more predictable growth patterns. They may also employ alternative techniques, such as modifying the way the bacteria are introduced to the medium or adjusting the duration of the fermentation process.

In addition to environmental adjustments, Wetlab's team also adapts by reworking the material itself. If the cellulose fails to meet specific requirements, the designers may experiment with different molding or shaping techniques, using 3D printers or laser cutters to manipulate the material after it has grown. In some cases, the team even rethinks the design entirely, exploring new possibilities based on the material's unexpected properties. This continuous cycle of trial, error, and adaptation is a hallmark of Wetlab's practice. By embracing failure as a part of the process, the lab has developed a resilient design methodology that allows them to learn from biological unpredictability and turn it into an opportunity for growth and innovation.

4.4.2. Adaptation to Machine-Based Challenges

The use of digital fabrication technologies such as 3D printers and laser cutters introduces additional challenges that require adaptive strategies. Machines, while precise, have limitations in terms of accuracy and consistency, especially when working with organic, living materials like bacterial cellulose. For example, when 3D printing bacterial cellulose, the material's moisture content or varying thickness might cause print inconsistencies. In these instances, Wetlab's designers adjust the machine settings, including printing speed, nozzle temperature, or layer height, to better accommodate the material's unique characteristics.

In cases where digital fabrication tools fail to produce the expected result, designers adapt by exploring alternative fabrication methods or rethinking their approach. Wetlab has embraced a philosophy of iterative design, where adaptations to both the biological material and the machines are made as part of an ongoing learning process. This flexibility allows Wetlab to explore new technologies, modify existing techniques, and incorporate new insights into the design process, ultimately resulting in more robust and adaptable outcomes.

4.4.3. Adaptation to the Interaction Between Biological and Machine Uncertainties

The interaction between living organisms and machines at Wetlab complicates the design process, requiring adjustments in tandem to achieve successful outcomes. When bacterial cellulose doesn't grow as expected or machines fail to process the material, the team adapts both their understanding of biological growth and machine usage. For example, they might adjust design expectations and machine settings based on the material's behavior. Wetlab's holistic approach ensures that changes in one area trigger adjustments in others, allowing the team to manage the interplay between biological growth and machine fabrication, maintaining flexibility despite unpredictability.

5.   RESULTS AND DISCUSSION

Through the analysis of Wetlab's design processes, three key themes emerged: agency, unpredictability, and adaptation. These elements were explored within Wetlab's co-design practices, involving human designers, machines (e.g., 3D printers, laser cutters), and living organisms (bacteria). The results (Table 1) reveal how Wetlab navigates the complexities of working with both living organisms and technology, highlighting the evolving relationships between humans, machines, and bacteria in their biodesign processes. Human designers initiate design ideas and manage the process, while bacteria influence material properties and growth in unpredictable ways. Machines, such as 3D printers and laser cutters, contribute to shaping the designs physically. The interplay of these agencies drives the evolution of Wetlab's biobased materials. The failure pattern across projects was examined through an interview with the lab head, scoring projects from 1 to 30 points. The three dimensions—agency, unpredictability, and adaptation—evolve together, illustrating a shift in Wetlab's design process (Figure 2).

Dimension	Agency	Unpredictability	Adaptation
Human Designers	Initiate design goals, manage processes, and collaborate with bacteria and machines.	Face challenges in predicting outcomes due to complex biological processes and machine limitations.	Adapt to failure by rethinking design, adjusting environmental factors, and modifying machine settings.
Living organisms (bacteria)	Exert agency by influencing the material's growth and properties.	Biological growth can be inconsistent and influenced by environmental factors such as humidity, temperature, and nutrient availability.	Adaptation involves altering environmental conditions or growth processes to achieve desired material properties.
Machines	Machinery influences the design through their capabilities and limitations.	Machines may produce inconsistencies in the material or fail to produce the intended design.	Machine settings are adjusted to accommodate unpredictable behavior of the biological material, improving consistency and functionality.

Table 1. Tripartite framework analysis: Agency, unpredictability, and adaptation.
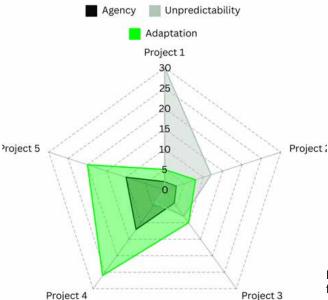
Figure 2. Wetlab's project-based Agency-Unpredictability-Adaptation analysis for failures.

In Project 1, agency is low (2), indicating limited control, while unpredictability is high (30), reflecting the challenges of working with new materials and machines. Adaptation is also low (5), showing limited adjustments. By Project 2, agency increases slightly (3), suggesting improved control, while unpredictability drops to 12, indicating reduced uncertainty. Adaptation rises to 8, reflecting better adjustments. In Project 3, agency continues to grow (4), showing more control, and unpredictability decreases further to 8. Adaptation increases to 10, demonstrating improved flexibility in responding to challenges. In Project 4, agency rises significantly to 12, reflecting high control, and unpredictability drops sharply to 4, showing minimized uncertainty. Adaptation increases to 26, indicating more effective responses to challenges. By Project 5, agency remains high (10), and unpredictability drops to zero, signaling full control. Adaptation decreases slightly (20), suggesting a more refined, less drastic adjustment process.

Discussion

Across five projects, the data illustrates a clear trend: As agency increases, unpredictability decreases, and adaptation rises. In the early stages (Projects 1 and 2), unpredictability is the dominant factor, with designers facing challenges related to both the biological material and the digital fabrication process. However, as they gain more experience, their ability to exercise agency grows, leading to a reduction in the unpredictable aspects of the design process.

The adaptation score follows a similar trajectory, increasing as the designers become more skilled at adjusting their methods in response to the challenges posed by the living material and machines. By Project 4 and 5, the system becomes more stable and predictable, and the need for adaptation decreases, suggesting that the designers are refining their process and reaching a high level of mastery.This progression reflects the iterative nature of Wetlab's design process, where the feedback loop between agency, unpredictability, and adaptation fosters continuous improvement. The designers' growing ability to control the process allows for more predictable outcomes, with adaptations becoming more strategic and less reactive over time. Ultimately, the data highlights the importance of experience and learning in practice-based research, demonstrating how challenges and failures serve as catalysts for growth and refinement in design.

6. CONCLUSION

This study explored the interplay of agency, unpredictability, and adaptation in Wetlab's co-design practices with biobased materials. The findings reveal that failure is a critical driver of innovation. Early projects showed low agency, high unpredictability, and minimal adaptation, resulting in greater failures. Over time, increased agency, both human and non-human, allowed for better handling of unpredictability, leading to more effective adaptation strategies.The data demonstrates that as designers adapt to failures, they improve their ability to manage complexity. What initially seemed like setbacks became opportunities for learning and refinement. Ultimately, failure is not an obstacle but a catalyst for innovation, helping Wetlab evolve towards more resilient and creative design solutions.Future research could further explore how such initiatives, fueled by failure, can continually improve and enhance their processes. By examining the dynamic relationship between agency, unpredictability, and adaptation, these practices can be refined,

leading to more robust and sustainable biobased material innovations.

References

Barad, K. (2007). Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning. Duke University Press.

Bennett, J. (2010). Vibrant Matter: A Political Ecology of Things. Duke University Press.

Chayaamor-Heil, N., Houette, T., Demirci, Ö., & Badarnah, L. (2024). The potential of co-designing with living organisms: towards a new ecological paradigm in architecture. Sustainability, 16(2), 673.

Deininger, M., Daly, S., Sienko, K. H., & Lee, J. C. (2017). Novice designers' use of prototypes in engineering design. Design Studies, 51, 25-65. https://doi.org/10.1016/j.destud.2017.04.002

Howell, N., Desjardins, A. and Fox, S. (2021). Cracks in the Success Narrative: Rethinking Failure in Design Research through a Retrospective Trioethnography. ACM Trans. Comput.-Hum. Interact. 28, 6, 42, November.

Ingold, T. (2013). Making: Anthropology, Archaeology, Art and Architecture (1st ed.). Routledge.

Krishnakumar, S., Lauff, C., McComb, C., Berdanier, C., & Menold, J. (2021). Novice designers' use of prototypes as communication tools. Proceedings of the Design Society, 1, 2277-2286.

Schön, D.A. (1983). The Reflective Practitioner: How Professionals Think in action. London: Temple Smith.

Part 2
Book Reviews:
Design Critiques and
Failures

Failing well in writing design studies book reviews

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Abstract: Book reviews in design studies offer a unique opportunity to engage theory and practice, in terms of critically assessing ideas in both the foundation and emerging ideas in the field. This is particularly of value in a multidisciplinary field, interacting with a variety of scales, divisions, definitions, and focuses of design. The act of critiquing or reviewing is instrumental in synthesizing complex arguments and connecting them to current design philosophies, perspectives, and practices. Moreover, the curation of knowledge in a field that is rapidly evolving as we speak, and the interdisciplinarity of the field enables it to absorb new theories, from posthumanism to biophilia, and material culture to digitality. Book reviews have the potential to help navigate this swiftly expanding landscape, by identifying key conceptions, as well as innovations in approach and concept. In terms of cultivating young scholarly voices and dialogues, book reviews are an accessible and user-friendly entry point into academic publishing. Not only do they help early-career researchers develop their analytical clarity and disciplinary positions, they guide one in defining oneself in ongoing scholarly conversations and existing literature. Due to the nature of design, reviews adopt the role of a bridge spanning both academia and profession, assessing theoretical and practical relevance and depth in knowledge and know-how.

Keywords: design critique, design studies pedagogy, integrated design approaches

A Case for Book Reviews in Design Studies

The significance of relying on book reviews in design studies education is based on the understanding regarding encouragement of students in inquiry and in critiquing the well-established and deep-rooted canon in the field. It is always a stimulating breakthrough experience to recognize through the book review research that the same author contradicts or questions their own views later on in their careers, or that there can be quite opposing perspectives of different authors on the same topic. Striving to write a strong review, provides students a base for classroom discussion, theoretical framing, and in-depth literature, that directly and indirectly feeds the graduate Master's theses and PhD dissertations.

Another point that will be emphasized in this paper is the role that book reviews hold as historical records, and their significance in representing their reception at a particular time in the field's trajectory. The status of books may shift in relation to the evolution of design philosophies (Gero, 1996), technologies (Dreyfus and Dreyfus, 1986). and values, and book reviews act as an intermediary, documenting intellectual history, representing much more than an academic exercise. On the contrary, reviews are critical tools that shape discourse and promote reflective practice, in a dynamic and inherently diverse field.

Failure as an Essential Element in Design Studies

Relating failure(s) in design studies to book reviews may be defined as a powerful and underutilized approach, as it contributes to critical pedagogy as mentioned above, but also reflective practice that contributes to both academics and professionals, and disciplinary maturity. Attempting to highlight the blind spots, missed opportunities, especially looking back into history, is in itself a multifaceted act of constructive critique, that pushes both the reviewer and the field forward (Anthony, 1987; Blythman, Orr, and Blair, 2007; Hokanson, 2012).

John Brockman's edited 2002 book, "The Next Fifty Years: Science in the First Half of the Twenty-First Century", includes a chapter by Paul W. Ewald titled, "Mastering Disease" (Fig. 1). The text portrays a projection on the future of disease from the beginning of the new millennium. I will share a few sentences that shows that the author was slightly mistaken.

Ewald states;

> "Despite current worries about horrific new emerging diseases sweeping the globe, we can be reasonably certain that over the next half century the number of devastating new plagues like the AIDS pandemic will be zero or one-probably zero…" (Ewald, 2002: 323).

The author must have been exceptionally puzzled with the arrival of the COVID-19 pandemic -he had said "zero". It is a blessing that one can take this in wholesome humor today. The importance of reading this opinion today, is the lucky position to be able to discuss the means by which the author reached that conclusion, among several other of his forecasts in which he was undeniably accurate.
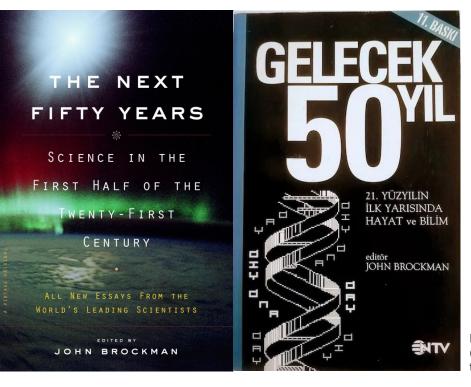
Figure 1. Brockman's (2002) The Next Fifty Years (left), and translation to Turkish popularized in 2007 through media (right)

What Kinds of Failures Can Be Discussed in Design Studies?

First, one might bring forward the conceptual failures. The bold claims of the book that may not be fully supported, contradictions in the theoretical framework, and ignorance of critical perspectives (especially, if they are of adamant importance, such as gender, race, sustainability, or decoloniality). Omissions or structural weaknesses may furthermore exist, with regards to important design voices or global perspectives. Additionally, practical or case study failures may be an approach, in which the book may offer insight into. Full failure scenarios may be discussed in the book, that have the potential to act as learning tolls. The book may similarly be showcasing unsuccessful teaching methods and may propose to fail in a way that is "better" in one way or another.

The authors in this session were guided to integrate the concept of failure in their reviews. Utilizing failure as a lens and not just a critique was one option, and balancing honesty and generosity in terms of constructive criticism improving the design discourse was another. Comparing the work with other works -both of the same author as well as others- was also encouraged. Some used failure as a springboard, in terms of what future research may address (Dorst, 2008), as well as how the book might be used to foster new discussion around the concept of failure.

This discussion normalizes imperfection, encourages critical resilience in students and scholars, and helps build more inclusive and reflexive approaches in the discipline of design studies. Book reviews, in this sense, not only celebrate success and innovation, but also interrogate failure as a fundamental mode of learning. Engaging with failure that one often flees from, actually meaningfully deepens the value of the review, holistically strengthening design studies scholarship.

Integrated Design Approaches

Three of the papers in this session are outputs of the Integrated Design Approaches compulsory course in the Izmir University of Economics, Design Studies PhD program -Çeliktaş, Çıtak, and Çimen. The fourth

paper presented by Çolakoğlu comes from Izmir Institute of Technology, Architecture PhD program.

The course aims to ensure that PhD students with various backgrounds in design, are exposed to a variety of different approaches to design, and to achieve an integrated understanding, through discussions of commonalities and similarities. This enables students to more knowingly choose their paths in constructing their research trajectories. These topics that begin with questioning the definitions of design include; design and science, mixed methods, design thinking, design ethics, equality, participatory design, social justice, user-experience design, and experiential design.

Book Review Focus Points

This past academic year, the books chosen by students presenting in this session, relate to a variety of interdisciplinary topics such as, photography, architecture, experience design, and theory of design studies. If one makes an appraisal of the reviews over the years, it would show that, the chosen book topics have been transforming from the practical to the philosophical, product to the process, connections of the material to the immaterial, social, and cultural. The book review presentations are valuable in that, they aim to equip students with knowledge that will enable a wiser approach to their theses and dissertations.

Moreover, students are encouraged to send their book reviews to relevant journals in their particular field. This necessitates for them to undergo extensive research on the reviews already published in that journal, and to begin the challenging submission process. This stage alone enables a resilient stand resulting in valuable experience.

It is clear that the critical book reviews presented in this section demonstrate a step in that direction and that our students have gained a deeper awareness of critique in design studies from this experience. The word now belongs to the unique voices of Arda Çolakoğlu, Ersan Çeliktaş, Yağmur Çıtak, and İrem Çimen.

Conclusive Remarks and Beyond

In the design sciences, conceivably one should approach failure like a scientist as well. Subsequently, each attempt is an experiment to be refined, a clue to be used to achieve better results. In the design field, one painfully learns that failure is inevitable, and yet ultimately essential. Due to the iterative process of design, critique lies at its core. With the innovations in technology, the critical dimension of design has become even more important. It is key that graduate programs in design emphasize critique, and that they encourage the questioning of established assumptions and citations. Utilizing failure, we may grow stronger in our arguments, embrace rigorous inquiry, and add our grain of salt to the field of design studies. As we reach the 20th year of the Design Studies graduate program at IUE, this is more important than ever.

Reference List

Anthony, K. (1987). Private reactions to public criticism: Students, faculty, and practicing architects state their views on design juries in architectural education. Journal of Architectural Education, 40(3), 2–11.

Blythman, M., Orr, S., & Blair, B. (2007). Critiquing the crit. Retrieved March 19, 2024, from http://intranet. rave.ac.uk/quality/docs/LTR080107-Critprojectfinalsentreportversion2.doc.

Brockman, J. (2002). Science in the First Half of the Twenty-First Century. New York: Vintage Books.

Brockman, J. (ed.) (2007). Gelecek 50 Yıl: 21. Yüzyılın İlk Yarısında Hayat ve Bilim. Çev. Elhüseyni, N. NTV Yayınları.

Dorst, K. (2008). Viewpoint: Design research: A revolution-waiting-to-happen. Design Studies, 29(1), 4–11.

Dreyfus, H. L., & Dreyfus, S. E. (1986). Mind over machine: The power of human intuition and expertise in the era of the computer. New York: The Free Press.

Ewald, P. (2002). Mastering Disease. In: Brockman, J. (ed.) Science in the First Half of the Twenty-First Century. New York: Vintage Books.

Gero, J. S. (1996). Creativity, emergence and evolution in design: Concepts and framework. Knowledge-Based Systems, 9(7), 435–448.

Hokanson, B. (2012). The Design Critique as a Model for Distributed Learning. In: Moller, L., Huett, J. (eds) The Next Generation of Distance Education. Springer, Boston, MA.

Between Life and Death: Failure to Exist

Ersan ÇELİKTAŞ, Prof. Dr. Deniz HASIRCI

Barthes with his mother, Henriette, 1920s
(https://breviariocinematografico.wordpress.com/
wp-content/uploads/2015/02/barthes-ysu-madre-
en-bayonna.jpg)

Between Life and Death: Failure to Exist

Abstract

This book review critically analyzes Camera Lucida: Reflections on Photography by Roland Barthes written in 1980, and investigates the nature of photography from both the photographer's and spectator's perspectives, and possible failures in the mismatch between the two in the field. Barthes' main argument is that time, memory, and mortality define photography's uniqueness as a medium, creating a profound connection between the Photographer, the Spectator, and the Photograph. He introduces two key concepts for analyzing photography, which are Studium and Punctum. Studium refers to the cultural, social, or historical meaning of a photograph, while Punctum refers to a specific detail in the photograph that evokes a deep personal reaction. Compared to Barthes' earlier works, Camera Lucida shows a distinct difference in his approach to photography as it is profoundly personal and carries a powerful emotional connection. On the other hand, Barthes moved away from the analytical methods of visual analysis that had established his reputation, instead adopting a more subjective perspective, opening up potential for discussions regarding personal and collective struggles and mishaps. Although Barthes developed his ideas based on analog photography, these concepts remain relevant to digital photography and AI-generated imagery today.

Keywords: Photography, Semiotics, Studium and Punctum, Roland Barthes, Camera Lucida

This review is about "Camera Lucida: Reflections on Photography" written by Roland Barthes in 1980. The interpretation of photography is inherently subjective and shaped by each spectator's individual experiences and perspectives. This subjectivity may lead to challenges in communication and conveying visual meaning through text. In alignment with the DSS 2025 theme, this review explores the impact of subjective interpretation and how it provides a deeper understanding of photography, which remains relevant today. It also addresses how photography differs from other disciplines. Barthes was seeking to answer the question: What is the essence of photography? What makes a photograph unique rather than a documentation of reality? How does photography evoke our emotions? This book investigates the nature of photography from both the photographer's and spectator's perspectives. The critique also involves Barthes' other works and draws correlations to contemporary photography, with a discussion on why this book is relevant and valuable in bringing new insights to today.

Roland Barthes was a French philosopher, writer, theorist, literary critic, and semiotician. He was born on November 12, 1915, in Cherbourg, France. He wrote several well-known books, including Writing Degree Zero (1953), Mythologies (1957), Elements of Semiology (1967), The Death of the Author (1967), The Pleasure of the Text (1973), Image–Music–Text (1973), A Lover's Discourse (1977) and Camera Lucida: Reflections on Photography (1980). He was one of the most influential literary critics of the twentieth century and made notable contributions to semiology, literature, philosophy, communication, cultural studies, and media studies.

Camera Lucida: Reflections on Photography is meticulously structured into two main parts, and each consists of 24 short chapters, for a total of 48 chapters (Barthes, 2000). The book is organized in a highly detailed manner, with its content divided into numerous short chapters. James Elkins adopted and applied this book's structure to his book "What Photography Is" (Elkins, 2011). However, it would be more accessible for readers if the chapter titles were included within the book. While the content section consists of the chapter titles with numbers, the chapters include only the numbers without the titles. It would be clearer and easier to follow and comprehend if the chapter titles were included. In addition, Barthes often uses Latin words throughout the text without providing footnotes. Including footnotes would significantly improve the reader's understanding, as it might be challenging to grasp the whole meaning without them. He included the photographs he discusses in the book, enabling readers to directly engage with the images and follow his analysis more effectively. The reference page is also missing in the book but was included in the original French edition.

Barthes's main argument is that time, memory, and mortality define photography's uniqueness as a medium, creating a profound connection between the Photographer, the Spectator, and the Photograph. Barthes introduces two concepts for analyzing photography, which are Studium and Punctum. Studium refers to the cultural, social, or historical meaning of a photograph, while Punctum refers to a specific detail in the photograph that evokes a deep personal reaction. He argues that the essence of photography is death (Barthes, 2000, p. 15) and every photograph captures a moment that has been.

This book differs from his other books as it is profoundly personal and carries a powerful emotional

connection. It was written after the death of his mother. He associated photography with death, and his experience of his mother's passing away triggered an awareness of mortality. Possibly, he realized the inevitability of death, which affected and shaped his interpretation of photography. This was his last book before he passed away. Did he sense his death? Did his strong association of photography with death derive from an awareness of his mortality? Furthermore, Grundberg (1981) argues that in Camera Lucida, Barthes moved away from the analytical methods of visual analysis that had established his reputation, instead adopting a more subjective perspective. Compared to Barthes' earlier works, Camera Lucida shows a distinct difference in his approach to photography. In Image-Music-Text, Barthes discusses photography from a cultural and social perspective while distancing himself from a personal and emotional approach (Barthes, 1977). However, in Camera Lucida, his approach is entirely subjective and emotional, far from objectivity (Barthes, 2000). Additionally, in Camera Lucida, Barthes frequently associates photography with death, while it is not present in Image-Music-Text (Barthes, 1977; Barthes, 2000).

In the first part, the author introduces two terms to interpret a photograph: Studium and Punctum. Studium indicates the cultural, social, or historical meanings of a photograph. On the other hand, Punctum is a specific detail in the photograph that triggers a profound personal reaction.

Barthes explains Studium as the average effect of a photograph that allows any spectator to interpret the photograph based on what is seen at first glance. Barthes describes Punctum as "The second element will break (or punctuate) the Studium. It is this element which rises from the scene, shoots out of it like an arrow, and pierces me" (Barthes, 2000, p. 26). Sentilles (2010) states, "In contrast to the Studium, the punctum is accidental, not intentional…the photographer does not purposefully include the punctum in a photograph nor does the viewer seek out the punctum; rather, it comes to (or better, at) the viewer." The punctum of a photograph is highly subjective and closely connected to the spectator. It is not fixed; it may or may not appear, depending on the spectator. Barthes explains these two terms primarily through documentary and portrait photographs, but they could also be applied to other genres of photography, such as fashion, architecture, still life, and landscape.

Additionally, Barthes introduces the concepts of the Operator, the Spectator, and the Spectrum to describe the relationship between the photographer, the viewer, and the photograph itself (Barthes, 2000, p. 9). The Operator refers to the photographer who captures the photograph through their perspective. The Spectator is the viewer of the photographer, the one who interacts with the image influenced by personal experiences and emotions. The Spectrum is the referent in the photograph. The interpretation of a photograph differs between the Operator and the Spectator. The photographer captures the image through their perspective, choosing which elements to include or exclude and framing the shot according to their vision. In contrast, the Spectator interprets the photograph through their own subjective experience. In this sense, the photograph's meaning is not fixed; it continuously changes and exists somewhere between the photographer's and the Spectator's perspectives.

Barthes claims that when people become aware of being photographed, they start posing and transforming themselves into an image. He describes this transformation through the intersection of four image repertoires: "the one I think I am, the one I want others to think I am, the one the photographer thinks I am, and the one he makes use of to exhibit his art" (Barthes, 2000, p. 13). Which one do we see as the Spectator? Does each Spectator perceive a different self of the subject based on their own experience? How does the photographer's guidance in posing the subject affect the Spectrum and the Spectator? When the photographer directs the subject how they want to see them, the subject may become objectified. While the photographer shapes how the subject is presented to the Spectator, they may also leave a part of themselves in the photograph. It is difficult to speak of the subject's pure self, as the photographer's reflection is also present in the image.

Moreover, Barthes states, "Yet it is not by Painting that Photography touches art, but by Theater" (Barthes, 2000, p. 31). While photography is often associated with painting and cinema, Barthes relates it to theater. He argues, "The camera obscura, in short, has generated at one and the same time perspective painting, photography and the diorama, which are all three arts of the stage; but if Photography seems to me closer to the Theater, it is by the way of a singular intermediary (and perhaps I am the only one who sees it) by way of Death" (Barthes, 2000, p. 31). He believes there is a strong relationship between theater and death, which may explain why he considers photography to be more closely linked to theater than other visual arts.

Barthes claims that "What the Photograph reproduces to infinity has occurred only once: the Photograph mechanically repeats what could never be repeated existentially" (Barthes, 2000, p. 4). The moment captured in a photograph existed only once, and it can never happen again. Photography creates a sense

of eternity by freezing that moment in time and preserving it. In other words, it preserves the unrepeatable moment, allowing us to revisit that moment, time, and space.

In the second part, Barthes applies the concepts introduced in the first part of the text to his mother's photographs. He discusses a childhood photograph of his mother, the Winter Garden Photograph, which he found shortly after her death, and analyzes it using the notions of Studium and Punctum. Through this image, he believed that he had discovered the essence of photography.

Furthermore, Shurkus (2014) explains that "Camera Lucida calls for an expanded understanding of representation......attempted to describe another layer of representation in which images convey information to viewers but information that cannot be captured mimetically or symbolically because this information is durational — it can only develop through time as a virtual form that differentiates itself." Barthes discusses the inevitable impact of time on photography. He explains that this effect can add new meanings to a photograph or change its original meaning over time. Thus, he adds another layer to the photograph. The places we see in a photograph may change over time or no longer exist. The subject, their circumstances, and their physical appearances may transform or no longer be alive. However, everything we see in the photograph, such as its time, place, and people, can be preserved as it is, allowing that moment to exist forever.

Camera Lucida is written more intimately and personally, providing insight into Barthes' less-known characteristics. It shows how his experiences shaped his worldview and his approach to photography. The book offers a closer look at Barthes' personality and life. Further, it allows us to understand the influence of his personal experience on his perception of the photograph. Barthes' obsession with death is particularly evident in this work. It has a significant impact on shaping his interpretation of the photographs. The traumatic effect of losing someone close can make us realize the inevitability of death. That experience would fundamentally change our understanding of the world surrounding us and reshape our perspective on life. Although Barthes developed his thoughts on photography based on analog photography, which was standard then, the concepts he introduced can also be applied to digital photography today. Even photographs generated using artificial intelligence can be analyzed through the concepts of Studium and Punctum. While AI-generated images are unrelated to lived reality, they can still evoke Studium through visual codes such as style, location, historical context, and cultural references. Punctum may also be experienced through a striking detail in the image or even an unintended artifact produced by the generative AI process. These concepts remain relevant in contemporary photographic practices regardless of the medium used.

Reference List:

Barthes, R. (1977). Image - Music - Text. Fontana Press.

Barthes, R. (2000). Camera Lucida: Reflections on Photography (Richard Howard, Trans.). Vintage.

Barthes with his mother, Henriette, 1920s. (n.d.). Retrieved March 10, 2025, from https://breviariocinematografico.wordpress.com/wp-content/uploads/2015/02/barthes-ysu-madre-en-bayonna.jpg

Elkins, J. (2011). What photography is? In What Photography Is. https://doi.org/10.4324/9780203886489
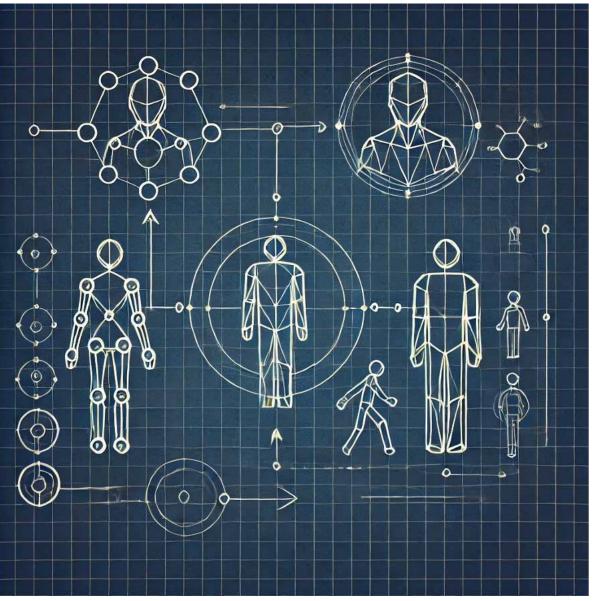
Grundberg, A. (1981). Death in the Photograph. The New York Times Book Review, 11.

Sentilles, S. (2010). The photograph as mystery: theological language and ethical looking in Roland Barthes's camera lucida. The Journal of Religion, 90(4), 507–529. https://doi.org/10.1086/65482

Shurkus, M. (2014). Camera lucida and affect: Beyond representation. Photographies, 7(1). https://doi.org/10.1080/17540763.2014.896276

Failing (Well) in Design Writing: "are we human?"

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This image was generated by the author using OpenAI's DALL·E based on a user-defined prompt: "draw a blueprint representaAon of a human like a technical drawing of an artifact.", (2025, March 3).

Failing (Well) in Design Writing: "are we human?"

DSS 2025 invites us to view failure not merely as an obstacle to be overcome, but as an opportunity for learning and growth. In this research, I embrace this invitation as a moment to question long-held assumptions—particularly the humanist foundations of design studies and the dominance of human-centeredness—and to imagine new futures in design. In this context, the work of Beatriz Colomina and Mark Wigley, are we human?, becomes especially significant. This book challenges the traditional humanist conception of design by arguing that design is not simply a tool created and used by humans. Rather, it is so deeply embedded in the human condition that humans are constantly reshaped by the very systems and artifacts they produce—so much so that these artifacts acquire a form of agency themselves.

The book "are we human?" emerged in conjunction with the 2016 Istanbul Design Biennial, functioning as both a curatorial and theoretical intervention into the nature of design and its role in shaping human identity. Rather than approaching design as a mere collection of aesthetic or functional tools, Colomina and Wigley investigate how design is fundamental to the construction of subjectivity. Their work critiques the traditional humanist perspective, proposing that humans are not simply the creators of design but are also continuously shaped—both physically and cognitively—by the artifacts they produce.

The book seeks to blur the boundaries between design, technology, and everyday life. It interrogates how design—ranging from primitive tools and ornaments to contemporary digital interfaces—not only shapes but continually reshapes human identity, as well as broader social and cultural dynamics. Traditionally, design has been viewed as an activity performed by humans upon a passive world of objects. In contrast, Are We Human? challenges this notion by asserting that design actively participates in the production of human subjectivity. When design is understood as a recursive process—one that informs human behavior, embodiment, and even identity—the very idea of a fixed, autonomous, and rational human subject begins to unravel. Artifacts, long considered inert tools, are reinterpreted as active agents that co-produce human. The concept of "the human" as separate from their designs collapses, once it is revealed that human existence is articulated through overlapping layers of material, technological, and social processes.

Colomina and Wigley further extend the scope of design to the planet itself. They argue that, "The average day involves the experience of thousands of layers of design that reach deep into the ground and outer space but also deep into our bodies and brains. We literally live inside design, like the spider lives inside the web constructed from inside its own body. But unlike the spider, we have spawned countless overlapping and interacting webs. Even the planet itself has been completely encrusted by design as a geological layer. There is no longer an outside to the world of design. Design has become the world" (Colomina & Wigley, 2016, p. 9). This claim challenges the notion that design is merely a human capacity; instead, it posits design as the very fabric of the environment, influencing and constituting every aspect of human life.

In this book, Colomina and Wigley examined design not as a discipline to learn and taught, but a phenomena that is not yet fully comprehended. They argued that, what makes us human is our inventions. Heidegger similarly defined this aspect of design in building as: "We do not dwell because we have built, but we build and have built because we dwell, that is, because we are dwellers." (Heidegger, 2008, p.4) Further, their view on artifacts as agents, as active participants in construction of human opens new ways of seeing in design studies. This posit design in a very particular space, not an interdisciplinary field that fed from other disciplines of humanities, but as a field for further ontological inquiry that can feed other disciplines in humanities.

When considering the relevance the antihumanist movement has gained from Foucault's "Death of Man" (Foucault, 2012, p. 373) to the present—especially through technological advancements and the rise of more-than-human discourses—it's clear that the debates raised in that book have become even more significant today, even in design studies. Laura Forlano, in the article "Posthumanism and Design", emphasizes on how posthumanism holds crucial value in the field of design studies. This is because humanism, as a framework, has proven insufficient in addressing contemporary issues such as climate crisis and complex socio-technical challenges. Therefore, posthuman narratives are essential for empowering designers' imaginations and expanding the scope of their creative and ethical engagements.

When we accept the arguments of Wigley and Colomina, certain retrospective theories begin to reveal themselves in new ways. For instance, Heidegger and Lovitt (2013), in The Question Concerning Technology, argue that the essence of technology is not itself technological. The real danger lies in perceiving technology as neutral—something to be mastered. Seeing it as something neutral conceals the true essence of technology: enframing and setting upon, to shape and construct both humans and the

world. Similarly, Foucault's "Docile Bodies" describes how institutions discipline individuals by articulating one's body, space, and time. Within these microstructures of power exertions, we can detect an implicit design logic—one that becomes more visible once we acknowledge the agency of artifacts beyond the confines of humanist thought. Therefore, These open up new discussions: for example, a desk is not merely an object that facilitates work, but also shapes what 'working' experience is for the human subject. These aspects deeply challenge the traditional scope of both ethical and creative theories of design.

One of the major limitations of humanism in this context is that, even when it acknowledges the influence of nonhuman entities on humans, it remains anchored in a theoretical topology that relies on a static self–other binary. For the 'self' to be fully realized within this framework, the 'other' must often be positioned pejoratively. Humanism's narrative of truth is rooted in a universality, which equates its own worldview with ontological truth, but this aspect is also creates normative structures those fall short in explaining complex interdependencies. While understanding things in cartesian dualism can address to what is different, they too often struggle to articulate relations based on shared or overlapping qualities. As a result, agency continues to be attributed primarily to humans, with capacities such as thinking, acting, or designing assumed to be exclusively human traits—thereby diminishing the role and influence of the nonhuman in shaping outcomes.

Posthumanist and new materialist theorists such as Rosi Braidotti, Karen Barad, and Donna Haraway critique humanism for being imperial, rather than objective and universal. At the same time, they point that the Anthropocene discourse is deeply rooted in the humanist frameworks. These critiques originated with postmodernism are not new but unlike other "post" approaches, post humanism and new materialism offer ontologies that move beyond the humanist self–other dichotomy, proposing more relational, entangled, and decentered understandings of being. Braidotti offers a radical rethinking of subjectivity in her work "The Posthuman". She introduces the concept of Zoe as the force of life—a vital energy that flows through all living and non-living matter. It creates an interconnected and shared vitality between both human and non human actors. Unlike the humanist focus on bios (a qualified, culturally defined life), Zoë represents the generative force of life that flows through everything—animals, plants, ecosystems, even technologies and matter. This view complements the entangled topology represented in the book between human and design. The vitality of Zoë also suggests that design does not originate solely from human intention; rather, it emerges from a dynamic interplay of forces that include technology, ecology, and matter itself. In this framework, agency is not an inherent property of a fixed subject but is distributed across a network of interacting elements.

Donna Haraway's A Cyborg Manifesto significantly contributes to these discussions through her metaphor of the cyborg, which directly challenges the humanist conception of a stable, unified subject. Haraway argues that the human is not a fixed entity; rather, part of the human is shaped by lived experience, while another part is constructed through fiction. The humanist notion of the "human" does not merely reflect objective biological experience—it also embeds political, epistemological, and cultural narratives, turning experience itself into a form of fiction. In this light, Haraway redefines the human not as a fixed or normative identity, but as a fluid and incomplete phenomenon. This opens up the potential for new, multi-dimensional subjectivities that challenges humanist classifications. Her vision positions the human as an ongoing construction—constantly in flux and always in the process of becoming.

Karen Barad, physicist, philosopher and new materialist theorist, offers another key concept in this discussion with her notion of intra-action. She builds her ontology on quantum physics. Concepts like entanglement or uncertainty act as redefining matter not just as passive, stagnant, quantitative material, but rather a dynamic potential. In this work, agency is not an inherent property of an individual, but emerges through only in relation to to other actors through intra-actions :

"The notion of intra-action is a key element of my agential realist framework. The neologism "intra-action" signifies the mutual constitution of entangled agencies. That is, in contrast to the usual "interaction," which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action. It is important to note that the "distinct" agencies are only distinct in a relational, not an absolute, sense, that is, agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements." (Barad, 2007, p.19).

Although discussing agency in relation to inanimate objects may initially sound abstract or overly theoretical, it actually points to a radically new way of seeing that demands attention. When we examine the antihumanist movement in the context of broader historical transformations, it becomes clear how deeply theories and

epistemologies have shaped and constrained our understanding of what it means to be human. Just as queer theory challenges binary understandings of gender—showing us that even categories we assumed were biologically deterministic are in fact performative—these conversations are equally crucial for rethinking other foundational assumptions. In The Posthuman, Braidotti, referencing Foucault's conception of power, emphasizes that power as both restrictive (potestas) and productive (potentia) force.(Braidotti, 2023, p. 26) She warns that theories are never purely objective but are shaped by a will to power, which can lead to the creation of "false positives"—ideas that appear natural or true but are ideologically driven. Drawing from this, design too can be seen as both restrictive and productive. Within humanist frameworks, we may have overlooked or normalized certain restrictive aspects of design that need to be critically re-evaluated. Especially in the face of transformative technologies like artificial intelligence—whose very nature is still being undefined—and the internet, which has fundamentally altered how we perceive life and the world, the need to expand our theoretical horizons regarding nonhuman entities and matter becomes increasingly urgent. These technologies challenge established ontologies and invite us to rethink the boundaries between human and nonhuman, subject and object. Developing a richer theoretical framework to engage with things and matter may prove to be not just intellectually valuable, but also ethically and ecologically critical—offering new ways to understand and respond to the complex entanglements between humans, technology, and the planet.

Reference List

Colomina, B., & Wigley, M. (2016). Are we human? Notes on an archaeology of design. Istanbul, Zurich: IKSV, Istanbul Foundation for Culture and Arts ; Lars Müller Publishers.

Heidegger, M. (2008). Martin Heidegger, "Building, Dwelling, Thinking." Philosophy and the City, 119–124. doi:10.2307/jj.18253219.20

Foucault, M. (2012). The order of things: An archaeology of the human sciences. Vintage Books. (Original work published 1966)

Forlano, L. (2017a). Posthumanism and design. She Ji: The Journal of Design, Economics, and Innovation, 3(1), 16–29. doi:10.1016/j.sheji.2017.08.001

Heidegger, M., & Lovitt, W. (2013). The question concerning technology, and other essays. New York: Harper Perennial.

Foucault, M. (1979). Discipline and punish the birth of the prison. (pp. 135–169) New York: Vintage Books.

Braidotti, R. (2023). The posthuman. Cambridge: Polity.

Haraway, D. J. (2016). A cyborg manifesto. Manifestly Haraway, 3–90. doi:10.5749/minnesota/9780816650477.003.0001
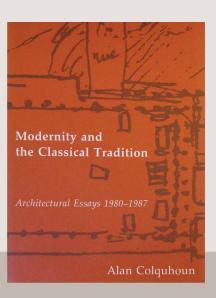
Barad, K. (2007). Meeting the universe halfway: Quantum Physics and the entanglement of matter and meaning. Durham N.C.: Duke University Press.

"CONTRADICTORY STRANDS" OF MODERN ARCHITECTURE
BOOK REVIEW: ALAN COLQUHOUN'S
MODERN ARCHITECTURE

Arda ÇOLAKOĞLU, Prof. Dr. Erdem ERTEN

Covers of Essays in Architectural Criticism. Modern Architecture and Historical Change (1981), Modern Architecture (2002), and Modernity and the Classical Tradition. Architectural Essays 1980–1987 (1989), all by Alan Colquhoun. (Collage by authors, 2025).

"CONTRADICTORY STRANDS" OF MODERN ARCHITECTURE

BOOK REVIEW: ALAN COLQUHOUN'S *MODERN ARCHITECTURE*

Abstract

Modern architecture has often been depicted as a progressive, stylistic, or technologically driven movement; however, these classifications fail to capture its complexity, contradictions, and ideological tensions. This shortcoming is not merely an issue of historical misinterpretation, but is instead the result of historiographies that tend to privilege coherence over contradiction, progress over discontinuity, and singular narratives over multiplicity, which connects to the DSS2025 theme.

In his book *Modern Architecture*, Alan Colquhoun (2002) goes beyond these inadequate and often oversimplified interpretations by providing a more nuanced and historically grounded perspective on modern architecture. Rather than portraying it as a cohesive movement or a straightforward progression, Colquhoun reveals its conflicting tendencies, demonstrating that modern architecture is shaped by a complex interaction of political, economic and cultural forces that resist simplification.

The way Colquhoun's *Modern Architecture* has been received highlights the persistent challenge to fully comprehend modern architecture as a historical phenomenon. Often viewed in isolation, the book is frequently read as a self-contained source, appearing limited in its content when detached from Colquhoun's broader intellectual endeavor, which includes works such as *Essays in Architectural Criticism* (1981) and *Modernity and the Classical Tradition* (1989). However, recognizing these limitations does not diminish the value of these works. On the contrary, it highlights the necessity of reading them in relation to one another, promoting a more rigorous and historically aware approach to modern architecture.

This paper argues that the failure to critically engage with the complexities of modern architecture is not just a historical issue but an ongoing historiographical challenge. A thorough comprehension of it requires continuous reassessment, resistance to rigid narratives, and a strong awareness of the limitations inherent in the very structures of architectural history.

Keywords: Modern architecture, Alan Colquhoun, architectural historiography, historicism, architectural criticism

Introduction

Alan Colquhoun (1921-2012) is an English architect, educator, and theorist, renowned mostly for his critical writings on modern architecture. Before returning permanently to London in 2002 (Davidovici, 2015), he was a lecturer with the rank of Professor at Princeton University. From 1961 to 1988, he collaborated with John Miller as a co-founder of the architectural firm Colquhoun, Miller, and Partners. As Avermaete et al. (2012) noted, through a constant integration of theory and practice, he had a distinctive ability to reconcile the practical implementation of architecture and the development of theoretical frameworks within the field.

Colquhoun's earliest work that puts him at the center of theoretical debate in architecture is his essay titled "The Modern Movement in Architecture" (1962), where he boldly critiques Reyner Banham's *Theory and Design in the First Machine Age* (1960). This work was instrumental in establishing his reputation, not only in terms of demonstrating his analytical depth but also illustrating his comprehensive outlook on modern architecture. In this essay, Colquhoun challenges Banham's argument that modern architecture became obsolete due to its failure to fully embrace the Machine Age. He asserts that Banham reduces modernism to a purely technological phenomenon that overlooks its symbolic and historical dimensions. Additionally, Colquhoun opposes Banham's assumption that architectural evolution follows a singular, linear trajectory dictated by technological progress, emphasizing instead the complexity of the modern movement. This perspective is reflected in his concluding remark that "… the final word of the Modern Movement has not been said, and will not be said for a very long time to come" (Colquhoun, 1962, p. 65). According to Davidovici (2015), this significant statement foreshadows his attempt to gradually grasp modern architecture as his primary focus, which ultimately resulted in thematic dissections in his publications. This analytical approach can be observed in a series of concise pieces compiled in his earlier publications, *Essays in Architectural Criticism: Modern Architecture and Historical Change* (1981) and *Modernity and the Classical Tradition: Architectural Essays 1980-1987* (1989).

Colquhoun's Contribution to Modern Architectural Historiography

In his writings, Colquhoun examines architecture within its historical context with clear insight, drawing on his extensive knowledge of architectural history, theory, art history, and philosophy. His writing critically questions various trends, ideas and theories, particularly those he perceives as passing fashions driven by stylistic preferences; false or misleading assertions lacking historical grounding; or misbeliefs that distort the ideological foundations of architecture (Chabard, 2013). Colquhoun's distinction as a prominent writer lies in this critical approach. To comprehend it thoroughly, we cannot conceive of a more accurate depiction than his own words:

Criticism occupies the no-man's-land between enthusiasm and doubt, between poetic sympathy and analysis. Its purpose is not, except in rare cases, either to eulogise or condemn, and it can never grasp the essence of the work it discusses. It must try to get behind the work's apparent originality and expose its ideological framework without turning it into a mere tautology. (Colquhoun, 1981/2005, p. 165)

This perspective highlights Colquhoun's belief that architectural criticism should neither celebrate nor condemn its subject but instead reveal its ideological foundations. His approach ensures that architecture is analyzed with both historical depth as well as intellectual rigor, rather than being reduced to mere stylistic interpretation. Such motivation, we will argue, is not only present in his critical essays but also defines his approach in his history book, *Modern Architecture* (2002*)*. With this work, which this review focuses on, Colquhoun attempts to prompt the reader to perceive modern architecture from a perspective that may not have been adequately or explicitly presented in the established accounts of modern architecture, such as *The International Style* (1932*)* by Henry-Russell Hitchcock, *Pioneers of Modern Movement* (1936) by Nikolaus Pevsner[1] and *Space, Time, and Architecture* (1942) by Sigfried Giedion. Among these historians, who offer both distinct and shared interpretations, they broadly interpret the modern movement as follows: Hitchcock codifies it as a stylistic phenomenon, emphasizing its formal characteristics; Pevsner presents it as a progressive and evolving process within historical continuity; and Giedion frames it as fundamentally shaped by technological and functionalist principles (Tournikiotis, 1999). Colquhoun, however, challenges the limitations of these perspectives by presenting a more nuanced and historically informed understanding of modern architecture.[2] The significance of this approach can be best elucidated through the critique provided by Michael Hays: "Colquhoun's *Modern Architecture* will challenge individuals who believed they were already knowledgeable about modernism and acquaint a new cohort with the intellectual pleasures of architectural history (Hays, 2002, as cited in Colquhoun, 2002, back cover)."

Colquhoun begins his book by discussing the vagueness that arises from the phrase 'modern architecture.' He states that "[t]he term 'modern architecture' is ambiguous. It can be understood to refer to all buildings of the modern period regardless of their ideological basis, or it can be understood more specifically as an architecture conscious of its modernity and striving for change (Colquhoun, 2002, p. 9)." Since he interprets modern architecture in the latter sense, it is not surprising to see a concentration on reformist, 'avant-garde' tendencies in the book rather than an evaluation of modern architecture as an overall architectural production. More specifically, in *Modern Architecture*, he avoids portraying modernism as a unified or purely progressive movement with a distinct chronology and instead highlights its internal contradictions and its entanglement with political, economic, and technological forces. He also reassesses the roles of its acknowledged masters, such as Frank Lloyd Wright, Adolf Loos, Le Corbusier, and Mies van der Rohe (Colquhoun, 2002). By doing so, he not only critiques their architectural contributions but also situates them within the broader ideological and practical challenges that influenced the course of modern architecture.

Considering the book's theme and length, omissions in its content are subject to critical evaluation. However, the extensive additional bibliography suggests that these omissions do not significantly hinder the book's scope. In fact, the book is sufficiently comprehensive, especially when considered alongside the author's earlier works mentioned before (Colquhoun, 1981, 1989). To further illustrate this, two key aspects from these works provide a deeper understanding and evaluation of *Modern Architecture*. One is that, in *Modern Architecture*, Colquhoun (2002) states that modern architecture is a myth needing reinterpretation. We believe that going over this statement in his *Essays in Architectural Criticism* (1981) can explain why

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1   *Pioneers of Modern Design: From William Morris to Walter Gropius* is the more widely recognized title of Nikolaus Pevsner's book by Penguin Books in 1960, which was originally published as *Pioneers of the Modern Movement* by Faber and Faber in 1936.

2   It is important to recognize, however, that figures like Hitchcock, Pevsner, and Giedion wrote while the modern movement was still unfolding and lacked the historical distance necessary for reflective or critical reassessment, as in Colquhoun's case.

Colquhoun's emphasis on *Modern Architecture* is more about contradictory aspects of the movement. Second, one may question why the book begins with Art Nouveau and, if its aim is to historicize the movement, why it does not extend further back than the 19th century, for instance, to the Enlightenment. We believe the answer lies in his way of interpreting modern history as a continuous crisis, as he discussed in *Modernity and the Classical Tradition* (1989). For this reason, first we will try to clarify these aspects and then will go on to discuss the book's structure. In the end, we will explore the contradictory aspects of modern architecture that have been addressed throughout the book.

The Myth in Need of Reinterpretation

In the introduction of *Modern Architecture*, Colquhoun (2002) highlights the modern movement as having become a myth, calling for its reassessment given the considerable time that has passed since the early formulations of modernist thought in the early 20th century. To better understand this critique, we believe Modern Architecture should be read as an extension to Colquhoun's *Essays in Architectural Criticism.*

In the foreword of the Turkish edition of this book, Bozdoğan (2005) provides a clear explanation of this 'myth' by contextualizing Colquhoun's essays. She discusses the three elements of this myth: function, technology and break with tradition, supporting Colquhoun's argument with examples. To begin, while stressing the importance of 'function,' Bozdoğan quotes phrases like 'form follows function' by Sullivan and 'a house is a machine for living in' by Le Corbusier, both of which have become internationally recognized slogans. However, she contends that these slogans do not accurately reflect Sullivan's and Le Corbusier's true understanding of function. She argues that Sullivan's concept of 'function,' for instance, is neither purely mechanical nor utilitarian, but rather draws inspiration from nature. Similarly, she argues that Villa Savoye cannot be reduced to the status of a mere 'machine.' According to Bozdoğan, these catchphrases may have helped popularize the movement, but they schematize the structures, which oversimplifies them (Bozdoğan, 2005).

Second, by emphasizing 'technology' as an important factor, she addresses the popular misconception that modern architecture can be explained simply by technological improvements. In this regard, she mentions again Villa Savoye and the Barcelona Pavilion by Mies van der Rohe, underlining that their relevance extends beyond their technological solutions, as they are rich in aesthetics and symbolic expression (Bozdoğan, 2005).

Finally, in explaining 'tradition', she emphasizes how Colquhoun draws our attention to the cultural continuity of architectural history despite the modern slogans claiming the contrary. As an example, she remarks on Colquhoun's analysis of Le Corbusier, in which he evaluates Corbusier's five essential principles as a way to reimagine and adapt the language of classical architecture to modern architecture (Bozdoğan, 2005).

We believe that Colquhoun's endeavor to dismantle this 'myth,' which was initiated with his earlier writings, persists throughout the broader context of his book *Modern Architecture*. Instead of interpreting modern architecture solely through the lens of commonly acknowledged slogans, misconceptions, or misbeliefs, he seeks to highlight the contradictory and impure aspects of modern architecture in which these slogans fail to apply universally. In doing so, he challenges the reader to consider the true nature of modern architecture (Colquhoun, 2002).

Modern Architecture as Continuous Crisis

According to Colquhoun (1989), 'history' is the most ambiguous concept in architectural discourse. He asserts that all theories formulated since the mid-eighteenth century, as well as contemporary architectural debates, depend on the change in the definition of 'history.' This change in the notion of history was related to the rise of 'historicism', which gained prominence in the 19th century. Historicism (in its definition that can be applied to the theory of history)[3] asserts that societies and their institutions can only be examined within the framework of their historical progression. For this reason, Colquhoun (1989) sees modern

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3　According to Colquhoun, there are three different interpretations of 'historicism' as in the following, which were directly taken from his "Three Kinds of Historicism" in *Modernity and the Classical Tradition* (1989) : (1) the theory that all sociocultural phenomena are historically determined and that all truths are relative; (2) a concern for the institutions and traditions of the past; (3) the use of historical forms. In the related sentence, 'historicism' is related to the first definition, which can be applied to the theory of history, whereas the others are related to an attitude and an artistic practice respectively. The first definition is the prevailing interpretation throughout his writing.

historiography as a direct successor of historicism, since both embrace a relativistic perspective on the past and resist consulting history merely to adapt specific models. To gain a more insightful grasp of Colquhoun's historiography of modern architecture, it is necessary to first look at his analysis of historical change since the 18th century, as depicted in the introduction and "Three Kinds of Historicism" from *Modernity and the Classical Tradition* (1989).

Colquhoun (1989) evaluates the history of modern architecture more as a continuation of a 'crisis' than a historical continuity, as opposed to the historians of the Modern Movement such as Pevsner, Giedion, and Frampton.[4] According to him, talking about 'crisis' as a habit, one needs to trace back to the end of the 18th century. In the 18th century, history was predominantly seen as a source for imitation, as evident in Eclecticism, where architects either blended various historical styles or employed a singular style to convey moral concepts. However, as classical tradition lost influence by the end of the 18th century, architects faced historical anxiety and started to seek new ideas. This "crisis" demonstrated itself in the 19th century in two contradictory concepts: some adhered to the Eclecticism inherited from the 18th century, while others embraced the historicist[5] perspective leading them to explore past societies for their intrinsic value, rather than confirming priori principles and models.

The "crisis" at the turn of the 20th century, on the other hand, was closely tied to the shift from the first conception to the second mentioned above. This transformation gave rise to new architectural practices, on the one side 'vitalistic, craft-oriented' and on the other side 'rationalistic, machine-oriented' architecture. These practices sustained the romantic-classical conflict to a certain degree that prevailed in the 19th century, as the two tendencies reflected the tension between artistic expression and rational efficiency. However, while both coexisted for some time, the rationalist, machine-oriented approach increasingly gained prominence, ultimately shaping the dominant architectural framework of the 20th century (Colquhoun, 1989). From these practices, Art Nouveau was the first movement indicating a departure from the established relationship with the past by outright rejection of Eclecticism. Unlike previous styles, which freely borrowed historical forms, Art Nouveau sought to develop an original aesthetic based on organic forms, new materials, and innovative structural techniques. Since this departure signifies a transformative change in the relationship between the past and the present (Colquhoun, 1989), Colquhoun (2002) finds it appropriate to start *Modern Architecture* with Art Nouveau.

The Structure and Methodology of Colquhoun's *Modern Architecture*

The book *Modern Architecture* follows a conventional diachronical scheme and consists of twelve thematic chapters. These chapters sometimes revolve around a movement, as in "Art Nouveau 1890-1910", a specific geographic location, as in "Weimar Germany: the Dialectic of the Modern 1920–33" or a specific architect, as in "Return to Order: Le Corbusier and Modern Architecture in France 1920–35." The change in the scale of the chapters is the result of Colquhoun's desire to give the book a 'collage-like quality,' where each chapter was researched and written at a different time (Chabard, 2013). Each of them deals with a particular moment where architecture is engaged with external conditions of modernity (Colquhoun, 2002).

Regarding the structure, his previous books can be shown as a precedent. While those books consisted of quasi-independent essays collected under specific themes, *Modern Architecture* consists of chapters each shedding light on the general theme of the book, as can be interpreted from the title. However, the writings in all his books can be read either as standalone pieces or episodes of a larger narrative. Colquhoun notes that this way of writing is the result of the adaptation of a technique that he developed during his teaching years in America, where he delivered history courses with a distinct thematic identity (Chabard, 2013).

The book adheres to a coherent chronology and, as stated by Colquhoun (2002), "…tries to be, perhaps, less certain in its outcome and less triumphalist than those of most previous histories of modernism (p. 9). Likewise, during his interview with Chabard, Colquhoun emphasizes that "I wanted to attempt something more objective, more dispassionate, and to demonstrate that the movement was heir to a complex historical situation (Chabard, 2013, p.138). Behind these motives, his opposition to Hegelian teleology and his

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4   According to Colquhoun, these figures were trying to establish a strong connection between modernism and its origins, the latter of which they claim goes far back even to the 18th century. In doing so, he maintains that they were trying to prove that history unfolds as a seamless and continuous progression.

5   Here, the word 'historicist' was used in accordance with its first definition as described by Colquhoun in "Three Kinds of Historicism" in *Modernity and the Classical Tradition* (1989).

criticism of historians following this tradition[6] can be observed. As commented by Bozdoğan (2005), he can be placed within the British intellectual tradition, alongside Ernst Gombrich and Colin Rowe, which can be most clearly inferred from his writing "E.H. Gombrich and the Hegelian Tradition." in *Essays in Architectural Criticism* (1981).

Contradictory Strands of *Modern Architecture*

Through *Modern Architecture,* Colquhoun challenges the widespread notion that the Modern Movement followed a straightforward progression. Rather, he contends that it emerged within a complex historical environment, characterized by the simultaneous rise and fall of contradictory forces, each struggling for dominance (Chabard, 138). These forces, described as 'contradictory strands' by Colquhoun, are probably the most significant aspect of this book due to illustrating modern architecture as it is. The strands manifest themselves either within the framework of the Modern Movement, in a specific country, or even in the perspective of an individual architect. We will provide some examples from each of these groups to offer a comprehensive understanding of the book.

One of the contradictions within the Modern Movement given in the book is between those advocating for the relative autonomy of architecture as an art and others who see architecture predominantly as a product of techniques and functions. (AA School of Architecture, 2002, 15:46). Regarding the first, the De Stijl can be given as an example. Those who adhered to it believed in the transformative power of art for shaping society. On the other hand, the Swiss ABC group, fitting into the latter category, emphasized the significance of science and technology in meeting society's collective needs (Colquhoun, 2002).

An example of contradictions in a country can be seen in the conflict between 'functionalists' and 'rationalists' in Germany during the 1920s. To explain these different approaches to architectural design, Colquhoun (2002) consults the analysis of Adolf Behne. According to Behne, 'functionalists,' also 'organicists' as he calls them, aimed to create unique buildings shaped around their functions with a particular solution. On the other hand, 'rationalists' advocated standard and repeatable forms as suitable solutions for various situations, stressing societal responsibility above individual expression as opposed to 'functionalists.' Criticisms like those made by Behne were constructing an "ideal type" and declaring that buildings may be categorized only in either one of these groups. At this point, Colquhoun (2002) highlights another inconsistency by drawing attention to some exceptions. Regarding this matter, he asserts that while even the most radical Expressionists eventually embraced 'rationalist' ideas, Hugo Häring and Hans Scharoun rejected the typical rectilinearity of the movement and frequently created curvilinear, functionally expressive forms. (Colquhoun, 2002). We think this exception serves as a clear illustration of the Modern Movement's impurities, likely explaining the choice of Scharoun's Schminke House, designed in 1930, on the book cover as a demonstrative example (Figure 1).
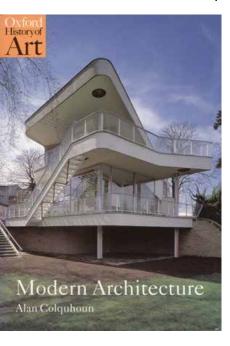
Figure 1. Hans Scharoun's Schminke House
(Modern Architecture [Book cover image], 2002, Oxford University Press.)

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6   In this regard, Giedion, Pevsner, and Banham can be given as examples as discussed by Alan Colquhoun in "Three Kinds of Historicism."

In examining a contradiction in the perspective of an individual architect, the ambivalence of Frank Lloyd Wright towards industrialization serves as a notable example in the book. Colquhoun (2002) argues that Wright was in a position between the allure of the industrial city, which he termed as "that greatest of machines," and a nostalgic idealization of the American suburb untouched by industrialism. This contradiction is further linked to Wright's everyday life in the book, by highlighting a parallel split between his social life at Hull House and private life at the house located in Oak Park.

Conclusion

Alan Colquhoun's *Modern Architecture* challenges conventional narratives of the Modern Movement while setting a commendable standard for architectural historiography. By examining the contradictory strands within the movement, Colquhoun prompts readers to reevaluate their understanding of modern architecture by recognizing its complex and often unstable development, which has largely been overlooked. However, this reassessment does not merely intend to criticize previous accounts. Rather, it exposes the inherent challenges of historicizing modern architecture.

The challenge of fully comprehending modern architecture, both through its development and in its subsequent historiographies, underlines that architectural history is not a fixed or definitive narrative but an ongoing process of reinterpretation. Each attempt to define modern architecture generates new contradictions and questions once thought to be answered. Rather than viewing these limitations as obstacles, Colquhoun's work suggests that they should be embraced as an essential aspect of architectural discourse. This inability to produce a definitive historical narrative of modern architecture is not a flaw, but rather a reflection of its richness and complexity. Just as modernism defies singular definitions, architectural historiography should also revise its assumptions and rigid categorizations while recognizing its limitations. By acknowledging failure not as a shortcoming but as an inherent aspect of historical inquiry, we can build a more dynamic and critical engagement with modern architecture.

Reference List

AA School of Architecture. (2002, May 16). Alan Colquhoun - modern architecture [Video]. *YouTube*. Retrieved from https://youtu.be/i2ERbsxQUco

Avermaete, T., & Grafe, C. (2012). A conversation with Alan Colquhoun. *OASE*, (87), 125-135. https://oasejournal.nl/en/Issues/87/AConversationWithAlanColquhoun

Avermaete, T., Grafe, C., & Teerds, H. (2012). Alan Colquhoun: Architect, historian, critic. *OASE*, (87), 17-23. https://www.oasejournal.nl/en/Issues/87/Editorial

Banham, R. (1960). *Theory and design in the first machine age*. Praeger.

Bozdoğan, S. (2005). Preface. In A. Colquhoun, *Essays in architectural criticism: Modern architecture and historical change* [*Mimari eleştiri yazıları*] *(pp. i–vii).* Şevki Vanlı Mimarlık Vakfı.

Chabard, P. (2013). Alan Colquhoun in conversation with Pierre Chabard [Interview]. *AA Files, 67*, 138–146. http://www.jstor.org/stable/23595553

Colquhoun, A. (2009). *Collected essays in architectural criticism*. Black Dog Publishing.

Colquhoun, A. (1981). *Essays in architectural criticism: Modern architecture and historical change*. MIT Press.

Colquhoun, A. (2005). *Essays in architectural criticism: Modern architecture and historical change [Mimari eleştiri yazıları]*. Şevki Vanlı Mimarlık Vakfı.

Colquhoun, A. (2002). *Modern architecture*. Oxford University Press.

Colquhoun, A. (1989). *Modernity and the classical tradition: Architectural essays 1980-1987*. MIT Press.

Colquhoun, A. (1962). The modern movement in architecture. *The British Journal of Aesthetics, 2*(1), 59–65. https://doi.org/10.1093/bjaesthetics/2.1.59

Davidovici, I. (2015). Biographical notes. In I. Davidovici (Ed.), *Colquhounery: Alan Colquhoun, from bricolage to myth* (pp. 35-40). Architectural Association.

Davidovici, I. (2015). Introduction. In I. Davidovici (Ed.), *Colquhounery: Alan Colquhoun, from bricolage to myth* (pp. 4-34). Architectural Association.

Hatherley, O. (2012). Two notes on Alan Colquhoun. *OASE*, (87), 87-98. https://oasejournal.nl/en/Issues/87/TwoNotesOnAlanColquhoun

Murphy, K. D. (2004). Modernisms [Review of *European architecture, 1750-1890* by B. Bergdoll, *Modern architecture* by A. Colquhoun, *Twentieth-century architecture* by D. P. Doordan, & *The Gothic revival* by M. J. Lewis]. *Journal of the Society of Architectural Historians, 63*(3), 398–402. https://doi.org/10.2307/4127983

Schnell, A. (2012). What is meant by 'history'? *OASE*, (87), 57-76.

Sherer, D. (2003). Fragments of the modern [Review of *Modern architecture* by A. Colquhoun]. *Art Journal, 62*(4), 108–110. https://doi.org/10.2307/3558498

Tournikiotis, P. (1999). *The historiography of modern architecture*. MIT Press.

Failures as Extensions: Rethinking Design Research through McLuhan's Media Theory

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The cover image is taken from; McLuhan, M. (1964). Understanding Media: The Extensions of Man. McGraw-Hill.

Introduction

In design research, failure is no longer viewed merely as an endpoint or a flaw to be avoided; it is increasingly embraced as a productive space for reflection, innovation, and reorientation. Failures can act as catalysts for reshaping design processes, introducing new ideas, and transforming paradigms. In this context, Marshall McLuhan's Understanding Media: The Extensions of Man (1964) provides a critical theoretical framework for understanding the epistemological role of failure in design. McLuhan's provocative thesis—that "the medium is the message"—invites a rethinking of how technological forms, rather than their contents, shape human perception, social structures, and even our experiences of breakdown.

This review examines Understanding Media through the lens of failure in design research. Although McLuhan's work does not explicitly address "failure" as a design concept, it provides a broader media-theoretical apparatus for understanding how technologies reshape human senses and cognitive systems—often unpredictably. This lens offers valuable insights into how unintended consequences, misalignments, or breakdowns in media use (i.e., forms of failure) can reveal deeper systemic patterns. As such, McLuhan's work is an essential reference for those investigating the generative aspects of design failure, especially in media-rich, technologically mediated environments.

Marshall McLuhan (1911–1980), a Canadian scholar and professor at the University of Toronto, was a pioneer in media theory and an interdisciplinary thinker. With academic roots in English literature and classical rhetoric, McLuhan's insights bridged literary criticism, communication studies, and emerging media analysis. The author is known for his oracular style and for introducing terms such as "the global village," "hot and cool media," and "media ecology" into scholarly and public discourse. His unorthodox methodology and aphoristic prose both puzzled and inspired critics and followers alike.

Originally published during the Cold War era and amid the rise of mass television, Understanding Media investigates how different media technologies—from the alphabet to the electric light to radio—reshape not just the transmission of information, but the underlying structures of thought and society. By examining McLuhan's work through the prism of failure, this review aims to uncover how breakdowns in communication systems—or in their interpretation—can be recontextualized as sites of insight and transformation within design research.

I. McLuhan's Media Theory: Core Arguments and Concepts

Understanding Media explores the transformation of human life by media technologies, emphasizing how these technologies, rather than just transmitting content, alter the form and structure of human experience. McLuhan's famous thesis, "the medium is the message," encapsulates this perspective, suggesting that the transformative power of any medium lies not in its content, but in the form and structure it imposes on human perception and behavior.

McLuhan categorizes media into two major types: hot and cool media. Hot media require less sensory participation from the audience and can be described as highly detailed, providing the audience with information in a concentrated form. Examples include print and film. In contrast, cool media demand more active participation and engagement from the audience, as they provide information in a more fragmented or incomplete form. Examples include television and radio.

One of McLuhan's most significant contributions is his tetrad model, which includes four key elements: enhancement, obsolescence, retrieval, and reversal. This model serves as a diagnostic tool to understand the effects of different media on human perception and society. McLuhan argues that each new medium enhances some existing function, renders certain functions obsolete, retrieves something from the past, and eventually reverses its effect when taken to the extreme. This tetrad provides a framework for understanding the systemic transformations media induce, including the failures that may occur when technologies go beyond their intended purposes.

II. McLuhan's Understanding Media and the Theme of Failure: Societal Effects of Media

McLuhan's theory is highly relevant when considering failure in design research, as it emphasizes that technological environments often cannot be fully controlled by either designers or users. One of the central themes in McLuhan's work is the idea that media technologies, when pushed beyond their limits, can collapse or invert, producing effects opposite to those originally intended. This process of reversal is particularly interesting for design researchers, as it destabilizes the assumption that technologies function in a predictable, linear fashion.

In the chapter "The Gadget Lover: Narcissus as Narcosis," McLuhan discusses how individuals become

numb to the consequences of their technological extensions, ultimately becoming passive participants in the technological environment they have created. Here, failure in design is understood not merely as a flaw, but as a potential outcome of over-extension, where technology becomes too integrated into human perception, leading to unintended consequences. This mirrors the concept of design failure as a breakdown in human-technology interaction, where expectations fail to align with the results, leading to unexpected shifts in how a medium is used or understood.

McLuhan argues that technological failures are an integral part of the media experience. Failures, or breakdowns, are not just obstacles to progress, but opportunities for insight and transformation. When media technologies fail, they expose the limits of human control and highlight the complexity of social and cognitive systems. This perspective offers a critical lens for design research, suggesting that rather than viewing failure as something to be avoided, it can be reinterpreted as a space for discovery and renewal.

III. McLuhan and Walter Benjamin: The Transformation of Failure

McLuhan's views on the transformative effects of technology echo Walter Benjamin's reflections in The Work of Art in the Age of Mechanical Reproduction, where Benjamin argues that mass reproduction erodes the "aura" of the artwork. McLuhan, however, is more concerned with how technological media alter human perception and social structure, rather than the "aura" of an artwork. Both thinkers, however, share a concern for the breakdown of authenticity and authorship in the age of new technologies.

McLuhan's insights into technological failure align with Benjamin's notion of decay. Just as mechanical reproduction diminishes the unique presence of art, new media technologies, by extending human senses in unprecedented ways, challenge traditional notions of authenticity and experience. For McLuhan, media technologies disrupt not only the sensory experience but also the very way humans interact with and interpret the world. This disruption of norms can be seen as a form of failure—a breakdown in the expected or intended effects of media technologies.

Both McLuhan and Benjamin argue that such failures are not simply destructive; they reveal deeper patterns of change. In design research, this insight invites a reevaluation of failure as an inherent part of the technological ecosystem. Rather than viewing technological breakdowns as anomalies, McLuhan encourages us to understand them as a form of reversal, where the limits of technology's power become evident and, in doing so, open up new avenues for understanding and creativity.

IV. McLuhan's Theories in Design Research: Applications and Challenges

McLuhan's media theories offer valuable tools for design researchers interested in exploring failure, especially in media-rich environments. However, his work poses certain challenges, particularly for those seeking empirical validation or systematic methodologies. McLuhan's writing is often aphoristic, poetic, and highly interpretive, which can make it difficult to apply in a structured, academic context. The author's lack of empirical data and reliance on analogies may frustrate researchers looking for clear, measurable outcomes.

Despite these challenges, McLuhan's tetrad model and his emphasis on media as extensions of human senses provide a critical framework for understanding how media can fail in ways that reveal deeper systemic truths. The concept of reversal, for example, is a powerful tool for design researchers interested in how media technologies can unexpectedly transform or collapse when pushed beyond their limits. These insights are particularly relevant in the context of failure, where design outcomes often deviate from their intended paths.

McLuhan's work encourages designers and researchers to rethink failure as part of a broader system of technological and social interdependencies. Rather than viewing failure as an anomaly, McLuhan's work suggests that it is an essential part of the process, offering valuable lessons in how technologies, once seen as infallible, can break down and lead to unforeseen consequences. This shift in perspective is crucial for design researchers seeking to understand the deeper dynamics of failure in complex systems.

V. Conclusion

Marshall McLuhan's Understanding Media: The Extensions of Man remains a foundational text in media theory and offers unique insights into the role of failure in design research. By examining the failure of media technologies, McLuhan's work challenges conventional notions of linear progress and invites a rethinking of how breakdowns and reversals in media can offer valuable insights into societal transformation. Though McLuhan's theories are not directly prescriptive, they provide a rich theoretical framework for understanding failure as a generative force in design.

Future research might explore how McLuhan's tetrad model can be applied to contemporary design case studies, or how his ideas intersect with feminist and decolonial critiques of technology. Ultimately, McLuhan's work invites us to move beyond the successes of design and find meaning in its breakdowns. By embracing failure as an integral part of the design process, researchers and designers can gain deeper insights into the complex relationships between technology, society, and human perception.
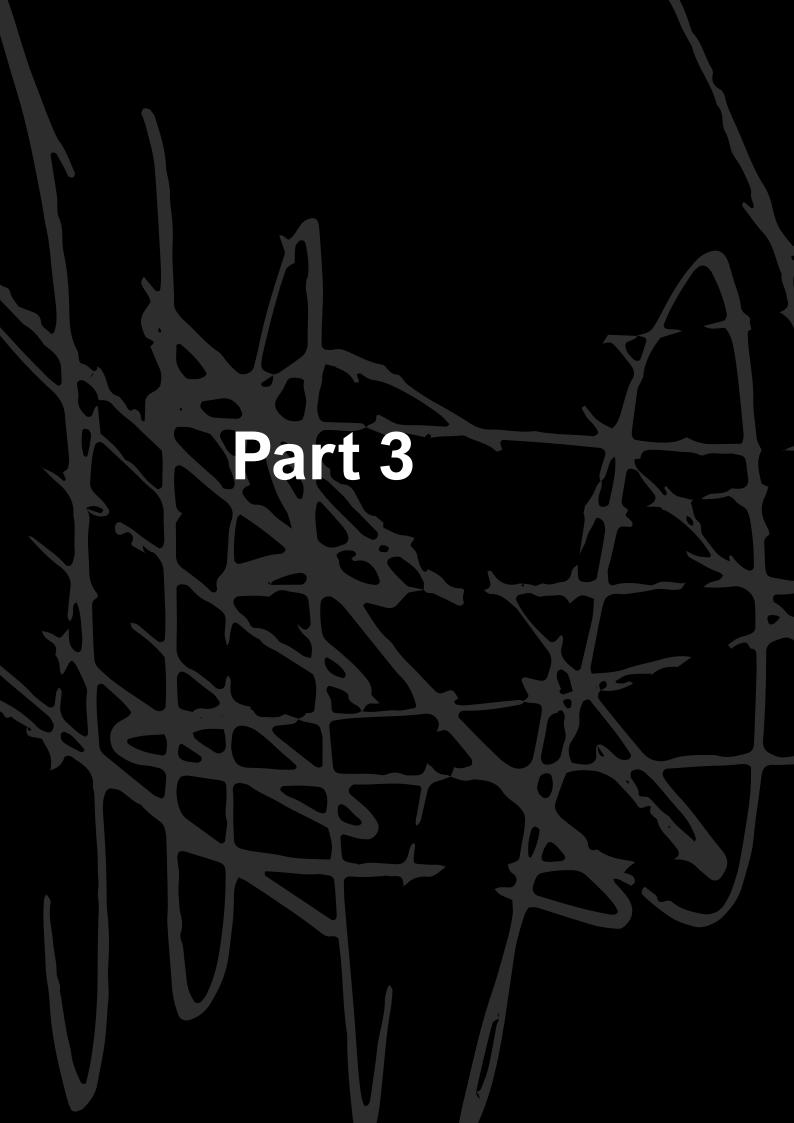
References

Benjamin, W. (1969). The Work of Art in the Age of Mechanical Reproduction (H. Zohn, Trans.). In H. Arendt (Ed.), Illuminations (pp. 217-251). Schocken Books. (Original work published 1936)

Haraway, D. (1991). Simians, Cyborgs, and Women: The Reinvention of Nature. Routledge.
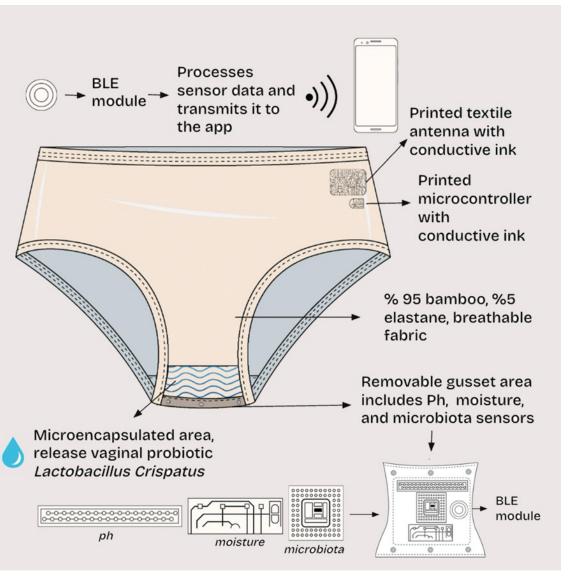
McLuhan, M. (1964). Understanding Media: The Extensions of Man. McGraw-Hill.

Parks, L. (2005). Cultures in Orbit: Spaceflight, the Apollo Program, and the Globalization of Media. Routledge.

Part 3

Designing (and Failing) Smart Underwear for Genital Flora Health

Filiz ÖZBENGİ USLU, Prof. Dr. Ender YAZGAN BULGUN

Representation of the smart underwear system showing sensor placement and probiotic release mechanism. (Illustration by the author, 2024)

Designing (and Failing) Smart Underwear for Genital Flora Health

Abstract: This paper provides a reflective analysis of the speculative development of a smart underwear prototype designed to monitor genital flora in the postpartum context. The proposed design integrates pH, humidity, and microbiota sensors into a wearable textile system and aims to respond to imbalances through the controlled release of Lactobacillus crispatus probiotics. Drawing upon market research, user needs analysis, and recent developments in smart textiles and wearable health technologies, the study outlines the conceptual, material, and technical foundations of the product. However, throughout the design process, several limitations and challenges emerged, including technical and conceptual difficulties. Rather than being regarded solely as shortcomings, these challenges are critically examined as productive opportunities for learning, re-evaluation, and reflection. The utilisation of privacy-sensitive health technologies necessitates the development of design methodologies that are intrinsically aligned with care and adaptability, particularly in the context of engaging with intimate bodily data and its associated ethical considerations. Adopting the conceptual framework of "failing well," this study interprets design failures not as deficiencies but as opportunities for learning and critical reflection, with the broader objective of contributing to a design research culture grounded in transparency and ethical integrity.

Keywords: Smart Wearables, Postpartum Care, Genital Flora Health, Speculative Design, Design Failure

1. Introduction

The proliferation of wearable health technologies has opened new pathways for continuous, real-time health monitoring, promising more personalized and accessible care (Majumder et al., 2017). While these technologies have gained traction across domains such as cardiovascular health, sleep, and fitness, their integration into maternal care remains limited, and often disproportionately oriented toward infant monitoring rather than maternal well-being (Li et al., 2020). This imbalance, where postpartum products and technologies focus more on the baby than the mother, reveals a deeper, structural problem. Instead of prioritizing the mother's recovery, comfort, or emotional state, these systems often focus on collecting measurable data about the baby's health (Memon et al., 2020). This prioritization means that care for the woman's body and well-being becomes secondary or even invisible.

Based on a market analysis of recent developments in smart textiles and wearable health technologies, this project identified a lack of solutions for postpartum vaginal health monitoring in the current product ecosystem. Complementing this analysis, a user-centered survey of 15 participants, mostly urban postpartum mothers, identified key concerns. Participants expressed a strong preference for wearable and app-enabled systems that prioritize hygiene, usability, and comfort. In response to these findings, the study presents a critical reflection on the speculative development of a smart underwear prototype designed to monitor genital flora health in postpartum mothers. The proposed wearable integrates textile-based sensors capable of detecting pH, moisture, and microbiota shifts, triggering the localized release of Lactobacillus crispatus to restore microbial balance.

The design phase of the project, which remained at a conceptual level, revealed both technical and ethical challenges of potential production. These challenges are not to be regarded as implementation failures, but rather as opportunities for critical thinking. This study draws on critical perspectives on technology and care (Puig de la Bellacasa, 2017) and the concept of "failing well" to re-evaluate how early-stage design processes can contribute to the development of more careful and ethically sensitive approaches to smart wearables, particularly when addressing sensitive and concrete contexts.

2. Conceptual Framework and Research Landscape

The development of smart wearables has significantly transformed contemporary understandings of health by introducing new methods of sensing, monitoring, and measuring the body. First emerging as fitness trackers, these wearables evolved into real-time monitors (Koydemir & Ozcan, 2018). Widely adopted in areas such as sports performance, sleep tracking, and chronic disease management, they now provide users with continuous access to bodily data (Lee et al., 2016).

Despite their increasing use in healthcare, smart wearables remain underutilized in maternal and postpartum care. Most products focus on infant biometrics and fetal monitoring, offering limited support for maternal recovery. Devices like the Owlet Dream Sock and Mimo Smart Baby Monitor exemplify this infant-centered approach (Louie et al., 2025). Solutions aimed at maternal needs, such as Nuvo Invu or Bloomlife, are often confined to clinical settings or expensive rental models, limiting daily use (Mhajna et al., 2020). Even tools

like the Elvie products address specific needs but overlook hormonal and emotional aspects (Yadal et al., 2023; Mehrnezhad et al., 2022).

Genital flora health and moisture regulation are similarly neglected in the wearable market. A few experimental designs—such as ALMA's pH-monitoring underwear or Pantibiotic's probiotic-release mechanism—have begun to explore this space (Che et al., 2018). Yet these remain costly, niche, and focused on singular functions. This underscores a key gap: the need for holistic, user-responsive systems that integrate sensing and care for intimate health (Osmalek et al., 2021).

As digital tools increasingly shape healthcare, the concept of "care" is being redefined. Traditionally associated with physical, emotional, and social support, care is now often mediated through data-driven wearables that provide monitoring, feedback, and even intervention (Frigo et al., 2023). Smart wearables, positioned at the intersection of healthcare, lifestyle, and technology, have thus evolved from health trackers into everyday care facilitators.

From this standpoint, the function of smart wearables is understood to be embedded within broader sociotechnical systems, wherein the determination of what to monitor and the manner in which to interpret data are influenced by cultural norms, institutional practices, and commercial priorities (Canali et al., 2022). The predominant focus on fetal and infant monitoring frequently leads to the marginalisation of postpartum maternal needs. There is a need for more inclusive and responsive design methodologies that address the postpartum body as an area requiring continuous care, taking into account hormonal changes, microbial fluctuations, and emotional transitions that are often overlooked by current health technologies.

Addressing these gaps requires a speculative design approach that questions existing assumptions and reimagines how technology can support care practices. Rather than predicting the future, it aims to provoke reflection by asking: Could they respond to hormonal shifts or emotional states? What forms of materials, interfaces, or rituals could support such care? By challenging embedded assumptions, speculative design enables more inclusive, adaptive, and holistic visions of health technologies. Instead of isolated devices, it allows for the conceptualization of interconnected wearable ecosystems—textile-based or body-near tools that evolve with users and address both physical and emotional dimensions of care (Schaar & Zeagler, 2021).

In this context, the smart underwear concept proposed in this study serves as a speculative challenge to explore how wearable technology could support postpartum genital flora health through integrated sensing, responsive probiotic delivery, and care-centered design principles.

3. Concept Development

The project originated from a recognized gap in wearable health technologies targeting postpartum care, particularly regarding genital flora health. Informed by earlier market research and user needs analysis, the design process aimed to develop a speculative wearable capable of monitoring vaginal health indicators and delivering localized, responsive care. The concept integrates real-time sensing with a care-oriented and user-friendly approach.

3.1 Identifying User Needs

Initial development was guided by a survey involving 15 postpartum participants, mostly urban mothers. When asked about the most important feature in such a device, hygiene (46.7%) was ranked highest, followed by app compatibility (33.3%) and comfort (20%). Nearly all participants (93.3%) expressed a preference for the product to be washable and reusable. In terms of desired functions, the most useful was identified as real-time monitoring of pH and moisture (66.7%), followed by a probiotic release mechanism (26.7%), and data logging for clinical visits (6.6%). These insights shaped the conceptual development of the smart underwear system, particularly informing design decisions around materials, modularity, and interface usability.

3.2 Conceptual Architecture

The proposed underwear monitors three key genital health indicators: pH, moisture, and microbiota composition. The gusset contains a pH sensor (silver/silver chloride textile electrode), a moisture sensor (capacitive-based), and a microbiota sensor (envisioned as optical or biosensing). These are connected to a printed microcontroller and Bluetooth module for wireless transmission, with a conductive textile antenna enabling signal and inductive charging. A microencapsulated layer releases Lactobacillus crispatus when specific readings are detected, enabling responsive, adaptive care (see Figure 1).
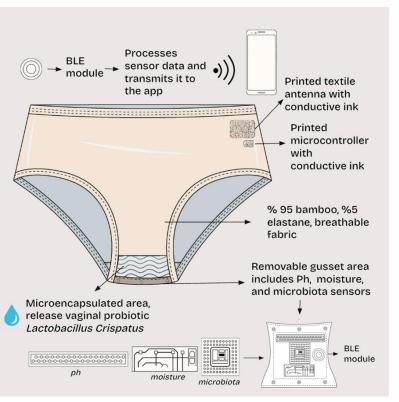
Figure 1. Representation of the smart underwear system showing sensor placement and probiotic release mechanism. (Illustration by the author, 2024).

3.3 Materials and Interface Integration

Material and interface decisions have been guided by the priorities of hygiene, comfort, and technical compatibility. The underwear is made from a breathable and flexible fabric blend (95% bamboo, 5% elastane), while the gusset, coated with antibacterial silver ions, is designed to be removable for easy cleaning or replacement. Printed electronics are embedded for a lightweight, seamless feel. The accompanying mobile app complements the wearable device by displaying real-time sensor data, historical data visualization, providing alerts (e.g., for cleaning or charging), and offering personalized daily recommendations.

4. Design Failures and the Limits of Speculation

As a speculative concept, the smart underwear system remained in the design phase and was not developed into a physical prototype. While this allows for a critical exploration of possibilities, it also means that many technical assumptions remain untested. If the product is ever brought to market, numerous challenges are likely to arise, particularly regarding material integration, sensor performance, and usability.

One of the main failures encountered was the technical impossibility of integrating three sensing methods— pH, humidity, and microbiome sensing—into a lightweight, wearable textile product without compromising user comfort. The integration of printed electronics into flexible fabric substrates remains an emerging research area, particularly when such systems must be washable, wireless, and biocompatible. Issues related to sensor calibration, battery-free operation, and data accuracy pose additional challenges, especially when considering the sensitive microbiological environment of the postpartum body.

Another failure is user privacy and data ethics. Despite app security, processing intimate body data raises ethical concerns. Designing a system that balances functionality with autonomy and psychological safety requires not only technical measures but also sensitivity to how users emotionally respond to their body measurements. Therefore, ways to provide informative feedback without causing anxiety or medical dependency should be explored.

Additionally, the speculative nature of the project has created methodological uncertainty. Since the concept has not been implemented as a functional prototype, its potential outcomes remain hypothetical. However, this limitation can be accepted as part of design research. While the speculative orientation of the project makes it possible to imagine alternative futures, it also reveals the limits of speculation when addressing real-world health needs.

While current maternal health wearables often respond to narrowly defined physiological functions, they rarely engage with the broader emotional, microbial, and ethical complexities of the postpartum experience. This reveals not only a technological but also an epistemological gap in how maternal health is framed.

These types of smart wearables generally reinforce passive user roles, medicalize the body, and have the potential to overlook the political and social dimensions of health (Baker, 2020).

For this reason, design processes must be redirected from control and efficiency toward mutual dependence, subjectivity, and ethical sensitivity. In this context, the postpartum body should not be viewed merely as an area of functional deficiency requiring correction, but rather as a complex domain of transformation, fragility, and healing that demands sensitive and context-appropriate design interventions.

5. **Conclusion**

This study investigated the speculative development of a smart underwear system designed to support postpartum genital flora health through integrated sensing and responsive probiotic delivery. By critically addressing user needs and the technical structure of smart wearables, the project highlights significant gaps in existing maternal health technologies, particularly their limited ability to address the physical, emotional, and microbial complexities of the postpartum period. While the prototype did not materialize into a functional product, the process of designing and "failing" was itself generative, offering critical insights into the technical, ethical, and conceptual challenges of intimate health technologies.

Rather than perceiving these limitations as deficiencies, the project considers them as opportunities to rethink the conceptualisation of care in the context of smart wearables. Consequently, this work provides a foundation for a more extensive discourse on speculative and care-focused design, emphasising adaptability, ethical sensitivity, and user autonomy.

Reference List

Baker, D. A. (2020). Four ironies of self-quantification: Wearable technologies and the quantified self. Science and Engineering Ethics, 26, 1477–1498. https://doi.org/10.1007/s11948-020-00181-w

Canali, S., Schiaffonati, V., & Aliverti, A. (2022). Challenges and recommendations for wearable devices in digital health: Data quality, interoperability, health equity, fairness. PLOS Digital Health, 1(10), e0000104. https://doi.org/10.1371/journal.pdig.0000104

Che, J., Tomasello, G., Busolo, T., & Calabrese, M. (2018, June 18). Alma – Wearable biosensor for monitoring vaginal discharge. Hackster.io. https://www.hackster.io/alma/alma-wearable-biosensor-for-monitoring-vaginal-discharge-b1022f

Frigo, G., Milchram, C., & Hillerbrand, R. (2023). Designing for care. Science and Engineering Ethics, 29, 16. https://doi.org/10.1007/s11948-023-00434-4

Koydemir, H. C., & Ozcan, A. (2018). Wearable and implantable sensors for biomedical applications. Annual Review of Analytical Chemistry, 11, 127–146. https://doi.org/10.1146/annurev-anchem-061417-125956

Lee, J., Kim, D., Ryoo, H.-Y., & Shin, B.-S. (2016). Sustainable wearables: Wearable technology for enhancing the quality of human life. Sustainability, 8(5), 466. https://doi.org/10.3390/su8050466

Li, C., Lin, S. H., & Chib, A. (2020). The state of wearable health technologies: A transdisciplinary literature review. Mobile Media & Communication, 9(2), 353–376. https://doi.org/10.1177/2050157920966023

Louie, J., Mukund, T., Vu, C., Epstein, D. A., & Papoutsaki, A. (2025). Understanding temporality of reflection in personal informatics through baby tracking. In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems (Article 1191, pp. 1–18). ACM. https://doi.org/10.1145/3706598.3713197

Majumder, S., Mondal, T., & Deen, M. J. (2017). Wearable sensors for remote health monitoring. Sensors, 17(1), 130. https://doi.org/10.3390/s17010130

Mehrnezhad, M., Shipp, L., Almeida, T., & Toreini, E. (2022). Vision: Too little, too late? Do the risks of FemTech already outweigh the benefits? In Proceedings of the 2022 European Symposium on Usable Security (pp. 145–150). ACM. https://doi.org/10.1145/3549015.3554204

Memon, S. F., Memon, M., & Bhatti, S. (2020). Wearable technology for infant health monitoring: A survey. IET Circuits, Devices & Systems, 14(1), 1–11. https://doi.org/10.1049/iet-cds.2018.5447

Mhajna, M., Schwartz, N., Levit-Rosen, L., Warsof, S., Lipschuetz, M., Jakobs, M., Rychik, J., Sohn, C., & Yagel, S. (2020). Wireless, remote solution for home fetal and maternal heart rate monitoring. American Journal of Obstetrics & Gynecology MFM, 2(2), 100101. https://doi.org/10.1016/j.ajogmf.2019.100101

Osmałek, T., Froelich, A., Jadach, B., Tatarek, A., Gadziński, P., Falana, A., Gralińska, K., Ekert, M., Puri, V., Wrotyńska-Barczyńska, J., & Michniak-Kohn, B. (2021). Recent advances in polymer-based vaginal drug delivery systems. Pharmaceutics, 13(6), 884. https://doi.org/10.3390/pharmaceutics13060884

Puig de la Bellacasa, M. (2017). Matters of care: Speculative ethics in more than human worlds. University of Minnesota Press. http://www.jstor.org/stable/10.5749/j.ctt1mmfspt

Schaar, R., & Zeagler, C. (2021). Predicting inclusive futures: Wearables, automation, and design speculation. In C. S. Shin, G. Di Bucchianico, S. Fukuda, Y. G. Ghim, G. Montagna, & C. Carvalho (Eds.), Advances in industrial design (Vol. 260, pp. 157-164). Springer. https://doi.org/10.1007/978-3-030-80829-7_20

Yadav, D., Balaam, M., & Lampinen, A. (2023). Invisibility or visibility in intimate care at the workplace? Examining the use of breast pumps. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (Article 213, pp. 1–15). ACM. https://doi.org/10.1145/3544548.3581411

Deconstructing Homes as a Criticism of Modernism: Examining Buster Keaton's One Week and Gordon Matta-Clark's Spatial Interventions

Deniz AKDENİZ, Asst. Prof. Dr. Didem YAVUZ VELİPAŞAOĞLU

Buster Keaton, One Week, 1920. Source: Hatherley, 2016.

Deconstructing Homes as a Criticism of Modernism: Examining Buster Keaton's One Week and Gordon Matta-Clark's Spatial Interventions

Abstract

Modernism has undergone a major transformation in architecture since the beginning of the 20th century under the influence of industrialization, Fordism and Taylorism. This understanding, which is based on standardization and functionality, has provided the rationalization of space with prefabrication and mass production methods. However, these processes that ignore individuality have been criticized. Had modernism reached its peak only to fail? This study examines the failures of modernism by addressing the criticisms brought to the spatial and structural understanding of modernism. Buster Keaton's film One Week (1920) ironically processes the disregard of the human factor in prefabricated construction systems through slapstick comedy. Gordon Matta-Clark challenges the rationalization and standardization of space by implementing physical interventions with his works Splitting (1974) and Bingo (1974). While existing studies offer criticisms of modernism, limited research has been conducted on a comparative analysis of the works of Keaton and Matta-Clark. This article aims to analyze the impacts of modern architecture on individual experience by comparing the critical approaches of Keaton and Matta-Clark.

Keywords: Gordon Matta-Clark, Buster Keaton, criticism of modernism, art and architecture, deconstruction of home

Introduction

To understand how modernism rose in 20th century architecture, it is necessary to look at the social, economic and cultural context of the period. Technologies that developed with the industrial revolution accelerated production processes and increased efficiency. In this context, the production concepts brought by Fordism and Taylorism have also shown their impact in the field of architecture. The combination of these systems has given rise to mass solutions such as prefabricated houses, making architecture more functional and economical.

However, these modernist ideals began to receive different criticisms over time. As Charles Jencks - a key figure in the history of postmodern architecture - emphasized in his work The Language of Postmodern Architecture, modernism neglected user experience and social goals as it faced consumerism and capitalism (Haddad, 2009). Standardization and efficiency-oriented production processes have eliminated individuality and originality, making the suitability of space for human experience questionable. Modernism's rationality and progress-oriented design approach has been criticized on the grounds that it ignores the human scale and individual needs (Karamanoğlu & Durak, 2024). One of the examples of these criticisms was the opposing discourses brought by the disciplines of art and architecture to modernism.

Buster Keaton's film One Week (1920) and Gordon Matta Clark's works Splitting (1974) and Bingo (1974) contain criticisms of the modernist understanding of architecture. While Keaton ironically reveals the failures of prefabrication and the absurdity of standardization through slapstick comedy (Suau, 2011), Matta-Clark questions the static and regulatory nature of modern architecture through physical destruction and disintegration (Uluengin & Görgülü, 2014).

The aim of this study is to examine Keaton and Matta-Clark's critiques of modernism and to reveal their different but overlapping opposing approaches to architecture and spatial perception. The works of Keaton and Matta-Clark provide examples for understanding anti-modernist discourses in architectural history with their critical perspectives against modernism's spatial and functional design approach.

Modernism and Prefabrication: Fordism, Taylorism and Capitalism

Modernism was shaped by the rapidly developing production processes after the industrial revolution. With the industrial revolution, production systems underwent a radical transformation and fabrication methods gained speed (Hatherley, 2016). During this transformation process, in the beginning of the 20th century, Fordism and Taylorism brought concepts such as standardization, efficiency and optimization to the forefront in architecture (Jacobs, 2018). In particular, Fordism encouraged the standardized production of building materials and even entire structures through factories operating with the logic of mass production. This production approach influenced architecture with mass production techniques, contributing to the spread of prefabricated structures and the acceleration of production processes in modernist architecture.

Prefabrication has gained an important place in architecture as a result of the importance modernism gave

to functionality and rationality. Companies such as Sears, Roebuck & Co. aimed to facilitate the construction of houses with mass production methods and to provide individuals with low-cost housing (Spurr, 2012). However, this process limited individuality and originality, causing spaces to become monotonous and people to live in identity-less structures.

Fordism, defined as a mass production and consumption system in the early 20th century, was seen as a canonical and pioneering model of capitalist development in the late 20th century (Hudson, 2020). Therefore, while the rationality and functionality offered by modernist architecture were initially criticized through Fordism, they later began to be criticized through capitalism. These criticisms, especially from the disciplines of art and architecture, questioned the standardization of modernism. Was Sigfried Giedion, while presenting the most successful selections in the field of modernist architectural historiography (ie. Space, Time and Architecture, 1941), actually falling into a mistake? How would the clean, neat, and hygienic architectural environment confront its flaws with the criticism of anti-modernists?

Artists such as Buster Keaton and Gordon Matta-Clark criticized the idealized lifestyles offered by modernist systems and emphasized the shortcomings of these systems. Keaton's opposition to the system presented through comedy and Matta-Clark's spatial interventions take a stance against the aspects of modernism that standardize the individual and trivialize spaces. The tension between the rational arrangements of modernism and individual experiences can be felt in the works of these two artists. This theoretical framework provides a basis for understanding the criticisms of both Keaton and Matta-Clark.

Buster Keaton's One Week and His Critique of Modernism

Buster Keaton's One Week (1920) offers a satirical and critical lens to examine the advantages and disadvantages of prefabrication. The film focuses on a couple who are trying to build a prefabricated house. The couple quickly descends into chaos. This chaos highlights the disconnect between theoretical efficiency and practical reality. The pieces of the house kit are relabeled by a stranger. It serves as a metaphor for the questions that modernism struggles to answer when faced with human error and unforeseen challenges (Spurr, 2012). This critique is revealed by the chaotic transformation of the house from a symbol of modern efficiency to a meaningless and unstable structure. At the same time, this critical approach questions modernism's utopian proposals of standardization and perfection.

One Week uses a series of visual jokes to highlight the absurdity of applying standardized systems to unpredictable human contexts. For example, the collapsing walls and irregularly rotating roof symbolize the failure of modernist design principles to accommodate spontaneity and individuality (Jacobs, 2018). Keaton's physical comedy, his character's clumsy yet determined efforts to put the house together, reveal the limits of Fordist ideals when applied to domestic life (Hatherley, 2016). By prioritizing ordinariness and uniformity, the prefabricated house becomes a place of both physical and symbolic disorder.

This prefabricated house in the film One Week was built in the wrong place. Realizing this, the married couple tries to move their house to the right place. This right place is opposite the train springs. While the couple is trying to move the house, a train comes and destroys the house by breaking it into pieces. The train is again the reason why this house, whose parts are brought by a train, falls into pieces. The destruction of this house by this train symbolizes the collapse of modernist aspirations when faced with real-world complexities (Jacobs, 2018). This act of destruction not only emphasizes the fragility of the prefabricated house but also reflects the inadequacies of the socio-cultural approach that prioritizes efficiency over human-centered design. The train, a symbol of industrial progress, ironically becomes a vehicle of destruction, further reinforcing the paradoxes of modernism.

Keaton's One Week extends its critique beyond the architectural realm to engage with broader sociocultural themes of the 1920s (Hatherley, 2016). The film's humor becomes a tool for questioning the ideological foundations of modernist architecture and its effects on everyday life. By juxtaposing the precision of industrial production with the unpredictability of human behavior, Keaton reveals the contrasts between the theoretical ideals of modernism and practical realities.

With this critical comedy, One Week provokes thought about the relationship between architecture, industrialization, and the human condition. By exaggerating the flaws of prefabrication and modernist principles, the film humorously reflects the social and cultural tensions of its time.

Figure 1. Buster Keaton, One Week, 1920. Source: Hatherley, 2016.

Figure 2. Buster Keaton, One Week, 1920. Source: Hatherley, 2016.

Gordon Matta-Clark and Anarchitecture

Matta-Clark developed the concept of "Anarchitecture", which challenges traditional building practices by offering an alternative approach to the strict formal rules of modernist architecture (Lee, 1996; Uluengin & Görgülü, 2014). This concept suggests that architecture can be reproduced not only through construction but also through a process of destruction that questions the boundaries of space. In his works, Matta-Clark reverses modernism's claims of order and functionality by taking sections of buildings and disrupting spatial integrity. In this context, the artist's most well-known projects, Splitting (1974) and Bingo (1974), are considered radical interventions that aim to fragment modernist houses and gain new meanings (Karamanoğlu & Durak, 2024).

In the Splitting project, Matta-Clark interrupted the physical and conceptual integrity of a suburban house by splitting it in two. This not only physically changed the structure but was also read as a critique of the rigid order and functionality of modernist architecture (Krivý, 2010). In his work Bingo, the artist carefully removed the walls of an abandoned house, aiming to transform the spatial experience and eliminate the boundaries between the interior and the exterior world. With such structural interventions, Matta-Clark not only criticizes the traditional understanding of architecture but also sheds light on the social and economic effects of modernist systems (Beşlioğlu & Savaş, 2012).

Matta-Clark's works question the claim of modern architecture to be static and functional. While modernism envisions an architectural system based on rationality and order, Matta-Clark's works reveal the fragility and changeability of this order. Matta-Clark viewed the processes of destruction and fragmentation not only as an intervention into physical space, but also as artistic expressions that change spatial perception and offer a new experience (Uluengin & Görgülü, 2014).

In addition, the artist's approach is an in-depth critique of the spatial production processes of capitalism. Taking a stance against the standardized architectural practice, especially with mass production models, Matta-Clark emphasizes the experiential dimension of space by destroying the ordinary understanding of space that destroys individuality. In the context of the 'Anarchitecture' movement, he used the processes

of destruction and deterioration as a means of reproduction and creative transformation. By considering space as a dynamic, open-ended and ever-changing element, he aims to break down the rigid and definite limitations of modernism (Karamanoğlu & Durak, 2024).

Figure 3. Gordon Matta- Clark, Splitting, 1974. Source: Beşlioğlu & Savaş, 2012.

Figure 4. Gordon Matta- Clark, Bingo, 1974. Source: de Monchaux, 2017.

Critical Similarities and Differences of Keaton and Matta-Clark

Buster Keaton's house in One Week (1920) and Gordon Matta-Clark's Bingo (1974) and Splitting (1974) develop similar critiques of architecture and the representation of space but present this critique through different artistic methods. Both artists challenge the normative understanding of architecture by deconstructing the house and structural forms. However, the aim of their approaches and the tools they use differ.

In Keaton's film One Week, the incorrect assembly of a prefabricated house reveals the failure of modernist production processes through comedy. Although the house is perfectly designed, small errors in the assembly process turn it into a dysfunctional and unusable structure. This is an ironic critique of the aspects of modernism that ignore the human factor (Spurr, 2012). Keaton shows how far from reality the modernist utopia can be through the incorrect positioning and destruction of the house's parts (Jacobs, 2018).

Matta-Clark questions the flawless claim of modernist architecture through destruction. In his projects such as Splitting and Bingo, Matta-Clark physically cuts existing buildings to open the interior to the exterior, disrupting the functionality of the structures and showing that space is not a fixed but a variable element (Karamanoğlu & Durak, 2024). This is a direct criticism of modernist architecture's understanding of order and rationality. Matta-Clark considers architecture not only as a constructed form but also as a constantly changing process (Beşlioğlu & Savaş, 2012).

Both artists adopt an approach that deconstructs, reorganizes and gives new meaning to architecture. However, while Keaton makes this criticism through slapstick comedy, Matta-Clark presents this criticism through physical interventions, that is, by cutting and dividing the architecture.

While Keaton's house loses its mass form as a result of a tragicomic misconstruction production, Matta-Clark's structures are divided as an artistic choice. While Keaton emphasizes the absurdity of daily life, Matta-Clark deepens modernism's criticism of abandoned structures and urban spaces.

Thus, Keaton and Matta-Clark develop ironic and critical approaches that deconstruct architecture by dismantling it. Both artists offer different but complementary approaches to criticizing modernism's claims to order, functionality and standardization. While Keaton does this critique through cinema and comedy, Matta-Clark redefines space through the physical practice of cutting and dividing. Keaton and Matta-Clark emphasize the experiential and variable nature of space, challenging aspects of modernism that make the individual a part of the system. Both artists challenge the rigid rules of modernism by deconstructing the integrity of structures.

Conclusion

This study has discussed how modernist architecture was shaped by Fordist and Taylorist production processes and how these processes were reflected in spatial experiences. Modernism, with its approach based on functionality and rationality, benefited from mass production and standardization; it created anonymous spaces that ignored individual identities through prefabrication. In this context, while the modernist ideal presented by Sigfried Giedion in his work "Space, Time and Architecture" imagines a flawless, orderly and functional world (Ceylanlı & Turan Özkaya, 2008), it is seen that this ideal actually limits human experiences and excludes individuality. The historical idealization that Giedion tries to make is at the basis of the criticisms towards the world of modernism.

As a critique of these modernist narratives, this study has analyzed the works of Buster Keaton and Gordon Matta-Clark. Keaton's satirical criticisms and Matta-Clark's spatial interventions offer an alternative perspective to the homogeneous and functional world presented by modernism. Matta-Clark's interventions such as "Splitting" and "Bingo" break down the idealized integrity of modernism (Karamanoğlu & Durak, 2024) and emphasize the heterogeneous and multilayered nature of space. In the film One Week, the incorrect assembly and eventual complete collapse of a prefabricated house demonstrates how modernism's idealized concept of housing can fail in real life (Spurr, 2012). These criticisms reveal the importance of individual experiences against modernism's idealized lifestyles.

At this point, the pluralistic and complex understanding of reality developed by postmodernist criticisms against modernism's rational narrative overlaps with the fundamental findings of this study. Postmodernism questions the boundaries of modernist ideals and narratives, while highlighting pluralism and individuality (Haddad, 2009). In this context, Keaton and Matta-Clark's works can be evaluated as advocates of spatial diversity and multilayered experiences against modernist architecture's homogeneous and functional understanding of space.

This study presents a critique of modernist architecture through deconstructive interventions, while also offering implications for critiques that emphasize the importance of human experience. The critique of modernism should not remain solely an interrogation of the past but should offer new perspectives on contemporary architectural practices. These perspectives can help the way for more humane, diverse, and spatially expansive designs.

Reference List

Beşlioğlu, B., & Savaş, A. (2012). Fleabite: Gordon Matta-Clark and programmatic experimentation. Architectural Research Quarterly, 16(2), 125–136. https://doi.org/DOI: 10.1017/S1359135512000449

Ceylanlı, Z., & Turan Özkaya, B. (2008). Sigfried Giedion'S "Space, Time and Architecture" : an Analysis of Modern Architectural Historiography [Middle East Technical University (Turkey)]. In PQDT - Global. https://www.proquest.com/dissertations-theses/sigfried-giedions-space-time-architecture/docview/3132861906/se-2?accountid=11657

de Monchaux, N. (2017). The Death and Life of Gordon Matta-Clark. AA Files, 74, 183–199. http://www.jstor.org/stable/44252555

Haddad, E. (2009). Charles Jencks and the historiography of Post-Modernism. The Journal of Architecture, 14(4), 493–510. https://doi.org/10.1080/13602360902867434

Hatherley, O. (2016). The Chaplin Machine : Slapstick, Fordism and the Communist Avant-Garde. Pluto Press. https://research.ebsco.com/linkprocessor/plink?id=1bb6faeb-6384-3c70-bfba-44977ae04930

Hudson, R. (2020). Fordism. In A. Kobayashi (Ed.), International Encyclopedia of Human Geography (Second Edition) (pp. 203–208). Elsevier. https://doi.org/https://doi.org/10.1016/B978-0-08-102295-5.10068-X

Jacobs, S. (2018). Slapstick homes: architecture in Slapstick Cinema and the Avant-Garde. The Journal of Architecture, 23(2), 225–248. https://doi.org/10.1080/13602365.2018.1443345

Karamanoğlu, S. E., & Durak, F. L. (2024). Gordon Matta-Clark'ın Eserlerinde Evin Yıkımı ve Modernizm Eleştirisi. In Art Vision (Vol. 30, Issue 52, pp. 79–87). Atatürk University. https://doi.org/10.32547/artvision.1416408

Krivý, M. (2010). Industrial architecture and negativity: the aesthetics of architecture in the works of Gordon Matta-Clark, Robert Smithson and Bernd and Hilla Becher. The Journal of Architecture, 15(6), 827–852. https://doi.org/10.1080/13602365.2011.533549

Lee, P. M. (1996). Object to be destroyed: The work of Gordon Matta-Clark [Harvard University]. In ProQuest Dissertations and Theses. https://www.proquest.com/dissertations-theses/object-be-destroyed-work-gordon-matta-clark/docview/304307240/se-2?accountid=11657

Spurr, D. (2012). An End to Dwelling: Architectural and Literary Modernisms. In Architecture and Modern Literature (pp. 50–72). University of Michigan Press. https://doi.org/10.2307/j.ctt1qv5nb5.6

Suau, C. (2011). Visionary Prefab in the Modern Age: Deconstructing Keaton's Films. In Docomomo Journal (Issue 44, pp. 81–85). Docomomo International. https://doi.org/10.52200/44.a.p2hwovdv

Uluengin, Ö., & Görgülü, T. (2014). 'Anarchitecture' As An Oppositional Position in Architecture. In Megaron (Vol. 9, Issue 4, pp. 338–348). KARE Publishing. https://doi.org/10.5505/MEGARON.2014.41736

Suau, C. (2011). Visionary Prefab in the Modern Age: Deconstructing Keaton's Films. In Docomomo Journal (Issue 44, pp. 81–85). Docomomo International. https://doi.org/10.52200/44.a.p2hwovdv

Learning from Failures in Designing Screen Habits for Preschool Children

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Note. From Cute little children lying under blanket with tablet computer [Photograph], by Belchonock, 2021, Depositphotos (https://depositphotos.com/photo/cute-little-children-lying-blanket-tablet-computer-140634636.html)

Learning from Failures in Designing Screen Habits for Preschool Children

Abstract: Based on the willingness to prevent preschool children's screen addiction, this paper examines the concepts that create screen addiction in preschool children and some design failures. Nowadays, children have begun to spend their developmental periods living with the technological devices and the games within them. While screen addiction causes many psychological and biological problems in children, these can also be factors such as depression that trigger addiction. In addition, the characteristics of children are also one of the important factors that make them predisposed to addiction. Many game companies know these characteristics and are developing various strategies to keep children hooked on the screen. Over time, many products have been produced to prevent this situation, but solutions have not resulted in anything other than restricting the phone's features or putting the phone away. These concepts were examined to learn from the failures and reach the real truth about screen addiction solutions. Then, a qualitative survey was conducted with 6 participants to explore some information and observations about the subject. Ultimately, these results led to the conclusion that children should interact with technology at regular intervals starting from the age of 1.5 to avoid becoming addicted to screens.

Keywords: preschool children, games, technology, addiction, screen addiction

1. Introduction

With the development and widespread technology, the age of using digital devices has decreased for very young children. However, in addition to the positive uses of technology, this situation can also bring some disadvantages, such as screen addiction. Park and Park (2021) found that one in five preschoolers who use smart devices might be addicted to them. Various designs and strategies have been developed to get rid of this disorder. Based on the question "Have some designs and strategies for limiting children's screen time produced adverse reactions?", this article examines the roots of screen addiction and the failures made in this regard and explains how to proceed against screen addiction in children by learning lessons from wrong strategies. Additionally, a qualitative survey conducted with three kindergarten teachers and three psychologists provided insights into the experiences of children with screen addiction and their families.

2. Preschool Children and Screen Addiction

This chapter explores the causes of screen addiction in children: character traits, biological and psychological factors, strategies, and product solutions.

2.1 Preschool Children's Behavioral Characteristics

Children show different behaviors and characteristics at each age. Children in the 3-5 age range are curious and still developing self-regulation (Raisingchildren.net.au, 2024).

First of all, curiosity helps the child to experience different things at the beginning of his/her life, and with these gains, his/her life begins to take shape from a young age. Purdy (2020) states that if curiosity is not developed in a child, he/she is not going to be an adult who innovates. Some activities may inhibit curiosity, such as spending too much time on screens.

Self-regulation is the ability to appropriately manage thoughts, feelings, and behavior (Herndon, J. R., 2024). Between the ages of 3 and 7, self-regulation begins with brain development (Bockmann & Yu, 2023). Children who are unable to self-regulate may struggle with problems such as depression in the future and thus tend to distract themselves with various things.

2.2 Becoming Addicted to Screens

Addiction is a process that various factors cause. The factors affecting this process also have biological and psychological aspects.

Biologically, addiction to screens is related to dopamine. Aagaard (2021) emphasized that using technology causes a dopamine "hit" or "rush," which may result in addiction in the long run. With this gratification, the body releases the hormone oxytocin, which is also known as the happiness hormone. Some behaviors cause the release of these hormones, too. For instance, when a person receives attention, they become happy, feel precious, and can become addicted to this attention. This process works the same way for phone use. Alive Academy (2018) mentions that people use their phones to hear more bleeps and interact. Since dopamine is released during these actions, the desire to do more arises. This paves the way for screen addiction.

Psychologically, some reasons cause addiction, such as unsolved feelings, a restless hunt for distractions to cover them up, etc. However, unsolved feelings are the most fundamental reason for the addiction (Alive Academy, 2018). According to Alive Academy (2018), it all starts with unsolved feelings such as pain, loneliness, and unworthiness. These feelings lead to different results in connection with the brain. Furthermore, it distracts your attention from bad feelings and places you on something else. Then, the problem of distraction arises. Each element in this addiction chain relies on a single key point: Fake Replacement ID. Activities done for instant pleasure and long hours spent on the screen have become a mask used to cover up unsolved emotions. The key to liberation is to focus on emotions. Actual freedom is achieved when the person turns away from the path of distractions, time-consuming activities, and addictions.

2.3 Commercial Abuse of Screen Addiction

Games take place at certain moments in children's lives, contributing to their growth and development. Due to its positive effects on children's and youth's cognitive, physical, social, and emotional development, play is essential to growth (Ginsburg & Committee on Psychosocial Aspects of Child and Family Health, 2007). However, today's children have transferred this understanding of entertainment to phones with developing technology. According to the data for 2021, globally, 20% of children under 5 have their own phone (Vatu, 2023). Over time, many game companies were established, and digital games began to be designed and released based on this potential seen in children. Furthermore, the gaming sector has renewed and developed different strategies for different targets. For instance, game companies design games by researching what can make children addicted so that children will spend more time addicted to the game and the companies' profits will increase.

One of the strategies is making a repeatable gameplay loop to hook players. Goukigod (2019) mentions that the central activity that players perform must be this loop, and it needs to be adaptable enough to be used for the entire length of the game. As a result, players do not get bored while playing due to the short playing duration, and some games can be rather easy.

The other strategy, the reward system, makes users happy at the moment, but when it is repeated continuously, tolerance is created against it, and the same thing happens in the brain. To prevent this issue, progression systems and achievements are placed in games, and these play a role in keeping the user engaged. Additionally, the Variable Ratio Schedule is a technique in which a person repeats a specific task continually. Goukigod (2019) states that instead of receiving a reward each time you complete a task, you only receive it occasionally and never in a predictable manner. Receiving rewards at random intervals is an activity that our brain cannot get enough of and makes us addicted.

2.4 Breaking Addiction Through Products

Addiction has always been handled and prevented in different ways throughout time with many methods and products such as smartphones, phone-like products, and objects that prevent you from accessing the phone.

First of all, the Blloc Minimal Smartphone (Sheth, 2019, Figure 1) has a block-based and black-and-white color filter home screen that gives all apps directly in the menu. These features of the phone encourage you to look at the screen less and aim to prevent screen addiction, but this is an optional solution and can be a boring solution in the long run.

Figure 1: Blloc Minimal Smartphone (Sheth, 2019)

Secondly, the U18 Phone (Sheth, 2019, Figure 2) is a phone with basic features designed for children under eighteen. Children can call their parents, and it also has a camera for video calls and a button to send SOS signals in case of emergency. Due to these features, children stay connected to the family and are kept away from apps that collect their valuable data, thus protecting their privacy.

Figure 2: U18 Phone (Sheth, 2019)

Thirdly, the Substitute Phone (Sheth, 2019, Figure 3) was designed as an imitation of smartphones. Due to the movable stone beads inside, it allows the user to imitate the movements made on phones, such as scrolling, zooming, and swiping, while also allowing to cope with screen addiction. It can be given to children as a toy, but it is not an interesting design with its external design.

Figure 3: Substitute Phone (Sheth, 2019)

Lastly, Offline Lamp (Fortune Magazine, 2017, Figure 4) enables you to get away from your phone and create a suitable space for work at the same time by turning the light on when you put your smartphone into a drawer in the lamp's pedestal. When you want to use the lamp to work, you cannot access your phone from there, and it is not suitable for children's use during the day.

Figure 4: Offline Lamp (Sheth, 2019)

The designs given above do not solve screen addiction in children and are not eye-catching for children in terms of design. When these are examined, the failures made and the points that need to be considered for a child to overcome screen addiction are learned.

3. Qualitative Survey Results and Discussion

The qualitative survey was held with 3 kindergarten teachers and 3 psychologists. Their experiences range from 3 to 10 years, and they all have at least one experience with screen-addicted children.

In one of the results from the qualitative survey, Teacher 1 said, "There is an immediate difference between a child exposed to screen and a child who grew up without screen. A child who grew up with a screen wants to play physical games in the classroom more. A child who grew up without a screen turns off all of his/her receptors and watches the projected video in lessons." This sentence suggests that keeping children away from screens while they are growing up is not in their best interest. In this age of technology, this attitude towards children causes them to fall behind and become attached to screens when they first see them. According to the article written by MEST Africa (2022), Dr. Anlimah emphasized that families are advised not to give screens to children until they are 18 months old. It is recommended that children between 18 to 24 months should be introduced to screens for 30 minutes a day and between the ages of 2 to 5 should not spend more than 1 hour a day. It can be concluded that children should be introduced to technological devices from the age of 1.5 onwards, under family supervision, and for a short time.

While screen addiction is an important issue for preschool children, the family's failure to monitor the child and their indifference to the problem will lead to the child's addiction progressing. Psychologist 1 said, "When the family does not pay attention to the age, level, and frequency of the child's use of technology and screen time, the child begins to become addicted to the screen." The survey results showed that psychologists

work with families to prevent screen addiction in children and that the case cannot be solved when the family does not cooperate. Psychologist 2 said, "The first thing to look at in a child is the parent's attitude. Can the parent spare time for the child, can the child spend productive time when not on the screen, can he/she live his/her childhood? How do other household members use the screen? Are the screens used to silence or distract the child?" By answering these questions, the source of screen addiction is discovered, and the solutions begin to be produced according to the type of case.

About the solutions, Psychologist 1 said, "The more determined and clear the family is, the easier it is to overcome this situation." With this determined attitude, the child listens to his/her parents, realizes the seriousness of the situation, and takes action. Garvey (n.d.) states that the majority of kids gain skills from their parents, siblings, peers, and caregivers, including speech, gross motor movements, and interactive play. Therefore, for children to get rid of screen addiction, families must first correct their behavior and be exemplary role models for their children. In this way, appropriate boundaries and behaviors are provided to help the child overcome screen addiction.

4. Conclusion

When the characteristics that cause children to become addicted to screens, biological and psychological factors, and the dark strategies of game companies are considered, it is concluded that screen time and digital devices are not the only factors that support addiction. By learning from the failures in the designs of products that aim to prevent screen addiction in the market, the basis of the products to be designed in the future are created. These designs also guide future designs. In addition, when the results of the survey are examined, it is seen that the strategies designed to prevent children from becoming addicted to screens cause children to become more addicted in the future. This paper examines and investigates the failures that are normally known and applied and suggests the true information, which is that children should be exposed to screens at certain intervals and under family supervision, starting from the age of 1.5. Finally, the process of obtaining all this information shows that the facts that are considered true and the failures made in design support the research and serve as a guide in finding the right information. Therefore, it is very important to learn from the failures in research.

Reference List:

Aagaard, J. (2021). Beyond the rhetoric of tech addiction: Why we should be discussing tech habits instead (and how). Phenomenology and the Cognitive Sciences, 20, 559-572.

Alive Academy. (2018, August 11). How to stop internet/ social media addiction forever, the root cause revealed!, [Video]. YouTube. https://www.youtube.com/watch?v=uAx1wwGejnM&list=PLeVcdTwDIIqMsgBTBqopTdHBx__QTGHb9&index=12

Bockmann JO, Yu SY. Using Mindfulness-Based Interventions to Support Self-regulation in Young Children: A Review of the Literature. Early Child Educ J. 2023;51(4):693-703. doi:10.1007/s10643-022-01333-2.

Garvey, J., (n.d.), What is imitation and why is it important?. May Institute. https://www.mayinstitute.org/news/acl/asd-and-dd-child-focused/what-is-imitation-and-why-is-it-important/#:~:text=Imitation%20is%20a%20crucial%20aspect,and%20peers%20perform%20these%20behaviors.

Ginsburg, K. R., & Committee on Psychosocial Aspects of Child and Family Health. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. Pediatrics, 119(1), 182-191.

Goukigod, (2019, June 3). Designing addiction: the twisted psychology of game design [Video]. YouTube. https://www.youtube.com/watch?v=K0M1PuQaE8s&list=WL&index=8

Herndon, J. R., (2024), What Is Self-Regulation?. Very Well Health. https://www.verywellhealth.com/self-regulation-5225245#:~:text=Self%2Dregulation%20refers%20to%20the,eat%20pizza%20for%20every%20meal.

MEST Africa, (2022), When is the right time to introduce kids to technology for learning?. Medium.

https://medium.com/the-gps/when-is-the-right-time-to-introduce-kids-to-technology-for-learning-8d28ce9ce55f#:~:text=When%20the%20child%20is%20between,hour%20on%20these%20tech%20devices.

Park, S., Chang, H. Y., Park, E. J., Yoo, H., Jo, W., Kim, S. J., & Shin, Y. (2018). Maternal depression and children's screen overuse. Journal of Korean Medical Science, 33(34).

Purdy, J., (2020, October 19), Curiosity may be the most important skill for a child to learn. Jackrabbit Care.

https://www.jackrabbitcare.com/blog/curiosity-may-important-skill-child-learn/

Raisingchildren.net.au, (2024, July 7), Preschooler behaviour: what to expect. Raisingchildren.net.au
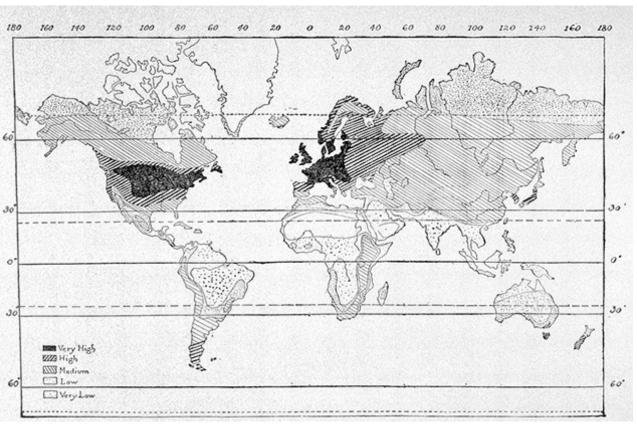
https://raisingchildren.net.au/preschoolers/behaviour/understanding-behaviour/preschooler-behaviour#:~:text=Preschoolers%20are%20curious%2C%20easily%20distracted,way%20to%20guide%20preschooler%20behaviour.

Sheth, S., (2019, March 26), Breaking smartphone addiction: 10 Designs to save us from electronic enslavement. Yanko Design. https://www.yankodesign.com/2019/03/26/breaking-smartphone-addiction-10-designs-to-save-us-from-electronic-enslavement/

Vatu, G., (2023, September 12), How many kids have a mobile phone?. Sellcell. https://www.sellcell.com/blog/how-many-kids-have-a-mobile-phone/

Education at a Crossroads: Embracing Climate-Conscious Design

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The Distribution of Human Health and Energy on the Basis of Climate (Huntington, 1924).

Education at a Crossroads: Embracing Climate-Conscious Design

Abstract

Design education has a crucial role in the future of sustainable design, however, current curricula in design education fail to prepare students for real-life projects. The result of this can be seen from the way passive design strategies are not prioritized over mechanical strategies. Although there is hope, as sustainability courses have been integrated into design programs, there is still a gap between theory and practice, which causes reliance on energy intensive design methods. This paper studies historical and contemporary shortcomings of design education and examines how climate responsive design is excluded in the curricula. Through analyzing case studies and pedagogical approaches from literature, the study highlights the need for the integration of sustainability in design studios. Additionally, this study explores some alternative teaching methods from literature to bridge the gap between education and practice. Ultimately, the study offers for a reform in the design curriculum that would promote climate-conscious design thinking in the students, to ensure that sustainability is embedded in both education and practice.

1.   Introduction

It is now a well-known fact for the construction community that buildings account for nearly 40% of global carbon emissions. Adding to this information, people in the modern world spend 90% of their time indoors. At the beginning of 20th century, Ellsworth Huntington (1924) made a critical connection between climate and health of human beings   (Figure 1). In these conditions, it is imperative to design and build more and more buildings to accommodate the ever-growing human population. In this case, one would question, faced with the current climate change issues, whether the designed buildings include passive design solutions and if they are used actively. Daniel A. Barber wrote a book on modern architecture and climate before air-conditioning and argues climate as a design strategy in the book, which explains the history of the façade as an architectural element in relation to climate through the times just before the advent of air conditioning and the energy crisis in the 70s (Barber, 2020).

Whether it is designing a building or an interior, it is the role of a designer to address climate change through their design solutions for each and every building. It falls on the shoulders of these designers to maintain and improve the status quo of sustainable buildings, as the built environment exhausts valuable and also limited reserves such as energy, water, and raw materials (Dib and Adamo-Villani, 2014). However, even though buildings designed and constructed with sustainability in mind increase in number each year, the process is slow when compared to how urgent the need for these buildings increases.
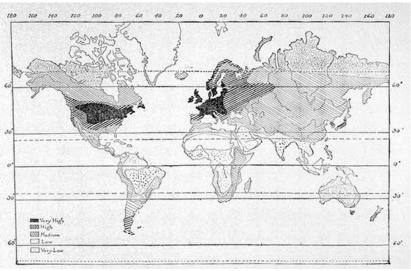
Figure 1. The Distribution of Human Health and Energy on the Basis of Climate (Huntington, 1924).

It is in this case the responsibility of universities and design education to implement these ideas for each student. Even though curriculums now include sustainability design courses, the literature on the subject does not present any consensus on teaching methods or curriculum on sustainability (Dib and Adamo-Villani, 2014). The traditional teaching methods on design cause these students to graduate with theoretical knowledge not applicable to real-life situations (Dib and Adamo-Villani, 2014).

This paper argues that architectural education is failing to equip students with the knowledge and skills needed to design sustainably, leading to an overreliance on mechanical systems. By examining this failure,

we can identify opportunities to reform architectural pedagogy and better align it with the principles of sustainable design.

2. Failure of Architectural Education

Architectural education has prioritized aesthetics, functionality, and formal composition over environmental concerns. In the history of architectural education, the Beaux-Arts system emphasized classical principles, materiality, and typology, whereas the Arts and Crafts Movement as well as Bauhaus introduced craftsmanship and industrial design into architectural training. The Oxford Conference in 1958 reinforced the focus on technical knowledge while still marginalizing sustainability as a secondary concern (Cunningham, 2005).

A reliance on mechanical systems was caused in this environment as a separation between design and engineering disciplines in education occurred. With modern architectural design solutions that implemented large glass façades that allowed an excessive amount of sunlight indoors, heating the environment and causing a need for cooling—air conditioning and mechanical ventilation became the technological solution to this problem (Barber, 2020). As modernist architecture ardently conceded to standardization and efficiency, climate-responsive design strategies became less central to design thinking, and mechanical solutions became the default (Cunningham, 2005). The façade, on the other hand, became the initial fundamental aspect of climatic modernism (Barber, 2020).

Education, especially higher education curricula in this aspect has gained extensive importance. Cunningham (2005) notes that the curriculum of architectural education does not follow a knowledge framework, rather pursuing shifting trends, borrowing techniques from other disciplines, which may have caused limited incorporation of passive design strategies like natural ventilation and daylighting. He presses that design studios focus on aesthetics and formal exploration (Cunningham, 2005), which may be a reason passive design strategies stay as a secondary concern in design concepts. Perhaps, with the current setting, it is imperative to teach students how to optimize passive thermal performance through climate-responsive design strategies rather than teaching them how to design for correct technical solutions (Cunningham, 2005).

Unfortunately, there is a disconnection between research and practice that has led designers to design and construct without the necessary knowledge and training in passive design solutions, becoming dependent on mechanical solutions as a result. Not prioritizing natural ventilation, daylighting, and material sustainability has fortified designing energy-consuming buildings (Cunningham, 2005). Barber in his book discusses this issue, that today's airtight buildings have been involved in the current environmental crisis, unlike the porous façades of climatic modernism (Barber, 2020).

Sustainability education in universities should connect with the guidelines set in certain design disciplines like architecture, engineering, as well as business (Kalamas Hedden, Worthy, Akins, Slinger-Friedman, Paul, 2017). There is no consensus on sustainability education. Barber puts great emphasis on diagrams, drawings, and images in his equally illustrated book. He quotes Vilém Flusser to attract attention to what media somewhat aspires to: 'Images are intended to serve as models for actions (Barber, 2020); media could help bridge the gap between theory and practice. Kalamas et al. (2017) on the other hand, argue that for sustainability education, active learning methods like problem-solving, cooperative learning, guided design, role-playing, and simulations are essential, as these methods help students to engage in the learning process rather than just be at the receiving end of teaching.

3. Case Studies

LEED Lab

LEED Lab, a course offered by universities, allows students to grasp an understanding of the building rating system. USGBC provides technical support to the institutions in case this course is offered to the students; this way, students and academics in the faculty can analyze and recommend modifications on the selected building (Kalamas et al., 2017).

The Owl Planet Project

The Owl Planet Project promotes environmental awareness by encouraging students to explore sustainability issues like waste and upcycling. Kalamas et al. (2017) highlight that this kind of immersive activity can teach students about sustainability and become the change agents for their community, maybe lifelong advocates of climate-related issues.

Green Campus Campaign

The Green Campus Campaign, which is focused on business education rather than design, encourages students to conduct surveys and campaigns to raise awareness of sustainability; a trial-and-error process until they design the right assessment tool and are able to analyze the data (Kalamas et al., 2017).

Serious Games in Education

Even though scientific evidence that shows whether serious games can be effective is limited, they may positively influence students' learning process when included as educational tools (Dib and Adamo-Villani, 2014). A game called "The Sustainability Challenge Game", designed by Dib and Adamo-Villani (2014), has the objective to help students of architecture, civil engineering, and building construction management programs establish an understanding of building sustainability concepts. This game adopts the LEED building rating system, and according to the authors, compared to traditional learning methods, playing this game resulted in high procedural knowledge gains (Dib and Adamo-Villani, 2014).

4. Climate Change Education

Climate change education is now widely accepted to have a crucial role in altering learning, especially when faced with the urgency to do something about climate change (see UNFCCC 1992; UNESCO 2009, 2010; UNESCO and UNFCCC 2016). Even though the urgency is imminent, there is less consensus than expected between public, political, and academic circles about what should and shouldn't happen in climate change education; whom the responsibility about ensuring the quality of education falls on; what and how to determine, classify, and study climate change education (Reid, 2019).

However, it is a known fact that education is significant to improve behavioral changes and awareness about climate change. Even though these key areas for climate change are a priority for UNFCCC, for the last couple of decades, progress has been trivial (Reid, 2019). Education of the public should move beyond individual action, being sufficient, as much, without global climate justice, there can be no adequate climate change education. Hence, radical reforms are needed as the ongoing changes are not sufficient. Climate change not only requires a transformation of curricula but also training educators and transformations of policies (Reid, 2019).

In their paper about city planning and design, Punter and Carmona argue that local planning authorities wrote design policies for the first time in the late 20th century. They press that there is a great need to develop principles to guide policy writing (Punter and Carmona, 1996). In their paper, they describe a shift from viewing design as townscape—the visual appearance of an urban area—to a more profound concept of environmental urban design.

Punter and Carmona make recommendations on sustainability policy development that can be conveyed to education: design policies first should be based on the definition of environmental design; then, sustainability should set a context for all policies on design, from spatial form to movement patterns and building design to conservation and energy use to ecology (Punter and Carmona, 1996). Their critique on the matter is that these design policies should not be dictated by client requests and interests but acting on public interest—because most of the power is in the hands of developers, and as a result, this becomes the limit of sustainability-driven urban design. The authors' argument is that policies and proposals on design should acknowledge these limits and persist in searching for ways to promote "an overall climate for good design," consequently advocating for design creativity, sensitivity to place, and last but not least, environmental awareness (Punter and Carmona, 1996).

In the study of Punter and Carmona (1996), the authors make recommendations on the five key design concerns on sustainability in design: spatial form, movement, building design and conservation, energy, and ecology. From reducing decentralization to reducing the need for travel, from recycling of materials to passive design solutions like discouraging air-conditioning and encouraging natural ventilation and use of natural daylight, the authors make a list of design considerations to be implemented in design policies (Punter and Carmona, 1996).

In the second decade of the 21st century, impelled by international policies, higher education institutions made authoritative endeavors to support sustainability initiatives (UNESCO, n.d.). However, education's role in sustainability has not been clear and caused inconsistencies in curricula on sustainability (Boarin, Martinez-Molina, Juan-Ferruses, 2020). That is the reason the Higher Education Sustainability Initiative (HESI) has made implications on the integration of sustainability into the curricula of principles related to architecture and the built environment. However, the challenges that come with the integration process of environmental education could result in an indefinite curriculum (Boarin et al., 2020).

Sustainability in this context is refrained to a small pool of courses and elective courses, rather than just being integrated into design studio courses (Boarin et al., 2020). There are a couple of ways to integrate sustainability into the curriculum: vertical models that teach sustainability as a separate branch and horizontal models followed across different courses that do not actually dedicate courses to sustainability (Boarin et al., 2020). A survey shows that among the most used sustainability aspects in design strategies, those that focus on passive methods ranked 7th, which is an indicator that design students do not pay importance to passive strategies in their designs (Boarin et al., 2020).

However, it is still possible to hope for a sustainable future as students consider sustainability the most important aspect of their education, even though the application of sustainability is not consistent (Boarin et al., 2020). A study shows that a university that teaches sustainability the most has the highest percentage of students that consider sustainability as a non-essential aspect of their project, which suggests that "exposure alone does not guarantee engagement with sustainability principles" (Boarin et al., 2020). Authors of this study make a warning about integrating sustainability into design studio courses rather than just theoretical lectures (Boarin et al., 2020). This is also a causation for real-world applications as there is a disconnection between the real world and education (Boarin et al., 2020).

Boarin et al. (2020) conclude that institutes should deliver sustainability education with a fully implemented pedagogical framework into design studio courses rather than just a substantive subject (Boarin et al., 2020). Education could pave the way for more sustainable built environments if sustainable design decisions are applied to even early draft projects. Boarin et al. emphasize that "a shared framework for the accreditation of architecture curricula and a set of common qualification criteria do not exist." Solving an issue like this could create an environment that makes it available to discuss sustainability between different institutions in different countries (Boarin et al., 2020).

5.   Conclusion

Climate change is the main reason why sustainability is a main concern of architectural designers, and therefore, as of many years now, the education of sustainable design is included in the design education curriculum. However, even though this has been the case for higher education institutions, the realized results in the shape of buildings and constructions do not represent the supposedly learned outcomes of design graduates. It is known that while many students graduate after taking and successfully completing courses on sustainability, they still fall back to mechanically solved solutions rather than passive design solutions. This is a failure not only in education but also in how sustainability is framed and communicated in design studies. Architectural education fails to prioritize passive design solutions, and this failure leads designers to over-rely on mechanical ventilation systems, which is a contradiction to sustainable design objectives.

Designing and building sustainable buildings is promoted as being green; however, not achieving the standards of sustainable building design causes these designs to be branded as greenwashing. This is why there have been serious institutions like LEED that review and categorize these designs and constructions. As such, climate-relevant education integrated into design courses is widely recognized by UNFCCC and UNESCO (Reid, 2019).

One of the ways to teach sustainability to students and the general public is through games. Buckminster Fuller, in this context, can be called the pioneer of teaching students and the general public sustainability through games. Even though his game called World Game focuses on resource management it can be able to show how the planet is affected by even a small change by a small country or community. One of the factors for the games to be successful at teaching sustainability is that games are fun (Dib and Adamo-Villani, 2014). A BIM game prototype was developed by Yan et al. (2011), and another game called Virtual Construction Simulator (VCS) showed that the game improved the learning motivation of the students (Nikolic et al., 2016).

While sustainable designs should be celebrated, considering that climate change has been a discussion for many years now, celebrating a few green buildings every year is not how the design community should proceed. Considering the education towards sustainability is through education on climate change, Biesta (2013) separates the education of climate change into three functions: qualification, which is concerned with the acquisition of knowledge; socialization, which is focused on people being a part of traditions through education; and lastly, subjectivation, which is about how one should be responsible for their own decisions rather than being the objects of others' actions. This could be another way for sustainability to be fully integrated into architectural and design education curricula.

References

Barber, D. A. (2020). Modern Architecture and Climate: Design before Air Conditioning. Princeton University Press. https://doi.org/10.2307/j.ctvr0qrd5

Boarin, P., Martinez-Molina, A., & Juan-Ferruses, I. (2020). Understanding students' perception of sustainability in architecture education: A comparison among universities in three different continents. Journal of Cleaner Production, 248, 119237.

Cunningham, A. (2005). Notes on education and research around architecture. The Journal of Architecture, 10(4), 415-441.

Dib, H., & Adamo-Villani, N. (2014). Serious sustainability challenge game to promote teaching and learning of building sustainability. Journal of computing in civil engineering, 28(5), A4014007

Huntington, E. (1924). Civilization and climate. pg. 294. New Haven, Yale University Press. London.

Kalamas Hedden, M., Worthy, R., Akins, E., Slinger-Friedman, V., & Paul, R. C. (2017). Teaching sustainability using an active learning constructivist approach: Discipline-specific case studies in higher education. Sustainability, 9(8), 1320. https://doi.org/10.3390/su9081320

Punter, J. V., & Carmona, M. (1996). Design policies in English local plans: the search for substantive principles and appropriate procedures. Urban Design International, 1, 125-143.

Reid, A. (2019). Climate change education and research: possibilities and potentials versus problems and perils?. Environmental Education Research, 25(6), 767-790.

UNFCCC. (1992). United Nations Framework Convention on Climate Change.   https://unfccc.int/resource/docs/convkp/conveng.pdf.

UNESCO. (2009). Education for Sustainable Development and Climate Change. Policy Dialogue 4. http://unesdoc.unesco.org/images/0017/001791/179122e.pdf.
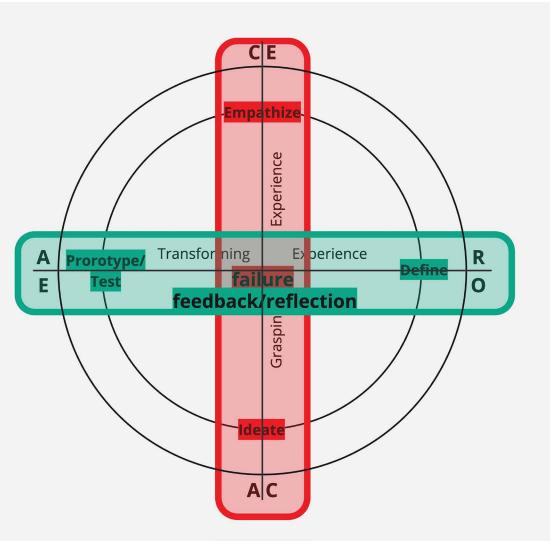
UNESCO. (2010). The UNESCO Climate Change Initiative: Climate Change Education for Sustainable Development. Paris: Unesco. https://unesdoc.unesco.org/images/0019/001901/190101E.pdf.

UNESCO and UNFCCC. (2016). Action for Climate Empowerment: Guidelines for Accelerating Solutions Through Education, Training and Public. Paris: UNESCO and UNFCCC. https://unfccc.int/sites/default/files/action_for_climate_empowerment_guidelines.pdf.]

UNESCO. UNESCO. (n.d), [WWW Document]. https://en.unesco.org/.

Embracing Failure as a Learning Tool: Integrating Design Thinking and Experiential Learning Through Feedback

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Overlap Kolb's ELT Cycle and DT Iterative Process, created by author

Embracing Failure as a Learning Tool: Integrating Design Thinking and Experiential Learning Through Feedback

Abstract

This paper explores the intersection of Design Thinking and Experiential Learning Theory (ELT), emphasizing the role of failure and feedback in the learning process. Both frameworks advocate for iterative learning cycles that transform experiences into actionable knowledge. Kolb's ELT highlights the importance of reflection and active experimentation, while Design Thinking promotes prototyping, ambiguity, and iterative testing. Failure, rather than being viewed as a setback, serves as a catalyst for growth when paired with structured feedback. By examining academic literature and practical applications, this paper demonstrates how design thinking minimizes the stigma of failure, enhances self-efficacy, and fosters resilience in educational settings. The integration of these methodologies cultivates adaptive problem-solving skills, preparing learners for the complexities of an innovation-driven world. The examples on how students learn from their failures through the feedback during the Design Thinking course implemented by Izmir Design Factory support the study. The findings reinforce that embracing failure as a structured learning tool leads to deeper understanding and improved educational outcomes.

Experiential Learning and Design Thinking

Kolb's Experiential Learning Theory (ELT) describes learning as a four-stage cyclical process: Concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984) (Figure 1). Feedback is crucial in this model, as it allows learners to adjust their understanding and actions based on the outcomes of their experiences. Lewin and his followers argued that individual and organizational ineffectiveness often results from inadequate feedback processes, leading to an imbalance between action and observation (Kolb, 1984). The iterative nature of learning requires learners to embrace failure, using feedback to refine their approaches.

Bruner (1966) reinforces this perspective, stating, "Knowing is a process, not a product." Learning should be viewed as continuous adaptation rather than a fixed accumulation of knowledge. This aligns with Kolb's assertion that learning is best conceived as a process, not in terms of outcomes (Kolb, 1984). When learning is outcome-focused rather than process-driven, failure is often seen as a deficiency rather than an opportunity for growth. The failure to modify ideas and habits in response to experience becomes a form of maladaptive learning.
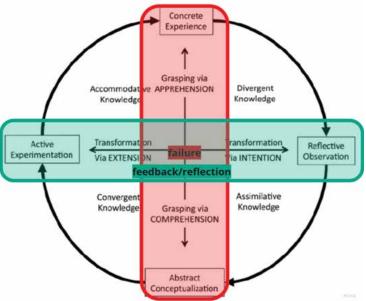
Figure 1. Model of Experiential Learning Process (Kolb, 1984), adapted by author.

Design thinking is an iterative and human-centered approach to problem-solving that thrives on experimentation, ambiguity, and iterative feedback. Meinel and Leifer (2011) highlight the necessity of preserving ambiguity, arguing that excessive constraints and fear of failure hinder innovation. They assert that prototyping and testing multiple ideas inevitably lead to failures, but these failures are not wasted

efforts—they are learning opportunities that contribute to eventual success. Simonton (1999) found that the most successful historical artists, scientists, and composers had similar failure rates to their less successful peers, but they simply engaged in more experimentation.

The design thinking process aligns closely with experiential learning in its reliance on an iterative cycle of creation and feedback. As Meinel and Leifer (2011) explain, an iterative prototyping practice oscillates between creation and feedback: Creative hypotheses lead to prototypes, which generate open questions, leading to observations of failures and the generation of new ideas. This cycle mirrors Kolb's active experimentation and reflective observation phases, reinforcing the interconnectedness of these two frameworks.

The design thinking process includes problem definition and problem solution processes has been in support of the Double Diamond model which includes divergent and convergent parts divided into four distinct phases – Discover, Define, Develop and Deliver defined by the Design Council (Cekindir & Guvenir, 2023). Throughout the process, failures generally occur in the divergent phases of discover and develop, while the parts where these failures are transformed into gains through feedback can be defined as convergent phases of define and deliver (Figure 2).
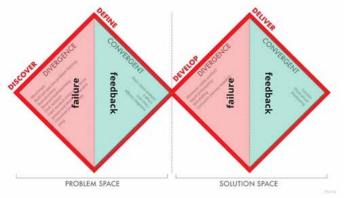
Figure 2. Double Diamond Design Thinking Process (Design Council, 2019), adapted by author.

Integrating Design Thinking and Experiential Learning

Both Kolb's ELT and design thinking emphasize learning through experience, reflection, and feedback. Kolb's model involves direct engagement with an experience, followed by reflection, conceptualization, and experimentation (Stocker et al., 2014; Boker et al., 2023). Similarly, design thinking follows a cyclical pattern of empathizing, defining, ideating, prototyping, and testing (Patria, 2023; Sun et al., 2009). The stages of prototyping and testing align with Kolb's active experimentation, where feedback and iteration play essential roles in refining ideas (Figure 3).

Thoring et al. (2020) discuss how design thinking complements Kolb's theory by reinforcing the importance of feedback through reflection and prototyping. Lahdenperä et al. (2022) further emphasize that real-world challenges enhance experiential learning, bridging the gap between theoretical knowledge and practical application. Educators should create environments that encourage failure as an integral part of learning, helping students develop critical thinking and resilience.
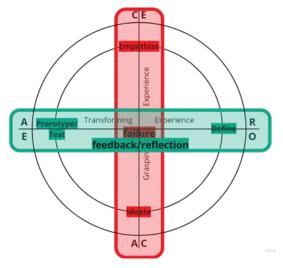
Figure 3. Overlap Kolb's ELT Cycle and DT Iterative Process, created by author.

Design Thinking and Experiential Learning both embody iterative processes aimed at enhancing understanding and problem-solving capabilities. In the Design Thinking process, the divergent phases are primarily represented by the Empathize and Ideate stages. During the Empathize phase, practitioners gather insights and deeply understand user needs. The focus here lies in exploring various perspectives and contexts, which requires an openness to ambiguity and uncertainty. The Ideate phase follows, wherein a wide range of ideas is generated without significant constraints, promoting creative thinking. The open-endedness of these stages aligns closely with Kolb's Concrete Experience and Abstract Conceptualization stages, where learners are exposed to new information and can actively explore multiple possibilities (Kolb, 1984).

The absence of strict limits in these phases creates an environment where failures are not only tolerated but embraced as integral to the learning process. In this exploratory space, individuals are encouraged to take risks, and failures provide rich data that lead to deeper insights about the problem space. Errors are perceived as natural outcomes of exploration, propelling the iterative learning cycle forward.

Failures made during the divergent phases serve as learning opportunities. This aligns with grasping experience, where individuals are exposed to new information and perspectives. For instance, a designer might generate an impractical solution during the Ideate phase, but analyzing why it failed can illuminate valuable aspects about user needs or constraints. As Kolb asserts, concrete experiences facilitate the acquisition of knowledge, and reflection on those experiences fosters profound understanding (Kolb, 1984). In this way, the design process benefits from ruminative exploration that deepens knowledge and refines the focus of later phases.

Transitioning into the convergent phases marked by Define and Prototype-Test, the focus shifts toward refinement and specificity. The Define stage involves formulating a clear problem statement based on insights gathered, while in the Prototype-Test phase, ideas are transformed into tangible prototypes that undergo testing and iterative refinements. This structure mirrors Kolb's Reflective Observation and Active Experimentation stages, wherein learners critically assess their experiences and implement changes based on feedback.

During these phases, failures are identified through user feedback or testing, prompting refinement of the initial problem definitions and the solutions being developed. Importantly, failures here shift from being spontaneous errors to be understood in context, to deliberate challenges to be investigated and resolved. They foster an iterative loop that encourages revisiting previous stages, be it reframing the problem or re-exploring creative solutions, thereby enhancing the learning cycle's richness and depth (Kelley & Kelley, 2013). This is where we transform experience, as we refine our problem definition and solutions based on iterative testing and reflection.

This iterative refinement enhances both knowledge creation and practical application. For example, a prototype might fail user testing; the resulting insights necessitate a re-visit to previous phases to understand where misalignment occurred between user needs and design execution. In this sense, the convergence stages do not signify a linear progression but rather an evolving process of learning through iteration. This perspective reinforces the cyclical nature of both Design Thinking and Experiential Learning, where returning to earlier stages strengthens learning and design outcomes.

Learning from Failure Through Reflection and Feedback

Failure should not be perceived negatively but rather as a catalyst for growth. Zhang et al. (2023) emphasize that problem-solving in design thinking inherently involves iterative learning, where failure provides crucial insights. Aflatoony et al. (2017) suggest that design thinking fosters a learning environment where students actively engage with failures, reflecting on their experiences to develop innovative solutions.

The emotional aspect of failure is also critical. Dodgson and Wood (Meinel and Leifer, 2011) found that individuals with high self-esteem respond less negatively to failure, focusing on their strengths rather than their weaknesses. This supports the argument that educational institutions should integrate failure as a structured learning tool rather than a source of discouragement. Wei et al. (2019) suggest that self-efficacy and emotional regulation play a crucial role in transforming failures into meaningful learning experiences, emphasizing the psychological dimension of feedback in education.

Design thinking minimizes the stigma associated with failure by framing it as an essential learning mechanism. Hawkins et al. (2024) found that integrating design thinking into nursing education increased students' confidence and knowledge, demonstrating the effectiveness of iterative learning. Similarly, Benoliel and Berkovich (2020) highlight that schools can systematically learn from their failures when appropriate

feedback structures are in place.

Educational institutions that adopt design thinking methodologies encourage students to take conceptual risks, fostering resilience and adaptability (Li et al., 2019). This is particularly relevant in STEM disciplines, where experimentation and iterative testing are key components of the learning process. Zhao et al. (2023) reinforce this idea by illustrating how design thinking courses improve problem-solving skills while reducing students' fear of failure through collaboration and iteration.

Kohls (2019) argues that creating environments that facilitate design thinking methodologies enables students to engage with failure constructively, turning obstacles into opportunities. This aligns with Novak and Mulvey's (2020) assertion that design thinking enhances collaboration and communication skills, equipping students with the tools to navigate setbacks effectively.

Practical Applications in Education: İzmir Design Factory DT Course

Design Thinking courses often ask cohorts of students from a variety of disciplines to solve real, complex problems using a human-centered design approach (Wrigley et al. 2018). As a learning approach in higher education, this paper presents a case study conducted in an interdisciplinary Design Thinking course that is designed and applied by İzmir Design Factory which is a newly established design, education, and research center to fulfill the qualified workforce need and project needs with high added of the local stakeholders to strengthen competition in the global market through the local and international partnerships. The course brings together students from different universities in the local area for interdisciplinary project work through collaboration with different industries (Guvenir et al., 2022).

İzmir Design Factory (IDF) adopts Design Thinking (DT) as its fundamental approach, applying it extensively within educational experiences. One significant initiative by the IDF is an undergraduate Design Thinking course in collaboration with Yaşar University and Originn. This learner-centered course adopts a hands-on, participatory approach to foster self-awareness, problem-solving skills, and teamwork within a diverse community. Participants engage in projects addressing both daily and stakeholder-related issues, exploring various perspectives, and proposing solutions. The course covers 15 weeks consisting of an exercise project and a partner project with the team-facilitator-partner collaboration (Cekindir, 2024).

In the inaugural 2019-2020 academic year spring semester, the course engaged 54 participants from 13 disciplines across 3 universities, completing several practice and partner projects. The subsequent course in the 2020-2021 academic year fall semester involved 29 participants from 8 disciplines across 5 universities (Cekindir, 2024).

During the course a qualitative research was conducted with the students who participated in a one-semester interdisciplinary DT course by applying questionnaire study as reflective writing method during and at the end of the course process and getting feedback during the semester (Guvenir et al., 2022). In addition, at the end of the semester, an individual course report about the project process and their own learning process was also received. During the project, students also had weekly mentor meetings with experts in their field under the name of "professional design experiences" as a supportive course to the "design thinking" course. Within the scope of this course, feedback was collected after each lesson and end-of-lesson reports were received. When these written feedbacks are analyzed, the importance of feedback in the Design Thinking process and the emphasis on learning from failure are frequently seen. Some of the feedback on the "failure" subject received from the students is as follows and categorized under 5 groups: Part of learning, tool for improvement, role in design thinking, iterative process and teamwork.

Embracing Mistakes as Part of Learning

"…The course helped me understand the process of designing and also implementing in detail while giving me a chance to test myself and make mistakes in order not to do them in the real project…"

"... the fact that the lesson provided an environment suitable for making mistakes encouraged me more. I had the opportunity to learn from my failures and improve myself in this direction."

"Every mistake we have faced or will face in our lives is a lesson for our lives. Everyone achieves something by failing and failing is actually an important part of success. That's why we shouldn't be upset about making mistakes, trying again and again will lead us to success."

"...I learned that mistakes are actually part of my life..."

Mistakes as a Tool for Improvement

"Approaching with a traditional mindset and trying to avoid mistakes causes us to get stuck while producing solutions. But I learned that if we have a design thinking mindset, we can take risks and not produce the "best" solution, but if we can accept possible mistakes and learn from them, we can at least reach a "better" answer."

"In the design process, design thinking should be the right thing because not avoiding making mistakes, taking risks, trial and error lead us to the simplest and most effective solution."

"...And the more we make the right mistakes in the process, the more it will guide us to the right conclusion."

"The failures we make can come back as a form of learning."

Design Thinking and the Role of Failure

"Design thinking likes to learn from mistakes, takes risks, is interactive and analyzes emotionally. Design thinking develops new alternatives, new solutions and new ideas to deal with problems."

"While traditional thinking avoids mistakes and ignores them, design thinking has the opposite effect, because when we think design-oriented, we accept existing problems and approach them from a new perspective outside of existing solutions and patterns."

Iterative Process and the Need for Repetition

"... some of the steps in the process were flawed, and we had to go back and repeat the process."

"Instead of falling with every mistake I make, I will learn from that mistake and correct it in the things I will do again and move myself forward."

Teamwork and Perspective on Failure

"I learned that teamwork is important to see mistakes or weaknesses."

"...Failures should not only be perceived as bad, they can also play a redemptive role. But this can be achieved through contextualization. Nowadays people are more focused on not losing than winning, but losing has to be accepted."

"We realized that asking questions is the best way to improve ourselves, and that self-improvement is actually something that can make us stronger in the face of adversity, setbacks, failures and negativity."

This grouping shows how failure is seen as a necessary, iterative, and constructive part of learning, particularly in design thinking. Failure is not a setback but a crucial part of learning, especially in creative and problem-solving disciplines like design. The reflections highlight a shift from traditional thinking, which avoids mistakes, to design thinking, which embraces trial and error as a means of innovation. Rather than striving for perfection, students recognize that taking risks, making mistakes, and iterating lead to better solutions. This mindset extends beyond design, fostering resilience, adaptability, and personal growth. Additionally, teamwork plays a vital role in identifying and learning from mistakes, reinforcing the idea that failure is not the opposite of success but an essential step toward it.

Students also verbally commented on the teaching team's positive approach to failure, contrasting it with other courses where mistakes were seen as permanent marks. In this course, failures were valued as successes if they led to learning and new insights. They felt the instructors recognized failure as essential for innovation rather than a sign of poor planning. This highlights the importance of reviewers acknowledging failures as potential contributions to design progress and communicating this perspective to designers.

Conclusion

The integration of design thinking within experiential learning frameworks fosters a learning culture where failure is redefined as a growth opportunity. By emphasizing iterative processes, feedback, and reflection, both methodologies encourage students to embrace experimentation, take risks, and develop adaptive problem-solving skills. As the educational landscape continues to evolve, leveraging failure as a structured learning tool will be essential for preparing students for an uncertain and rapidly changing future.

Kolb's ELT and design thinking are not only complementary but mutually reinforcing. When integrated effectively, they create an educational paradigm that values process over outcomes, ensuring that failure is no longer feared but embraced as an indispensable step toward innovation and understanding.

Design thinking and experiential learning share a fundamental emphasis on iterative learning, reflection, and transformation of experiences into actionable knowledge. Both frameworks advocate for a cyclical approach to problem-solving and education, where failure is not an endpoint but a necessary stage in the learning process. Feedback serves as the mechanism through which failures are analyzed and converted into learning opportunities, fostering innovation and deeper understanding.

The interplay between divergent and convergent phases in Design Thinking and Experiential Learning illuminates the cyclical nature of learning processes. By recognizing that failures in the divergent phases are essential for exploration, and that reflective observations and active experimentation in the convergent phases lead to substantive learning, we can appreciate how these frameworks interconnect to foster innovative problem-solving. This relationship emphasizes the importance of embracing a mindset that values iterative experimentation and reflection, ultimately strengthening design outcomes through enriched learning experiences.

References

Aflatoony, L., Wakkary, R., & Neustaedter, C. (2017). Becoming a design thinker: Assessing the learning process of students in a secondary level design thinking course. International Journal of Art & Design Education, 37(3), 438-453. https://doi.org/10.1111/jade.12139

Benoliel, P. and Berkovich, I. (2020). Learning from intelligent failure: An organizational resource for school improvement. Journal of Educational Administration, 59(4), 402-421. https://doi.org/10.1108/jea-07-2020-0155

Boker, A., Bahaziq, W., Noaman, N., Al-Hazmi, A., & Tayeb, B. (2023). Formulating interprofessional anesthesiology and operating room clinical management pathway during covid-19 pandemic using experiential learning theory in a university hospital in saudi arabia. Saudi Journal of Anaesthesia, 17(2), 195. https://doi.org/10.4103/sja.sja_480_22

Çekindir, H. Y. (2024). Design factory model based on design thinking – A local case: İzmir Design Factory. In D. Hasırcı, T. Doğu, D. Avcı, & G. D. Turhan Haskara (Eds.), Localizing design studies: Perspectives on Turkey (Vol. 53, pp. 57–69). Institute of Network Cultures. ISBN: 9789083412597.

Çekindir, H. Y., & Güvenir, C. (2023). The influence of expert diversity in design thinking education: İzmir Design Factory (IDF) mentor meetings. In Design Factory Global Network / 2nd Design Factory Global Network Research Conference, Contributions for 'Designing for Multiplicity', 2023, 12–15 Design Factory Global Network. ISBN: 978-952-64-9638-26.

Güvenir, C., Bağlı, H. H., & Cekindir, H. Y. The effect of place: From physical space to virtual environment in the design thinking learning process. In DTRS13 - Design Thinking Research Symposium 13, 2022, DesignTech, Faculty of Architecture & Town Planning, Technion.

Hawkins, J., Baaki, J., Tremblay, B., & Hawkins, R. (2024). Impact of a design thinking educational activity on graduate students' knowledge, confidence, and perceived benefits. Nurse Educator, 50(1), 51-55. https://doi.org/10.1097/nne.0000000000001741

Kelley, T., & Kelley, D. (2013). Creative Confidence: Unleashing the Creative Potential Within Us All. Crown Business.

Kohls, C. (2019). Hybrid learning spaces for design thinking. Open Education Studies, 1(1), 228-244. https://doi.org/10.1515/edu-2019-0017

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Prentice Hall.

Lahdenperä, J., Jussila, J., Järvenpää, A., & Postareff, L. (2022). Design factory – supporting technology students' learning of general competences through university-industry collaboration. Lumat International Journal on Math Science and Technology Education, 10(1). https://doi.org/10.31129/lumat.10.1.1672

Li, Y., Schoenfeld, A. H., diSessa, A. A., Graesser, A., Benson, L., English, L., & Duschl, R. (2019). Design and design thinking in STEM education. Journal for STEM Education Research, 2(1), 1–3. https://doi.org/10.1007/s41979-019-00020-z

Meinel, C., & Leifer, L. (Eds.). (2011). Understanding innovation: Design thinking – Understand, improve, apply. Springer.

Novak, E. and Mulvey, B. (2020). Enhancing design thinking in instructional technology students. Journal of Computer Assisted Learning, 37(1), 80-90. https://doi.org/10.1111/jcal.12470

Patria, A. Integrating design thinking process and service learning project into packaging design lesson plan at vocational graphic design study program.In Proceedings of the International Joint Conference on Arts and Humanities 2023, 2023, 785, 900-909. https://doi.org/10.2991/978-2-38476-152-4_87

Simonton, D. (1999). Origins of genius: Darwinian perspectives on creativity. New York, NY: Oxford University Press.

Stocker, M., Burmester, M., & Allen, M. (2014). Optimisation of simulated team training through the application of learning theories: a debate for a conceptual framework. BMC Medical Education, 14(1). https://doi.org/10.1186/1472-6920-14-69

Sun, Z., Gao, S., & Liu, J. A representation of context in design thinking process modeling. In Proceedings

of the 11th IEEE International Conference on Computer-Aided Design and Computer Graphics, 2009, Huangshan, China. https://doi.org/10.1109/cadcg.2009.5246867

Thoring, K., Mueller, R., Giegler, S., & Badke-Schaub, P. From bauhaus to design thinking and beyond: a comparison of two design educational schools. In Proceedings of the Design Society Design Conference, 2020, 1, 1815-1824. https://doi.org/10.1017/dsd.2020.19

Wei, Z., Ma, H., Zhao, C., & Li, X. (2019). Research on factors affecting entrepreneurial learning from failure: An interpretive structure model. Frontiers in Psychology, 10, 1304. https://doi.org/10.3389/fpsyg.2019.01304
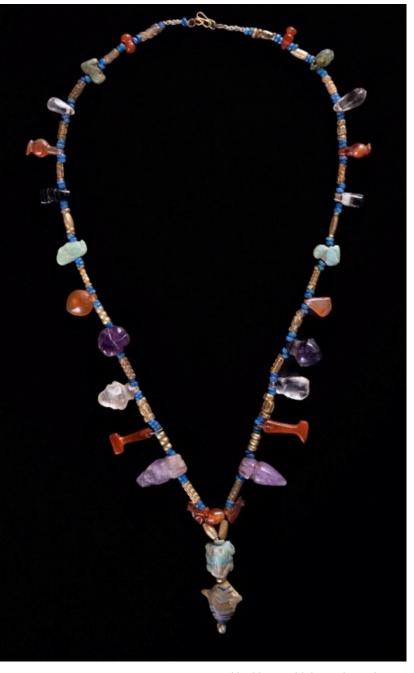
Zhang, B., Xu, X., & Liu, H. Obe-based design thinking model for computer-aided design courses., In Proceedings of the 2023 7th International Seminar on Education, Management and Social Sciences 2023, 2023, 1576-1582. https://doi.org/10.2991/978-2-38476-126-5_176

Zhao, Y., Tan, W., Nian, Z., Li, Z., & Liu, K. (2023). Design thinking as a case-based learning for college general education courses. Migration Letters, 20(S1), 628-646. https://doi.org/10.59670/ml.v20is1.3607

Part 4

Fashion's Paradox: Ever-Changing Concept Across Time and Culture

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Necklace, which semi-precious stones. The forms include a frog, human legs, hearts, flowers. (15.JW.184). From Sacred Adornment: Jewelry as Belief in Ancient Egypt, Glencairn Museum (2020). https://www.glencairnmuseum.org/newsletter/2020/3/6/sacred-adornment-jewelry-as-belief-in-ancient-egypt

Fashion's Paradox: Ever-Changing Concept Across Time and Culture

Abstract

Fashion is a contradictory term that is both a product of utility and a declaration, a weapon of inclusion and exclusion, a passing fad and a permanent cultural stamp. Throughout history, it has been criticized as a superficial and recognized as a meaningful method of self-expression. Roland Barthes (1983) famously claimed that "Fashion is a language that creates itself in clothing to interpret reality." This vision of reality has changed with human civilization, reflecting changes in societal ideals, power structures, and technological breakthroughs. Fashion has been linked to history, politics, and cultural identity, from its beginnings as a means of body protection to its evolution into a dynamic system of social communication. Fashion, whether used for religious modesty, rebellion, or activism, is a visual and symbolic language that forms and is shaped by the world around it. This study investigates fashion's historical origins, role as a communicative force, and relevance in the construction of identity and ideology over time. Despite its widespread cultural relevance, it is challenging to define fashion, resulting confusions in its discourse.

This study aims to address this issue by analyzing fashion's historical growth, investigating theoretical interpretations, and providing a larger definition that reflects its fluid, ever-changing nature. This investigation points out fashion's position as both an individual and collective force, emphasizing its significance as a cultural and communicative medium.

Aim of the study

This research aims to investigate the challenges of defining a universal definition of fashion by investigating its historical growth, cultural relevance, and conceptual inconsistencies. Fashion has historically been difficult to define due to its fluid character, which varies between utility, self-expression and social standing. This study aims to understand why fashion does not have a single definition.

To achieve these objectives, the study will address the following research questions:

What factors prevent the formation of a universal definition of fashion?

What are the historical and cultural dynamics that have shaped the evolving definitions of fashion?

How do different theoretical perspectives (semiotics, cultural studies, economic theories) contribute to the understanding of fashion?

Methodology

This study takes a qualitative approach to investigate fashion's history, cultural importance, and conceptual contradictions. Using a historical analytical perspective. A literature review, conducted through discourse analysis and close reading, combines insights from academic books, journal articles, and theoretical works to explore how cultural, religious, economic, and technological variables influence fashion. This methodology offers a critical perspective on fashion's fluid character and position as a social and communicative construct.

Introduction

Fashion is an evolving concept. Calling "traditional" to ethnic dress is far from static; its form and meaning often evolve through migration and cultural shifts, (Eicher, 1995). As a result of its changing nature, there are different views on fashion. Through time, many people, from philosophers to artists and cultural theorists, have tried to explain the term fashion. Their interpretations have varied widely, reflecting different cultural, social, and philosophical perspectives. Yet, no single definition has been able to capture its complete values. For instance, some have viewed fashion as a mere tool for self-expression, while others have analyzed its deeper implications in shaping society and identity. This contrast highlights one of the primary challenges in fashion theory, that is its dual role as both a personal statement and a societal construct. To better understand these differing perspectives, here are some examples; Fashion, in its broadest meaning, refers to a popular style of dress, behavior, or cultural expression that evolves throughout time (Barnard, 1996). It is commonly related with clothing and look, but it also includes accessories, haircuts, body alterations, and even lifestyle choices. The name comes from the Latin word facere, which means "to make" or "to do," highlighting its constructed and changing nature (Kawamura, 2005). On the other hand, Roland Barthes (1983) defines fashion as a semiotic system that functions like a language with its own symbols and meanings. He defines fashion as more than just apparel; it also encompasses how they are represented in media and conversation. In his book The Fashion System, Barthes distinguishes between actual clothing

and the fashion discourse that determines our perception of fashion. This inability to construct a stable definition has led to contradictions in fashion's role. Sometimes celebrated as an empowering tool for communication, and sometimes dismissed as a superficial, temporary phenomenon.

Fig.1 Tanrıkuli, B. (2025). Fashion Timeline [Illustration]

Early Times of Fashion

Our body is our main defense and is built to stand a variety of external factors and conditions. However, it is vulnerable to damage in harsh and unpredictable environments. From the pre historic times clothing appeared as a vital extension of our inherent defense mechanisms. The history of fashion reflects the history of civilizations. Archaeological research shows that in prehistoric Europe, fur and leather garments played a crucial role in providing warmth and protection, especially among early settlers such as those in Bronze-Age, where Minoans initially wore animal skins before developing advanced weaving techniques using flax and wool (Cosgrave, 2000). As societies transitioned from nomadic lifestyles to settled agriculture, people start to develop variety of textile products, leading to more refined and diverse clothing materials. Early civilizations like Egypt, Mesopotamia, and China began developing textiles from plant and animal sources, including linen, wool, and silk (Cosgrave, 2000). Adornment also gained an important role in fashion, in ancient Egypt, jewelry and textiles were used not just for beauty, but as symbols of divine favor and social power. Items such as gold, lapis lazuli, and dyed linens were incorporated into garments to communicate spiritual beliefs and elite status (Cosgrave, 2000). These improvements not only enhanced the durability and comfort of garments but also introduced variations in texture, color, and style that began to distinguish different social groups. Thus, clothing became a complex system of symbols, communicating an individual's status and cultural heritage. However, this transition posed new issues in defining fashion beyond function and protection. Fashion became a symbol of status and culture. As different cultures created their own symbolic dress standards, the concept of fashion became highly contextualized, influenced by local customs, available materials, and social hierarchy.

Fig.2 Necklace, which semi-precious stones. The forms include a frog, human legs, hearts, flowers. (15.JW.184). From Sacred Adornment: Jewelry as Belief in Ancient Egypt, Glencairn Museum (2020). https://www.glencairnmuseum.org/newsletter/2020/3/6/sacred-adornment-jewelry-as-belief-in-ancient-egypt

Christianity's effects on Fashion

Shame doesn't arise naturally; it is something fabricated by society. With the emergence of Christianity, fashion and dress regulations became extremely linked with religious and moral values. They regarded the naked body as shameful. Unlike the classical civilizations of Greece and Rome, where nudity was often celebrated as a symbol of purity and strength, Christianity introduced new ideals of modesty and restraint (Ribeiro 1986). Clothing began to represent spiritual purity rather than physical attractiveness, supporting Christian teachings about humility and self-control. especially, Women, were encouraged to dress modestly as a display of virtue and piety, in accordance with scriptural teachings, which warns against extravagant decoration. The early Church Fathers, were vocal critics of fashion. They condemned luxurious garments and jewelry as desires leading to vanity and sin, asserting that true beauty lay in faith and morality (Ribeiro 1986). These perspectives significantly influenced Christian societies, where modesty became a defining aspect of religious identity. Fashion during this period became strongly connected with religious beliefs. altering people's perceptions of clothes as more than a social or functional tool, but also as a moral statement. However, this shift also introduced several conceptual complexities in defining fashion as a whole. fashion was no longer recognized as an evolving cultural practice but was instead categorized as a moral or ethical concern.

The Renaissance and the Birth of Personal Style

The Renaissance period, literally a rebirth, which lasted about 14th to the 17th century, crated significant changes in European society's culture, and fashion. This period experienced a transition from religious modesty to individual expression, influenced by humanism, a philosophical movement emphasizing personal success, creativity, and self-identity. According to sociologists, this period saw fashion's rise as a technique for communicating class differentiation, which was intimately linked to the emergence of capitalism and the ruling class in Europe (Aspers & Godart, 2013). While fashion existed in earlier societies, it was not until the Renaissance that clothing was employed more methodically to organize and express identity. The emphasis on outer appearance aided in the early development of what could be considered personal style, in which people utilized clothing not just to show status but also to convey taste, refinement, and cultural identity. McCall (2017) explains how technological and commercial advancements have made luxurious fabrics such as silk, velvet, and brocade more accessible, which has further reinforced this display. Richly dyed and adorned garments allowed individuals shape how their bodies and identities were perceived in public, making fashion more than only decorative, but also socially and politically significant. In this period, personal style emerged as an intentional manner of self-presentation within early modern Europe's established hierarchies.

The Industrial Revolution and the Democratization of Fashion

The Industrial Revolution, which began in the late 18th century, transformed fashion by introducing new technologies that increased both the scale and speed of textile production. As John Styles (2022) notes, the transformation of British cotton manufacturing was not only a result of process innovations but also product innovations fueled by demand for fashionable goods. High-quality cotton fabrics, such as printed cottons, muslins, and velvets, experienced a rapid increase in demand. This move allowed middle and lower-class people to engage in previously impossible trends. Ready-to-wear clothing became a distinctive element of nineteenth-century fashion, decreasing custom tailoring and making styles more similar across social groups. Cheaper, lighter, and more colorful fabrics also mirrored shifting consumer values favoring novelty and variety (Styles, 2022). This laid the groundwork for a fashion system increasingly driven by changing consumer tastes, seasonal cycles, and the global flow of materials and designs. Department stores and mail-order catalogs enabled working- and middle-class women to follow popular fashion trends (Presley, 1998). The corseted "Gibson Girl" of the early 1900s reflected new roles for women as they entered clerical, educational, and retail jobs. Clothing such as the shirtwaist blouse became symbolic of this new professional identity. By 1920, most garments could be purchased ready-made, and synthetic textiles like rayon increased accessibility and versatility (Presley, 1998). Fashion expanded dramatically in the twentieth century with the rise of fashion journalism, advertising, and digital media. Fashion evolved into an industry dominated by trends, celebrity endorsements, and marketing methods designed to influence customer behavior. Fashion's proliferation through film, television, and print media increased its influence, transforming clothes into a global language that crossed cultural barriers.

Fig.3 Advertisement for woman's tailored suit, United States, The New York Public Library. (1910) Retrieved from https://digitalcollections.nypl.org/items/510d47e0-ef6a-a3d9-e040-e00a18064a99

Fig.4 Advertisement for women's blouses, The New York Public Library. (1910) Retrieved from https://digitalcollections.nypl.org/items/510d47e0-f220-a3d9-e040-e00a18064a99

However, this transition posed significant conceptual issues in defining fashion. Fashion grew increasingly linked to commerce and industry, raising discussions about whether it could be classified as an art form, a consumer product, or a tool of capitalism. The rise of ready-to-wear fashion undermined conventional conceptions of uniqueness in clothing, since mass production resulted in standardized trends rather than personal expression. Paradoxically, as fashion became more accessible, the issue of exclusivity remained with haute couture and designer brands maintaining elite status despite fashion's democratization. Furthermore, the incorporation of media, marketing, and branding challenged fashion's definition.

Fashion as a Form of Protest and activism

Fashion is also a medium for activism, and a tool for challenging societal ideals. Throughout history, clothing has been used meticulously to communicate ideological beliefs. In the 1960s and 1970s, a fashion movement emerged, which used clothes to challenge social standards and communicate ideas that is the punk movement, originated in the United Kingdom and the United States, used ripped clothing, safety pins, and bold slogans to protest against capitalism and authority, reject popular beauty standards and traditional conceptions of compliance (Barnard, 1996). Punk fashion became a marker of rebellion, making its wearers can easily identified by examining within anti-establishment subcultures. Meanwhile, fashion artists such as Lucy Orta have made activism and art through garments that embody social critique. Her Refuge Wear collections, for instance, are described as ''Alarm signals warning us to a new level of human vulnerability and uncertainty'' (Virilio, 1996). These wearable structures not only function as apparel but also as visual comments to the threats of displacement, unemployment, and physical disappearance. Orta's work transforms the body into a canvas, drawing attention to contemporary vulnerabilities and reinforcing fashion's power to witness, resist, and provoke. In addition to its symbolic power, activist fashion also in response to global crises like climate change. Ulrich Beck's "Risk Society" (1992) highlights how modern societies are shaped by risks, including environmental threats, influencing not only lifestyle choices but also fashion (Beck, 1992). Activist designers have responded by integrating climate advocacy into their work. Vivienne Westwood's Climate Revolution campaign, launched at the 2012 London, used bold slogans and striking visuals to challenge unsustainable practices, reinforcing fashion's role in environmental discourse (Vivienne Westwood, n.d.). These examples illustrate how clothing has transcended its traditional role, becoming an essential medium for advocacy, social awareness, and activism.

Current Fashion

Nowadays, the increasing integration of digital media into the fashion industry has fundamentally reshaped how fashion is produced, presented, and consumed. As Rocamora (2016) explains, fashion shows have transformed into media spectacles, streamed globally and staged with social media audiences in mind. Influencers, bloggers, and online fashion shows have democratized fashion even more, resulting increasing personality and participation in fashion landscape by folk. Interactive nature of social media allowed ordinary people to make contributions. This mediatization has extended beyond production to influence

how consumers interact with fashion, shifting power from traditional gatekeepers like fashion editors to influencers and online creators (Rocamora, 2016). Platforms such as Instagram have become central to fashion visibility, enabling individuals to contribute to and shape trends. Today, fashion still remains a platform for advocacy. As digital media continues to reshape the fashion landscape, activism has found new platforms for visibility. The needs of modern days such as, body positivity, gender-neutral clothes, and ethical manufacture has altered industry norms. Social media campaigns such as #WhoMadeMyClothes and #SlowFashion have pressured brands to increase transparency on labor rights and environmental impact. The rise of sustainable fashion has further change, with brands integrating eco-conscious materials and ethical production practices into their designs. According to Earley (2017), circular design promotes long-term thinking and collaboration, encouraging designers to consider life cycles, material recovery, and new models of production and consumption. Similarly, Clark (2008) outlines how slow fashion values ethical labor, transparent sourcing, and localized production methods.

Conclusion

Fashion, as analyzed in this paper, is a regularly improving and complex phenomena that goes beyond just apparel. It is a form of cultural expression, a driving economic force, an activist tool, and a historical reflection of human identity. Fashion has evolved from its original function as a tool of protection to a symbol of status, morality, uniqueness, and a form of protest. However, one of the most difficult issues in fashion is the failure to define a single, universally agreed definition.

A universal definition of fashion can be given as:

Fashion is a dynamic system of looks as a platform for self-expression, social identification, and utility. It reflects historical development, technical breakthroughs, economic systems, and ideological movements, influencing and being influenced by the society in which it exists.

However, this concept is naturally flexible and subjective. Fashion is a dynamic idea that differs between countries, specific periods, and personal experiences. What makes fashion in one community may not mean the same in another, and even within the same culture, people perceive and interact with fashion differently. This variety highlights the issue of defining fashion. The findings of this paper show that fashion cannot be reduced to a single function or meaning. Furthermore, fashion's definitions and practices will continue to change as new movements, technologies, and societal transformations emerge. Thus, fashion continues to be a fluid and dynamic term. This diversity enriches design by fostering creativity, innovation, and cultural exchange, allowing fashion to evolve continuously.

List of figures

1.   Tanrıkuli, B. (2025). Fashion Timeline [Illustration]

2.   Glencairn Museum. (2020, March 6). Sacred adornment: Jewelry as belief in ancient Egypt. https://www.glencairnmuseum.org/newsletter/2020/3/6/sacred-adornment-jewelry-as-belief-in-ancient-egypt

3.   The New York Public Library. (1910). Advertisement for woman's tailored suit, United States, 1910s Retrieved from https://digitalcollections.nypl.org/items/510d47e0-ef6a-a3d9-e040-e00a18064a99

4.   The New York Public Library. (1910). Advertisement for women's blouses, 1910 Retrieved from https://digitalcollections.nypl.org/items/510d47e0-f220-a3d9-e040-e00a18064a99

Reference List:

Aspers, P., & Godart, F. (2013). Sociology of fashion: Order and change. Annual Review of Sociology, 39, 171–192. https://www.jstor.org/stable/43049631

Barnard, M. (1996). Fashion as communication. Routledge.

Barthes, R. (1983). The fashion system (M. Ward & R. Howard, Trans.). University of California Press.

Beck, U. (1992). Risk society: Towards a new modernity. Sage Publications.

Clark, H. (2008). Slow + fashion—An oxymoron or a promise for the future...? Fashion Theory, 12(4), 427–446. https://doi.org/10.2752/175174108X346922

Cosgrave, B. (2000). The complete history of costume and fashion: From ancient Egypt to the present day. Checkmark Books.

Earley, R. (2017). Circular design futures. The Design Journal, 20(sup1), S421–S434. https://doi.org/10.1080/14606925.2017.1328164

Eicher, J. B. (1995). Dress and ethnicity: Change across space and time. Berg.

Kawamura, Y. (2005). Fashion-ology: An introduction to fashion studies. Bloomsbury.

McCall, T. (2017). Materials for Renaissance fashion. Renaissance Quarterly, 70(4), 1449–1464. https://www.jstor.org/stable/10.2307/26560612

Presley, A. B. (1998). Fifty years of change: Societal attitudes and women's fashions, 1900–1950. The Historian, 60(2), 307–324. https://www.jstor.org/stable/24451728

Ribeiro, A. (1986). Dress and morality. Berg.

Rocamora, A. (2017). Mediatization and digital media in the field of fashion. Fashion Theory, 21(5), 505–522. https://doi.org/10.1080/1362704X.2016.1173349
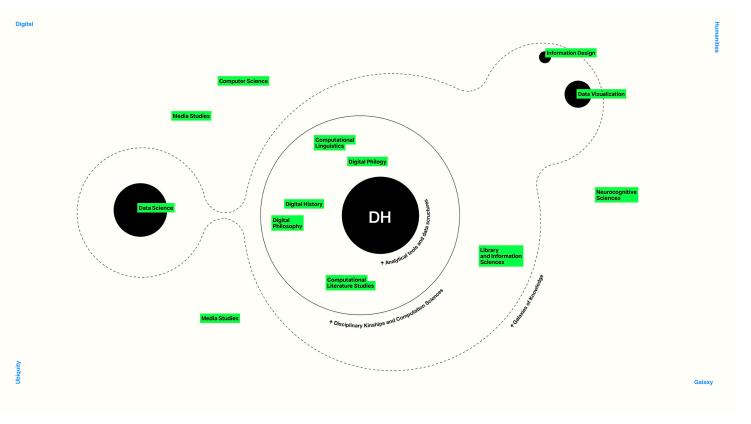
Styles, J. (2022). Re-fashioning Industrial Revolution: Fibres, fashion and technical innovation in British cotton textiles, 1600–1780. In L. To Figueras (Ed.), La moda come motore economico: innovazione di processo e prodotto, nuove strategie commerciali, comportamento dei consumatori (pp. 45–71). Florence: Firenze University Press. https://doi.org/10.36253/978-88-5518-565-3.06

Vivienne Westwood. (n.d.). Climate Revolution. Retrieved in April 17, 2025 from https://www.viviennewestwood.com/en-gb/sustainability/activism/climate-revolution/

Virilio, P. (1996). In L. Orta, Refuge Wear. Paris: Éditions Jean-Michel Place.

From Data to Interpretation: Designing Modular Visualizations for Capta in Digital Humanities

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Digital Humanities Galaxy. Graphic reworking by author from Ciotti, F. (2023). Digital Humanities. Metodi, Strumenti, Saperi. Carocci.

From Data to Interpretation: Designing Modular Visualizations for Capta in Digital Humanities

Abstract

Digital Humanities represent a continuously evolving research field where the integration of computational methods and the humanities is redefining the interpretative paradigms of knowledge. This paper analyzes the role of Data Visualization in humanities research, with particular focus on the field of Religious Studies. Through the uBIQUity project, developed within ITSERR, innovative strategies for visualizing intertextual references in sacred texts are explored, offering a space for reflection on challenges, failures, and new design opportunities. In this context, the transdisciplinary approach, combining both quantitative and qualitative analysis, emphasizes the need to transcend quantitative visual conventions in favor of more flexible and inclusive interpretative models. The research proposes a methodology based on the design of modular and dynamic visualizations capable of representing the complexity of humanistic phenomena and enhancing the accessibility of religious textual heritage.

## 1.	Introduction

In a transdisciplinary context such as that of Digital Humanities, the increasing intersections between in the transdisciplinary context of Digital Humanities, the blending of diverse disciplines is reshaping models for representing and interpreting knowledge. Fabio Ciotti (2023) defines Digital Humanities as a field at the intersection of computational technologies and the humanities, combining systematic digital methods with critical reflection on their application. The complexity of this field is visualized as a galaxy of interconnected knowledge, with a "core" of methodological research, an "interdisciplinary disk" integrating computational sciences, and an "outer edge" where Digital Humanities engage with other fields like data science and information design. It is in this outer edge where design plays a crucial role in shaping open, non-linear, and inclusive models of knowledge (Latour, 2005).

The combination of humanities, computational disciplines (like Data Science), and design-based fields drives the creation of innovative, inclusive, and decentralized projects, emphasizing collaboration in generating new transdisciplinary artifacts. The ITSERR research ecosystem—focused on strengthening the Italian contribution to ESFRI's RESILIENCE initiative—aims to develop new tools supporting the Religious Studies community within Digital Humanities. This project adopts a transdisciplinary approach to explore strategies for Text Data Visualization to analyze and interpret texts and the intangible heritage of religious corpora.

A key component of this research is the uBIQUity project, developed within Work Package (WP) 8 of ITSERR. The project focuses on creating a platform to identify intertextual references in sacred texts, specifically commentaries on the Bible and the Qur'an. By working with critical editions of these texts, uBIQUity aims to enhance analysis tools and improve accessibility through the development of multichannel visualizations. These visualizations facilitate interaction with textual content, particularly in identifying and visualizing both literal and non-literal quotations. The integration of space and time within the visualizations offers a new perspective on complex religious texts, contributing to the broader goals of ITSERR.

### 1.1	Interpretative-Exploratory Visualizations: A Comparison of Qualitative and Quantitative Approaches

In recent years, there has been an overwhelming enthusiasm for technological advancements in the humanities, often leading to a focus on quantitative methods at the expense of qualitative depth (Drucker, 2020). As Ciotti (2023) points out, this tendency does not fully reflect the diversity of approaches and perspectives within the Digital Humanities. Traditionally, the text has been the central object of analysis in humanistic studies. However, with the rise of computational methods, it risks being reduced to a mere sequence of data points, processed and analyzed through algorithms. Moretti (2022) describes this phenomenon as a "history of literature without texts," where words are no longer understood in their full semantic and interpretative richness but instead transformed into measurable units of information.

This shift has created a divide between two ways of approaching textual analysis. On one side, quantitative research focuses on identifying and comparing syntactic patterns, treating texts as formal structures (form-form). On the other, the humanistic tradition emphasizes the subjective, experiential aspects of interpretation, considering texts as gateways to meaning and cultural context (form-world) (Moretti, 2022). Moretti argues that rather than being in conflict, these two perspectives can complement one another: when used thoughtfully, quantitative methods can open new research questions and objects of study,

while hermeneutics can provide depth and critical insight into the results of computational analysis. Ciotti (2023) supports this integrative approach, proposing a model in which qualitative tools—such as digital annotations, semantic coding, and metadata—are combined with quantitative techniques like statistical analysis and machine learning.

However, this blending of methodologies raises an important challenge: how do we design visualization systems that go beyond simple numerical representation and instead capture the complexity of interpretative processes? Drucker (2020) highlights the need for new infographic models that do not simply reflect statistical outputs but also allow for the visualization of subjective, verbo-visual structures. This calls for a rethinking of traditional digital tools, making them more flexible, dynamic, and capable of adapting to the plurality of expressive forms found in humanistic research. Drucker suggests that we should move away from rigid, data-driven approaches and instead develop modular and interactive systems that can accommodate different types of cultural artifacts—whether they are interactive digital texts, multidimensional visualizations, nonlinear narratives, or hybrid materials that blur the boundaries between text and image.

Ultimately, the challenge is not just technological but conceptual. If we want to harness the potential of digital tools in the humanities without losing sight of the richness of interpretative traditions, we need to rethink the way we design and use visualization models. Rather than prioritizing quantification alone, we should develop frameworks that respect the nuanced and evolving nature of humanistic inquiry. This means embracing visualization as a tool not just for organizing data but for fostering interpretation, dialogue, and deeper engagement with texts and cultural artifacts.

2. Research Questions and Objectives

The design of modular-interpretative visualizations that optimize capta accessibility is now essential. This raises key research questions:

2. What visualization characteristics best support the interpretation of qualitative-textual data in Digital Humanities projects for Religious Studies?

3. How can these systems facilitate both close and distant reading, incorporating diverse learning modalities (visual, auditory, kinesthetic) to enhance accessibility and analysis?

4. Can standardized visualization protocols be developed to optimize their use in these contexts?

To address these needs and preserve the material and immaterial heritage within religious corpora, this study explores emerging data visualization strategies. By examining manuscript tradition visualizations, the research highlights their potential in data representation and interaction.

3. Textual Figures in the Humanistic Tradition

Figures have been used since the earliest civilizations as tools for communication and meaning-making (Lima, 2014). Theologians and historians, through hermeneutic research, seek new interpretive tools, with trees, figures, and diagrams serving as metaphors and archives of knowledge (Lima, 2014; Rainini, 2006). Today, these visual forms are widely used for disseminating data and information (Manchia, 2020), but their origins lie in the manuscript tradition (Lima, 2014). Early visual representations often drew on motifs from wind diagrams, cosmic structures, and tree imagery (Lima, 2014). For instance, the Liber Figurarum, attributed to Joachim of Fiore, exemplifies medieval diagrammatic culture, where knowledge is organized through color, position, and relationships between graphemes and figures.

Among the most prevalent visualization systems in manuscripts are tree structures, which organize information using branching limbs (figurative connectors) and nodes (verbal statements). While arbores were the dominant form of medieval diagrammatic expression—seen in genealogical trees and Joachim's Liber Figurarum—maps are the oldest examples of textual figures (Rainini, 2006). As historian Jerry Brotton states, "maps elaborate conventional signs … substitutes for what they can never fully reproduce" (2022, p.38). While based on scientific principles, maps inevitably distort reality (Garfield, 2016). This act of representation is inherently "imaginative," relying on visual analogies, as seen in mappemundi, which Brotton describes as "written and drawn representations of the Christian world" (2022, p.107). The Hereford map, for example, with its circular depiction of Europe, Asia, and Africa, embodies the theological, political, and historical knowledge of the medieval Christian world (Brotton, 2022).

Maps, as human artifacts, serve as archives of history and memory, reshaping reality through cultural and social conventions. In the Islamic tradition, textual data takes precedence over figurative imagery, unlike in Western iconography. This can be seen in the topographical diagrams of Mirabilia septem climatum usque

ad finem habitati orbis (Brotton, 2002), where extreme stylization reduces geographic representation to textual elements and a grid of meridians and parallels, introducing a new way of conceptualizing space.

Medieval theological and biblical manuscripts often feature matrix visualizations containing textual rather than numerical or temporal data. Rabanus Maurus, in Liber de laudibus Sanctae Crucis, employs textual matrices to visualize Christ's Passion, arranging calligrams of thirty-five to forty-one lines into squares. He highlights figures using saturated colors that contrast with the surrounding text, emphasizing key textual elements.

Unlike contemporary Digital Humanities tools, which are often criticized as sterile and inhospitable (Drucker, 2020), medieval visualizations offer a more interpretive and humanistic approach. The transposition of these pioneering diagrammatic traditions (Lima, 2014) can inspire the design of modern interpretive systems, effectively adapting to contemporary technologies and research methodologies.

4. Research Methodology and Learning Styles (VARK)

Analysis of previous studies highlights that individuals process and record information through different cognitive modes (Claxton & Murrel, 1987). Learning models—cognitive-personal, info-processual, socio-interactive, and didactic-preferential—help explain how individuals acquire, interpret, and elaborate on information (Curry, 1983). Understanding these learning styles allows researchers to identify the cognitive processes involved in knowledge acquisition. A key framework in this field is Fleming's VARK model (1987), which categorizes learning preferences into four sensory modalities: non-verbal visual (graphics and diagrams), auditory (recordings and spoken explanations), verbal visual (reading and writing), and kinesthetic (hands-on activities and practical engagement). These modalities define how individuals absorb and process new information.

In the transdisciplinary context of uBIQUity, a methodological approach has been developed to integrate techniques from various disciplines. A questionnaire, modeled after Fleming's (1992) VARK system, was designed to assess learning preferences among researchers. The goal is to determine which learning styles are most employed and through which channels researchers acquire new knowledge. This approach allows for a more tailored understanding of information processing, ultimately enhancing methodologies in Digital Humanities.

4.1 Methods and Strategies in the Acquisition and Personal Reworking of Information

The collected data, obtained through structured interviews and focus groups, reflect a qualitative approach typical of anthropological-social research. Using Google Forms, ITSERR researchers in the humanistic disciplines were surveyed through four thematic areas — Spaces, Tools, Time, and Knowledge — via open- and closed-ended questions. This format enabled the collection of both measurable data and nuanced reflections, which were standardized into an Excel matrix to create a representative sample and generate valid qualitative findings.

These results emphasize the interplay between analog and digital tools in current research practices. Analog tools, favored for their personalized visual codes and spatial organization, remain vital in Digital Humanities — particularly for transcription. Researchers often begin with handwritten annotations before converting them into digital formats. While digital tools aid in document structuring, metadata management, and data sharing, they lack the expressive flexibility of analog methods, potentially leading to semantic loss. Spatial elements — layout, orientation, and scale — add meaning to text, making handwriting a powerful method of capturing thought (Perondi, 2023). The ability to locate, manipulate, and interact with data through customizable visualization tools is still underdeveloped (Perondi & Romei, 2010). For Digital Humanities research to thrive, more flexible, multichannel, and multi-instrumental tools must be developed to support personalized expressive codes and enhance learning and knowledge creation.

These findings not only highlight the need for more efficient and intuitive tools to enhance data accessibility in scientific research but also raise new questions regarding the practices and priorities of the academic community.

5. New Visualization Systems for the Representation of Capta

Graphical visualizations in Digital Humanities often borrow from statistical representation, but these rigid formats can be misleading for humanistic research. Many platforms present textual data in overly technical ways, making them feel sterile and difficult to navigate (Drucker, 2020; Moretti, 2022). As Drucker (2020) points out, such representations create an illusion of objectivity, overlooking the interpretative nature of humanities research. Unlike numerical data, capta—information shaped by context and perspective—

requires more flexible and dynamic visualization methods. Cartesian graphs, histograms, and trend curves fail to capture the layered complexity of humanistic inquiry.

Effective visualizations must be adaptable, modular, and capable of reflecting the richness of interpretation (Manovich, 2016). The challenge is not just to present data but to design tools that foster active engagement. Alternative models such as relational diagrams, network structures, and multidimensional graphs better represent the complexity of humanistic analysis, highlighting relationships, interruptions, and interpretive shifts (McCosker & Wilken, 2020). These methods move beyond static data presentation, embracing the variability and subjectivity inherent in humanities research.

Modularity is not just a design principle but an epistemological necessity (Drucker, 2020). While the exact sciences prioritize replicability, humanistic visualizations must acknowledge ambiguity and interpretative flexibility. Moretti (2022) and Manovich (2016) argue that breaking data into smaller analytical units enables deeper analysis. In literary and historical networks, nodes may represent authors, texts, or events, while connections reveal semantic or temporal relationships (Moretti, 2022). A well-designed visualization should not just display information but also make interpretive uncertainties explicit.

This shift demands a critical approach to visualization, moving beyond rigid statistical formats toward interactive and multidimensional models. Non-linear grids, elastic surfaces, and dynamic diagrams encourage richer engagement, overcoming the limitations of conventional quantitative methods. This transition is not merely technical but a fundamental change in how we represent and explore data. By integrating qualitative and quantitative approaches, Digital Humanities can develop visual tools that better reflect the complexity of humanistic inquiry, bridging the gap between humanistic thought and digital methodologies.

Bibliography

Brotton, J. (2017). La storia del mondo in dodici mappe (V. B. Sala, Trad.). Feltrinelli.

Ciotti, F. (2023). Digital Humanities: Foundations and Perspectives. Carocci.

Claxton, C., & Murrel, P. (1987). Learning Styles: Implications for Improving Educational Practices. ASHE-ERIC Higher Education Report No. 4.

Curry, L. (1983). An organization of learning styles and constructs. 67th Annual Meeting of the American Educational Research Association (Montreal, Quebec).

Drucker, J. (2020). Visualization and Interpretation: Humanistic Approaches to Displaying Knowledge. MIT Press.

Fleming, N. (1987). VARK: A Guide to Learning Styles. Neil D. Fleming.

Fleming, N. D., & Mills, C. (1992). Not another inventory, rather a catalyst for reflection. To Improve the Academy, 11,137–155. https://doi.org/10.1002/j.2334-4822.1992.tb00213.x

Garfield, S. (2016). On the Map: A Mind-Expanding Exploration of the Way the World Looks. Avery.

Latour, B. (2005). Reassembling the Social: An Introduction to Actor-Network Theory. Oxford University Press.

Lima, M. (2014). The Book of Trees: Visualizing Branches of Knowledge. Princeton Architectural Press.

Manchia, G. (2020). Il discorso dei dati. Note semiotiche sulla visualizzazione delle informazioni. Franco Angeli.

Manovich, L. (2016). The Science of Culture? Social Computing, Digital Humanities and Cultural Analytics. Oxford University Press.

McCosker, A., & Wilken, R. (2020). Data Visualization in Society. Amsterdam University Press.

Moretti, F. (2022). Falso movimento. La svolta quantitativa nello studio della letteratura. Nottetempo.
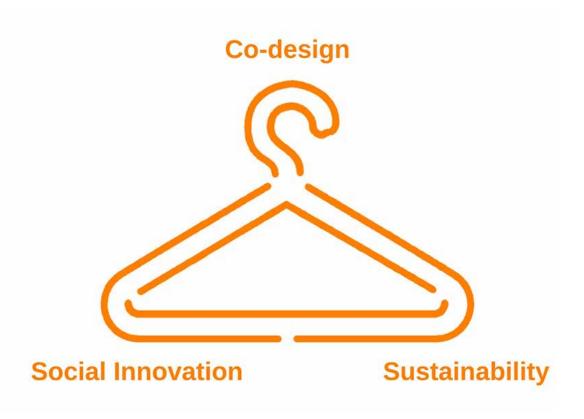
Perondi, L., & Romei, R. (2010). Linear Typography: The Digital Writing System and Its Limitations.

Perondi, L. (2023). Sinsemie. Scrittura nello spazio. Scritture & Zabar.

Rainini, G. (2006). Disegni dei tempi. Il «Liber Figurarum» e la teologia figurativa di Gioacchino da Fiore. Viella.

"Triangle of Life" Design for the Textile Sector

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Triangle of Life for Textile Sector
Source: Created by the author.

"Triangle of Life" Design for the Textile Sector

Abstract

This study focuses on the impact of social innovation on sustainability in the textile industry, using the Triangle of Life metaphor and the mediating role of the co-design approach. The textile industry is facing significant sustainability challenges due to the rapid production of fashion and environmental pressures. While social innovation facilitates the adoption of more sustainable practices in the sector, the co-design approach strengthens collaboration among stakeholders.

However, the study notes that co-design processes are not without their challenges, including lack of participation, cultural resistance, technical constraints, and economic barriers. Rather than perceiving these 'failures' as obstacles, the study considers them as learning opportunities and discusses how they can transform the achievement of sustainability goals. By encouraging learning from design failures, the proposed model aims to develop strategies that increase the impact of social innovation and make co-design processes more inclusive.

The study emphasizes the contribution of social innovation and co-design to sustainability in the textile sector, while the proposed model demonstrates that failures are a critical learning space for innovation and transformation.

Keywords: Textile Industry, Sustainability, Social Innovation, Co-design

Introduction and Scope

Success in design research is often ambiguous and interdisciplinary. Failure, on the other hand, offers a much more concrete and instructive experience. Design failures should not only be seen as mistakes and shortcomings, but also as opportunities that shape innovation, restructure the process and open the door to more sustainable solutions. Although design processes aimed at increasing sustainability in the textile sector include participatory approaches such as social innovation and co-design, it is common for these processes to fail.

This study explores the impact of social innovation on sustainability in the textile sector through the metaphor of the triangle of life, while examining the mediating role of the co-design approach in this interaction. Co-design processes aim to produce more inclusive and innovative solutions by enabling collaboration between designers, manufacturers, and users. However, the challenges faced in implementing this process - lack of participation, cultural resistance, technical limitations, and economic barriers - are often seen as failures. At this point, these 'failures' in the design process actually provide critical learning opportunities for the sector and encourage the development of new strategies to achieve sustainability goals.

The motivation and basis of the study is philosophically based on the understanding of the Roman statesman, thinker, and playwright Lucius Annaeus Seneca (https://www.oxfordreference.com/), one of the founders of the New Stoic movement. According to Seneca, morality is not a branch of abstract knowledge, but it is in life, it is the source of human behaviour and actions. It is nature that shows the person how to behave and what kind of method to adopt, therefore, to live morally is to follow nature - naturam sequi.

The metaphor used in the study on the basis of this philosophy is the triangle of life, which has been expressed in disaster management in recent years. Triangle of Life (Figure 1) was developed by Doug Copp (www.amerrescue.org) and is used worldwide as a life-saving technique especially in earthquakes. But also while Copp's survival tips are found all over the Internet, a lot of controversy goes along with them. Just as all other sustainability practices are criticised at the same time.

Figure 1: Triangle of Life
Source: www.amerrescue.org

In the study, as seen in Figure 2, it is desired to emphasise the importance of applying social innovation, co-design and sustainability together for the survival of the textile sector.

Figure 2: Triangle of Life for Textile Sector
Source: Created by the author.

The significance of working textile industry is explained by European Environment Agency is explained as "In the last few decades, the textile industry has evolved towards a fast fashion approach: inexpensive clothes, made of cheap materials, to be worn only for one season or less and then discarded. The production and consumption of textiles cause significant pressures on the environment and climate change. These can range from the land and water used to produce the fibres and the energy and chemical dyes used in its manufacturing and production, to its retailing and disposal." (www.eea.europa.eu/en/topics/in-depth/textiles)

At this point, it was decided that the three variables to be studied were sustainability, social innovation and co-design. In the modelling of these variables in the study, sustainability is defined as the dependent variable, social innovation as the independent variable and co-design as the mediating variable in the relationship between these two variables.

In the light of the explained motivation and philosophical basis, the research question is 'How does the co-design approach mediate the relationship between social innovation and sustainability?' and the research is designed with a triangulation approach.

Literature Review

Social innovation is defined by Organisation for Economic Co-operation and Development - OECD as "involves creating and implementing new solutions that entail conceptual, process, product, or organisational changes, with the ultimate goal of enhancing the welfare and well-being of individuals and communities" (www.oecd.org/en/topics/sub-issues/social-economy-and-social-innovation.html). In today's increasingly prominent social economy, many initiatives led by communities and social entrepreneurs are addressing socio-economic and environmental challenges while introducing innovations that stimulate economic development. As Edwards et. al. (2012) stated that social innovation has lots of characteristics and is gaining importance as a type of innovation that has started to be addressed in all sectors in recent years. When evaluated within the framework of the notion of sustainability for a sustainable future, it is imperative to recognise the necessity for universal contribution to the creation of social innovations. In this regard, the co-design approach emerges as a pivotal method to facilitate this process, as articulated in the work of Leal et al. (2022).

In the Merriam-Webster dictionary co-design is defined as "to design (something) by working one or more others" and "to design (something) jointly" (www.merriam-webster/dictionary/co-design). Co-design includes all stakeholders of an issue not just the users, throughout the entire process from research to implementation. Co-design sees the user as collaborator, rather than just a research subject the latter being the common view of the user in other areas of design seeking the participation of people (Szebeko and Tan, 2010). Today co-design becomes more and more important because of the facing complex social, political, environmental, educational and technological issues, where no one person has the whole knowledge and skills to understand and solve them. Also where a different approach is needed to empower people to participate and take control of their own life and environment (Zamenopoulos and Alexiou, 2018).

The concept of sustainability, a term that is discussed in many academic disciplines today and which plays a critical role in many models, is defined in the Merriam-Webster dictionary as 'sustainable', 'a method of harvesting or using a resource so that it is not depleted or permanently damaged' (www.merriam-webster/dictionary/sustainability). The notion of sustainability, which originated with the utilisation of natural resources since the dawn of humankind, is presently regarded as imperative and a long-term objective for the business world, nations, and society in general, as seen from a holistic standpoint. It is acknowledged

that the concept of sustainability, with its foundation in environmental concerns, was initially employed within the forestry sector. The term "Nachhaltigkeit" was first used in 1713 in the forestry sector to denote the principle that the extraction of timber from a forest should not exceed the rate of new growth following a harvesting cycle (Kuhlman and Farrington, 2010: 3437). The notion of sustainability in an inclusive sense, as it is currently understood, was first articulated in the "Our Common Future" report (Bruntland Report), which was published by the World Commission on Environment and Development (WCED) in 1987. The development-oriented definition summarises the concept as "meeting our current needs while taking into account the needs of future generations" (www.sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf). It is evident that the concept functions as a comprehensive overarching framework encompassing environmental, social, and economic issues.

In the literature, there are also discussions in terms of textile production and fashion in relation to the concept of sustainability, which has been intensively discussed in every discipline in recent years. Studies that present a general framework, such as Gardetti and Torres' (2013) book titled "Sustainability in Fashion and Textile", or studies that directly present results for specific countries and products, such as Ibrahim et al. (2024)'s study titled "Co-design as a Sustainable Design Thinking Approach to Addressing the White Wedding Gown in Ghana", are included in the literature. Even as an artistic perspective and strategy, Narasimhan and Mahajan's (2023) "Textiles Crafts and Co-Creation as a Strategy for Sustainable Design Pedagogy" can be seen. Some journals such as Journal of Consumer Policy have special issues such as "Sustainable Textiles: The Role of Consumers, Civil Society, Corporations and Government" (www.link.springer.com/journal/10603/volumes-and-issues). This issue deals in depth with how the textile industry has a polluting role in the world. For example, in this special issue, Boström and Michele Micheletti (2016), in their study titled "Introduction to the Sustainability Challenge of Textiles and Clothing", address the impacts of different parties on sustainability practices from both supply and demand sides.

An evaluation of the relevant research and the model to be utilised in the present study reveals that a number of studies are worthy of note. Pine (1993) was the first author suggesting using customisation in customer processes and design practices. After that many others were agree on co-design as a process of integrated value which combines the consumer's customising choice from a list of options and predefined components. And co-design emerges as a method (Cuenca, 2021). Usage of co-design in textile industry in the sense of sustainability, Barcellos and Broega (2018:22) says that "The fashion sector begins to follow paths in accordance with the concepts of sustainability, highlighting ways to make fashion with greater environmental, social and cultural commitment.", Motloch (2019:233) says "Co-design and sustainable development have emerged as part of the massive systemic change occurring at this unique time in human history", Emmet (2021:370) says "Discourse between textile design researchers within the theoretical framework of co-design increasingly advocate direct links between consumers, or users with the makers. They believe that the textile or garment has more intrinsic value if the maker and final user know each other, and so adding to the knowledge and sustainability of the item".

Theory and Hypothesis

It is seen that different theories are addressed in the studies on the concept of co-design in the literature. However, when a general evaluation of these theories is made, it is noteworthy that there are some components at the intersection. In the literature, for example, Messiha et al. (2023) addressed the contemporary theories used in co-design-oriented healthcare sector studies in a bibliometric analysis in their study. In this study, it is explained that 'Empowerment Theory', 'Social Learning Theory', 'Narrative Theory', 'Social Effectiveness of Interventions' Theory', 'Realist Evaluation (Theoretical) Framework', 'Normalization Process Theory', 'Interactional Ritual Change Theory', 'Social Innovation Theory', 'Amartya Sen's Theoretical Framework of Social Justice' theories are used in co-design themed studies.

Some other theories that can be used in co-design studies are also explained in the literature. For example, Censi (2015), in his study titled 'A Mathematical Theory of Co-Design', makes explanations in the focus of function. Spargo (2018) explains the use of 'Self-Determination Theory' in supporting co-design activities. Hurley et al. (2021) made an evaluation in terms of the 'Abductive Approach' that can be applied in co-design studies. When the studies in the literature are examined, it is also noticeable that the parties and areas of the co-design approach in the context of sustainability are very wide.

For example, as seen in Manzini's (2015) study, Design for Social Innovation as a new perspective on the design discipline and its roots in collaborative and emerging networks is seen as a prominent approach. And regarding the inclusiveness of sustainability in the textile sector, Cuenca (2020), for example, emphasises that the understanding of sustainability should be addressed not only in textile production and use, but also

in the field of fashion education. At this point, it draws attention to the necessity of carrying out studies with a wide participation in textiles.

After the literature review in the context of the motivation and research question of the research, it can be concluded that there are two theories that can be taken as basis. The first theory is Social Learning Theory which can be summarised as 'learning by observing other people's behaviour' and the second theory is Actor Network Theory which can be explained as 'A social research method that recognises objects as part of the social structure'. It is evident that the prevailing literature in this field demonstrates an increasing recognition of the concept of social innovation as a pivotal catalyst in facilitating sustainability transitions within complex systems, such as the textile sector. As is well established, social innovation has been demonstrated to promote inclusive change processes by integrating community needs and values into systemic solution designs (Wittmayer et al., 2024). In this process, co-design methodologies offer practical frameworks that promote multi-stakeholder collaboration and knowledge co-creation (Meroni & Selloni, 2023). The co-design approach is closely related to Bandura's Social Learning Theory, as it allows participants to observe, reflect, and adapt practices based on collective experiences and feedback loops (Berglund & Kohtala, 2020). Conversely, Actor-Network Theory has been demonstrated to fortify sustainable innovation pathways by elucidating the co-evolution of material objects, environments and human actors in participatory design processes (Light & Akama, 2012). The proposed conceptual research model is predicated on the theoretical intersection of social innovation as a catalyst, co-design as a transformation mechanism and sustainability as the intended outcome. This model provides a testable representation of how participatory innovation strategies can be utilised to support systemic change in the textile sector. In accordance with the purpose and approach of the research, a three-variable research model shown in Figure 3 was developed. In this model, sustainability is the outcome variable and the effect of this variable in terms of the independent social innovation variable is predicted to be realised through the mediating effect of the co-design variable.
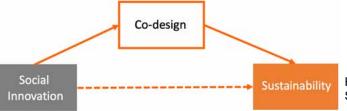

Figure 3: Research Model
Source: Created by the author.

This theoretical integration directly informs the proposed research model: social innovation initiates change, co-design enables it, and sustainability captures its impact. In this sense, the model operationalises theoretical perspectives into a testable structure that shows how these concepts interact in practice. Based on this integrated understanding, the following hypotheses are formulated;

H1: Social innovation has a positive effect on sustainability.

H2: Co-design has a positive effect on sustainability.

H3: Social innovation has a positive effect on co-design.

H4: Co-design mediates the effect of social innovation on sustainability.

The conceptual presentation of the model and hypotheses within the context of the research question suggests a solution to the design errors related to sustainability in the textile sector. The model of the research will be tested through both primary and secondary data by using triangulation method (Amaratunga et. al., 2002). The basic sampling strategy for this method is purposive sampling (Teddlie and Yu, 2007) and the textile manufacturers to be identified at this point will be used to test the research model.

Conclusion

The present study seeks to address the various structural and cultural barriers that are in place, with a view to strengthening sustainability, promoting social innovation, and implementing co-design processes in the textile sector. The study is based on the Triangle of Life metaphor, the aim of which is to understand the impact of social innovation on sustainability and to identify the role of the co-design approach in this interaction. The study's findings indicate that significant challenges experienced in co-design processes, including inadequate participation, cultural resistance, technical limitations, and economic barriers, not only result in disruptions to design processes but also present valuable learning opportunities for transformation.

In this regard, the proposed model aims to enhance the inclusivity, adaptability and resilience of co-design processes to address design failures. The cornerstones of a sustainability-oriented transformation in the sector are the strengthening of participatory processes, active stakeholder involvement and the integration of technological innovations into design processes. The approach of learning from design failures enables the improvement of existing systems and the development of more resilient and innovative solutions for future design processes.

In conclusion, the present study reveals that the co-design approach is a critical tool with which to increase the impact of social innovation on sustainability in the textile sector. It is acknowledged that failures are an inevitable element of design processes. The manner in which these failures are interpreted and transformed into solutions will be a determining factor in the transformation of the sector.

References

Amaratunga, D., Baldry, D., Sarshar, M., & Newton, R. (2002). Quantitative and qualitative research in the built environment: application of "mixed" research approach. Work study, 51(1), 17-31.

Barcellos, L. F., & Broega, A. C. (2018). Co-design of designers and artisans, valorisation and communication of the partnership-a reflection for sustainable fashion design. GFC2018 - Global Fashion Conference 2018, London, 31stOctober-1st November 2018. http://gfc-conference.eu/wp-content/uploads/2019/02/BARCEL1.pdf.

Berglund, E., & Kohtala, C. (2020). Collaborative confusion among DIY makers. Science & Technology Studies, 33(2), 102-119.

Boström, M., & Micheletti, M. (2016). Introducing the sustainability challenge of textiles and clothing. Journal of Consumer Policy, 39, 367-375.

Censi, A. (2015). A mathematical theory of co-design. arXiv preprint arXiv:1512.08055.

Cuenca, D. P. (2021) Co-Desinging With Sustainable Practices In Fashion Design Teaching. Revista de Ensino em Artes, Moda e Design, 4(3), 93-116.

Dent-Spargo, R. (2018, August). Using Self-Determination Theory To Support Co-Design Activities. In CEUR Workshop Proceedings (Vol. 2190). CEUR Workshop Proceedings.

Edwards-Schachter, M.E., Matti, C.E. and Alcántara, E. (2012), Social Innovation and Living Labs. Review of Policy Research, 29: 672-692.

Emmett, D. Co-design dialogues through digital connectivity: sustaining future practice for traditional textile artisan communities in India. IOTA21, 367-377.

Gardetti, M. A., & Torres, A. L. (Eds.). (2017). Sustainability In Fashion And Textiles: Values, Design, Production And Consumption. Routledge.

Hurley, E., Dietrich, T., & Rundle-Thiele, S. (2021). Integrating Theory In Co-Design: An Abductive approach. Australasian Marketing Journal, 29(1), 66-77.

Ibrahim, H., Romãozinho, M., & da Silva, F. M. (2024, June). Co-design as a Sustainable Design Thinking Approach in Addressing the Redundancy of the "White Wedding Gown" in Ghana. In Meeting of Research in Music, Arts and Design (pp. 52-66). Cham: Springer Nature Switzerland.

Kuhlman, T., & Farrington, J. (2010). What is sustainability? Sustainability, 2(11), 3436-3448.

Leal, D., Fernandes, A., & Rangel, B. (2022). Design by everyone: A co-design methodological approach for sustainability and social innovation. The International Journal of Design in Society, 16(2), 53.

Light, A., & Akama, Y. (2012). The human touch: participatory practice and the role of facilitation in designing with communities. In Proceedings of the 12th Participatory Design Conference: Research Papers-Volume 1 (pp. 61-70).

Manzini, E. (2015). Design, when everybody designs: An introduction to design for social innovation. The MIT Press.

Meroni, A., & Selloni, D. (2022). Service design for urban commons. Cham: Springer.

Messiha, K., Chinapaw, M. J., Ket, H. C., An, Q., Anand-Kumar, V., Longworth, G. R., ... & Altenburg, T. M. (2023). Systematic review of contemporary theories used for co-creation, co-design and co-production in public health. Journal of Public Health, 45(3), 723-737.

Motloch, J. (2019). Co-design Methods and Sustainable Development. In Encyclopedia of Sustainability in Higher Education (pp. 232-242). Cham: Springer International Publishing.

Narasimhan, U., & Mahajan, S. (2023). Textiles Crafts and Co-Creation as a Strategy for Sustainable Design Pedagogy. Nift Journal of Fashion, 145

Szebeko, D., & Tan, L. (2010). Co-designing for society. Australasian Medical Journal (Online), 3(9), 580.

Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. Journal of mixed methods research, 1(1), 77-100.

Wittmayer, J. M., Hielscher, S., Rogge, K. S., & Weber, K. M. (2024). Advancing the understanding of social

innovation in sustainability transitions: exploring processes, politics, and policies for accelerating transitions. Environmental Innovation and Societal Transitions, 50, 100805.

Zamenopoulos, T., & Alexiou, K. (2018). Co-design as collaborative research. Bristol University/AHRC Connected Communities Programme.

www.amerrescue.org (Access date: 20.12.2024)

www.eea.europa.eu/en/topics/in-depth/textiles (Access date: 10.11. 2024)

www.link.springer.com/journal/10603/volumes-and-issues (Access date: 10.11. 2024)

www.merriam-webster.com/dictionary/ (Access date: 09.11. 2024)

www.oxfordreference.com (Access date: 10.10.2024)

www.sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf (Access date: 09.10.2024)

THE FAILURE OF DOCUMENTING STAINED-GLASS IN MODERNIST INTERIORS IN TURKEY

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METU Faculty of Architecture Building Entrance Interior Photograph, Photographed by Fatih Arslan, 2024. Source: https://arslan.io/2024/04/13/faculty-of-architecture-metu-ankara/

THE FAILURE OF DOCUMENTING STAINED-GLASS IN MODERNIST INTERIORS IN TURKEY

ABSTRACT

The documentation of stained-glass in Turkish modern interiors has remained an underexplored field, resulting in a significant gap in interior design historiography. While other forms of artistic contributions to Turkish modern interiors have been more extensively documented and credited, the field of stained-glass has largely been overlooked. This study examines the persistent failures in documenting, publishing, and attributing credit to stained-glass designers and craftspeople, positioning these omissions as critical failures in cultural preservation. The research is framed within the broader context of failure as a productive driver of inquiry, arguing that the absence of systematic documentation creates a clear necessity for scholarly engagement. By analyzing archival materials, published documents, and uncredited stained-glass works, this study highlights the consequences of inadequate documentation. The lack of rigorous documentation diminishes stained-glass in contemporary design practice and hinders restoration efforts. Moreover, limited access to these works, due to their short lifespan and scarce visual or textual records, reinforces the invisibility of craftsmanship in modern architectural narratives. Using a multidisciplinary approach—archival research, visual analysis, and historical contextualization—this paper seeks to provide a comprehensive understanding of stained-glass in modern interiors in Turkey and its creators, with reflections on its future as a fine artistic endeavor.

Keywords: Modern Turkish interiors, stained-glass, lack of documentation, design research failure.

1.   INTRODUCTION

The use of glass material in defining interior space increased considerably, particularly with the advent of modernism. The modernist approach, which gained prominence between the 1920s and 1980s, led to architectural structures becoming increasingly uniform, resulting in a loss of originality and a sense of monotony. Following the Second World War, the rise of nationalism prompted architects from various countries to incorporate cultural and national references into their architectural designs. Similarly, Turkish architects of the period sought to reinforce the new identity established with the Republic founded in 1923, by integrating cultural memory into interior spaces. In order to achieve this, architects collaborated with contemporary artists, ensuring that artistic elements were embedded into architectural projects from the initial design phase. As a result, numerous factories, hotels, public buildings, and similar buildings featured artistic contributions that mitigated the monotonous and impersonal nature of modernist design (Yavuz, 2008). These artistic works included paintings, engravings, sculptures, ceramic wall panels, and stained-glass compositions (Figure 1). While many of these works have been well-documented, photographed during their construction phases, and preserved to the present day, the same cannot be said for stained glass works. Unlike other forms of artistic expression, stained glass artworks and their creators have not been thoroughly documented in historical archives, making it difficult to trace and document them today. This lack of documentation has contributed to the declining awareness, and thus, use of stained glass in contemporary architecture and has hindered its transmission to future generations.

When this deficiency is accepted as a failure in documenting, publishing, and giving credit to the designer in the context of stained-glass art, it can be said that it opens a new field of study for researchers to contribute to the gap in the relevant literature, and the failure in question can work as an essential driver of a research. The study titled ''The Failure of Documenting Stained-Glass in Interiors in Turkey'' aims to comprehensively document stained-glass works in Turkish modern interiors, give the necessary credit to the artists of these works and contribute to the literature (Figure 1).

Figure 1: METU Faculty of Architecture Building Entrance Interior Photograph, Photographed by Fatih Arslan, 2024. Source: https://arslan.io/2024/04/13/faculty-of-architecture-metu-ankara/

2.   Theoretical Background

2.1   Failure Of Definition and Documentation as The Essential Driver of Progress

Gaps in knowledge and failed attempts may guide research, highlighting paths for new information, approaches, and methods. The binary distinction between success and failure in design research has long been influenced by functionalist perspectives, particularly those stemming from engineering disciplines. In engineering evaluations, a technical system is assessed based on its ability to achieve predefined functional objectives. However, this rigid classification of success and failure does not seamlessly transfer to the evaluation of human-centered design processes, where complexity, iteration, and user interaction play fundamental roles. Moreover, interior design, with its several components and stakeholders makes it difficult to assign such divides. Therefore, instead of adhering to reductive functionalist evaluations, contemporary design research increasingly embraces the notion of failure as a productive departure point, encouraging nuanced reflections, iterative learning, and constructive discomfort (Howell, Desjardins, & Fox, 2021). IDEO, a leading human-centered design consultancy, exemplifies this shift in perspective by advocating for iterative prototyping and the philosophy of "fail early and often" (Brown, n.d.). Within the framework of Design Research Failures (DRF), failure is not merely an outcome to be analyzed retrospectively but a strategic means of advancing toward new questions and opportunities. Rather than fixating on "why didn't we?" DRF encourages a reframing toward "why don't we?"— a perspective that fosters continuous exploration and innovation. Moreover, DRF seeks to establish an inclusive and dynamic discourse characterized by constructive dissensus rather than definitive conclusions. Historically, the pursuit of conclusive answers has constrained design research, often failing to acknowledge the iterative, open-ended nature of the discipline (Rosenbak, 2017).

Samuel Beckett's (1989) well-known phrase, "Ever tried. Ever failed. No matter. Try again. Fail again. Fail better", encapsulates the iterative ethos that is central to both design research and broader intellectual inquiry. According to the definition made by the National Science Foundation in 2012, research activities are carried out to discover and use new knowledge, and rigorous processes are followed to discover and interpret facts, revise theories, or apply new knowledge to practice (Nelson, 2013). Failure, within this context, is not an endpoint but an important component of advancement. By critically engaging with failure, design research can move beyond conventional success metrics and embrace a more reflexive, inclusive, and forward-thinking approach. The challenge lies in fostering an environment where failure is not seen as a deterrent but as an essential driver of creative and intellectual progress. In doing so, DRF contributes to a broader reevaluation of knowledge production and design methodologies, ultimately reshaping the way we conceptualize and engage with both failure and success.

2.2   Connecting the Methodological Dots in Design Research

The epistemological stance of design research necessitates an understanding of its distinct knowledge domains and methodologies. Cross (1999), identifies three primary sources of design knowledge: people, processes, and products. These sources encapsulate the intellectual culture of design, distinguishing it from

both science and art. Unlike the scientific pursuit of rationality and objectivity or the artistic emphasis on reflection and subjectivity, design operates through imagination and practicality. The methods of inquiry in design research—modeling and synthesis—differ from those in science (experiment and analysis) and art (criticism and evaluation) (Cross, 1999). This framework underscores the necessity of recognizing design as an autonomous intellectual discipline with its own ways of knowing and investigating. According to Cross (1999), effective design research is purposive, inquisitive, informed, methodical, and communicable. These characteristics ensure that design research remains robust, capable of producing knowledge that is testable and accessible to others. The challenge, however, lies in balancing these academic expectations with the inherently creative and iterative nature of design inquiry.

One of the central tensions in design research emerges from the traditional academic expectations placed upon Ph.D. qualifications. Seago and Dunne (1999) highlights the inherent academic blueprint that demands methodological rigor, originality, and transparency of method. While these criteria are crucial for legitimacy within academia, they often conflict with the intuitive, exploratory, and sometimes unpredictable nature of design research. The pressure to conform to established research paradigms can lead to what Seago and Dunne (1999) describe as "methodological intimidation," where researchers in art and design may choose academically acceptable topics and methodologies at the expense of originality. This tendency risks diminishing the iconoclasm, energy, and creative freedom that have historically characterized design research and education. The risk of prioritizing conventional academic methodologies over designerly approaches is particularly concerning in the context of practice-based research. Unlike traditional research paradigms that emphasize replicability and quantifiable results, design research often thrives on iteration, tacit knowledge, and situated problem-solving. If researchers prefer to "play it safe" to meet academic expectations, the field may lose its experimental edge and capacity for innovation (Seago & Dunne, 1999). Consequently, a more nuanced approach to design research is necessary—one that acknowledges and accommodates its unique epistemological and methodological foundations while still maintaining academic rigor.

In conclusion, research in design studies requires a balance between academic expectations and the distinctive intellectual culture of design. The recognition of design's autonomy as a discipline (Cross, 1999) and the mitigation of methodological intimidation (Seago & Dunne, 1999) are essential for ensuring that design research retains its originality and creative potential. By embracing its own ways of knowing, finding out, and communicating knowledge, design research can continue to contribute valuable insights that extend beyond the confines of traditional academic disciplines. This study builds upon limited existing literature in stained glass use in Turkish modern interiors, aims to explore gaps in knowledge, and follow the silences to unearth the people, processes, and products in this special area.

3. Methodology

The primary objective of this study is to document the under-researched stained glass works in modern Turkish interiors, thereby establishing a bridge between the past, present, and future while formulating a design guideline for future applications of stained-glass art. In order to conduct this research, a three-pronged methodological framework will be employed, encompassing the examination of stained-glass applications, the archival documentation of existing works, and the spatial use of glass materials. This paper specifically aims to analyze failures in documentation, publication, and the attribution of credit in relation to stained glass works.

An analysis of various archives and written documents in Turkey reveals that many architectural works from the Ottoman period have been extensively documented and preserved. However, it is difficult to be said for the documentation and preservation of modern Turkish design. In architectural studies, access to exterior photographs and architect information—both for Ottoman and modern Turkish architecture—appears to be more accessible compared to interior design documentation. Yet, documenting interiors, the professionals who make design decisions, and acknowledging the craftsmen who execute them are just as essential as the documentation of architects and architectural works. Despite this, research focusing on the documentation of interior spaces remains limited.

Interior designers and craftsmen who contribute to interior spaces with their craftsmanship often do not receive the recognition they deserve. This lack of documentation poses a significant challenge for design researchers. Since many archival images of interiors are stored in personal collections, accessing visual data becomes a demanding process for researchers. The scarcity of both written and visual sources results in significant gaps in interior design research. This absence of documentation further deepens the knowledge gap in the literature.

In the history of Turkish design, stained glass applications—including gypsum-stained glass and lead-stained glass—have been present both in the Ottoman period and in modern Turkish interiors. However, existing documents and research on this subject tend to lack depth and rigor, with visual sources being either limited or, in some cases, entirely absent. For instance, it was documented in an issue of Arkitekt magazine published in 1970 that there is a stained-glass work in the stairwell of the Kalyon Hotel, built in Istanbul in 1967, but the visual source of the work in question is not available (Sepici & Hakgüder, 1970). Similarly, there are various stained glass works in the Sirkeci Train Station building, which was opened in Istanbul in 1890, and visual sources of these stained-glass works are available, but no information has been found about who designed or applied these works. The failure to document these ephemeral works adequately, to publish existing knowledge, and to give proper credit to designers and artisans has resulted in a significant gap in the literature.

4.   Discussion and Conclusion

Interiors, by nature, are subject to constant change, making the design elements within them relatively short-lived. Transience is an issue situated at the core of the interior architecture/design profession. The very nature of interiors is that they are the most fragile feature of design due to their temporality and ephemerality, and that they are most subject to change depending on the changing necessary functions and trends in the lifetime of a building. In that sense, during a building's single lifetime, the interiors might change a multitude of times, resulting in adaptations of lifestyles within the interior, in addition to the function (Hasırcı, Ultav, & Şumnu, 2023). In this context, stained glass, an essential component of interior design, is particularly fragile due to the material properties of glass, making it vulnerable to deterioration over time and it can be said that stained glass works are short-lived compared to other works of art. Furthermore, the declining number of stained-glass craftsmen today complicates the restoration and reproduction of damaged works. Therefore, a comprehensive documentation process is crucial to ensure the documentation and preservation of interior design elements.

The failure mentioned throughout the study highlights a fundamental issue in the way modern interiors, interior components, and efforts of craftspeople are documented. Unlike architectural productions, which are extensively photographed and analyzed, interior elements are frequently sidelined and neglected. This gap in documentation not only diminishes and weakens the visibility of designers and craftspeople, but also the historical continuity necessary for restoration and preservation efforts. As seen in cases such as the stained-glass work at the Kalyon Hotel and Sirkeci Train Station, the lack of attribution and visual records exacerbates the erasure of these works from the collective architectural memory.

However, as this research has emphasized, failure is not merely an endpoint but a catalyst for new inquiries and methodologies, as in the words of Samuel Beckett (1989), "Ever tried. Ever failed. No matter. Try again. Fail again. Fail better." The failure to properly document and credit stained-glass art should not be seen solely as a deficiency but as an opportunity for design researchers to reframe their approach to archival work and historiography. By acknowledging and addressing this gap, future scholarship can contribute to a more inclusive and comprehensive architectural narrative—one that gives due recognition to both the visible and the overlooked, ensuring that stained-glass remains an integral part of the modernist art and design legacy of Turkey.

5.   REFERENCES

Arslan, F. (2024). METU Faculty of Architecture Building Entrance Interior Photograph. Retrieved 2025, from https://arslan.io/2024/04/13/faculty-of-architecture-metu-ankara/

Balcıoğlu, T., & Emgin, B. (2014). Recent Turkish Design Innovations: A Quest for Identity. Design Issues, 30(2), pp. 97-111.

Beckett, S. (1989). Worstward Ho. In Nohow On. New York: Grove Press.

Brown, T. (n.d.). IDEO Design Thinking. Retrieved 2025, from https://designthinking.ideo.com/

Cross, N. (1999). Design Research: A Disciplined Conversation. Design Issues, 15(2), pp. 5-10.

Hasırcı, D., Ultav, Z. T., & Şumnu, U. (2023). Transience and the Modern Turkish Interior. Res Mobilis: Revista Internacional de Investigación en Mobiliario Y Objetos Decorativos, 13(16), pp. 41-57.

Howell, N., Desjardins, A., & Fox, S. (2021). Cracks in the Success Narrative: Rethinking Failure in Design Research through a Retrospective Trioethnography. ACM Transactions on Computer-Human Interaction, 28(6).

İnan, B. E. (2023). Türkiye Modern Mimarlığında Bir Işıklı Cam Resmi Sanatçısı: Mazhar Nazım Resmor. Tasarım Kuram, 19(40), pp. 449-466.

Nelson, W. A. (2013). Design, Research, and Design Research: Synergies and Contradictions. Educational Technology, 53(1), pp. 3-11.

Rosenbak, S. (2017). Histories of Design Research Failures. Writing Visual Culture, 8.

Seago, A., & Dunne, A. (1999). New Methodologies in Art and Design Research: The Object as Discourse. Design Issues, 15(2), s. 11-17.

Sepici, M., & Hakgüder, E. (1970). Kalyon Hoteli. Arkitekt(1970-02 (338)), 59-61.

Yavuz, D. (2008). Mimarlık–Sanat Birlikteliğinde 1950-70 Aralığı. Mimarlık(344).

Design in Flux: How Rising Costs Shape Creativity and Consumer Perception in Furniture

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Design in Flux: How Rising Costs Shape Creativity and Consumer Perception in Furniture

Abstract

This research investigates how the increasing costs in the furniture industry affect the perception of design among both consumers and designers. To analyze this, several key questions are addressed. First, how sustainability of residential furniture can be achieved in an organizational context is examined, focusing on the strategies adopted by companies to balance cost efficiency with environmentally friendly production. In addition, the socio-economic impacts of technological developments on the organization of interior spaces are investigated, assessing how innovation reshapes accessibility and affordability. Another important aspect is the psychological impact of furniture on users, particularly how design choices affect well-being and spatial experience in residential environments. It is also investigated how companies' furniture production methods and trend following strategies influence users in shaping interior spaces, highlighting their efforts to establish a sustainable circular system. With these questions, this research aims to provide a comprehensive understanding of the evolving relationship between cost, design perception and sustainability in the furniture industry.

Keywords: Furniture, production, interior design, designer,cost

Introduction

Home, one of the basic needs of societies where people feel the sense of belonging most intensely, meets our need for shelter and security. The recent pandemic, which has a global impact, has shifted the meaning of the concept of home and furniture to a different point for many people. Furniture is one of the indispensable fixtures of the home (housing), which is a basic need for us. However, furniture carries both material and emotional value and is expected to be evaluated together with needs. Increasing costs and the changing economic environment have led people to seek alternative solutions in furniture and housing organization, making designers more important than ever. Changing economic conditions have led designers to increase costs in furniture production and interior organization. This situation, combined with the development of societies and the desire to see furniture designed not only functionally but also aesthetically, has affected the cycle between manufacturers, designers and users. As a result, it has pushed both designers and manufacturers to seek alternatives that meet consumer expectations and also generate profit.

Large-scale changes such as the Industrial Revolution and globalization have led to the emergence of alternatives in areas such as materials, production and workmanship in furniture design. These changes have led to increased costs and the failure of some design approaches. ''The root of the word furniture is the word 'mobile'. Mobile means mobile in Latin. Anything that is mobile and portable can be explained with the root 'mobi'. After all, furniture is an intermediate section in adapting a space to human living conditions. Therefore, it is the most important phenomenon that completes a space. (Engin, 2011)''.

However, it is no coincidence that furniture has a constantly changing and evolving structure. Designs change, transform, and while all this is happening, conditions such as materials, past trends and today's design preferences, and functionality have affected this process. According to Özkan, the modernism movement has affected the balance of aesthetics and functionality in furniture design. Factors such as materials and production methods, measurement, harmony and weight, cost, social traditions and habits, fashion and art trends, and designer identity have been the main elements affecting furniture design. Incorrect evaluation of these factors has led to design failures (Özkan, 2023). All these ups and downs, innovations and changes in design are guiding for the next step for both the user, the producer and especially the designer. In addition, the design failures experienced by carriers/manufacturers vary for both the designer and the consumer. Designs that are considered failures may become iconic after a while or may completely fade into the depths of history. For example, the Wassily Chair (1925), which has become iconic for everyone, was initially seen as unsuccessful but later became an icon. Bauhaus designer Marcel Breuer presented this chair, which he first produced using steel tubing, as a revolution in modern design. However, it was not appreciated by consumers at first. Using steel tubing in the chair, its high production costs for its time, and its functional difference from the traditional structure may make it seem unsuccessful, but it became iconic with the spread of the modern art movement. So, does this make this product unsuccessful or successful, is it unsuccessful for the artist, or is society unable to catch up with innovation? Questions such as this are question marks. In addition to the failures in furniture, can we talk about a failure in the art movements that the periods were affiliated with, or can the design mistakes experienced in the period be considered as a plus by looking at the buildings, works of art, furniture with the eye of trial and error if one is aware that this

failure sheds light on the later movements? In this study, it is wondered how increasing costs affect design decisions and user demands and needs.

The aim of this study is to examine the socio-economic effects of global technological developments and increasing costs on furniture production, design and consumption in our living spaces. Specifically, it tries to understand how increasing costs in the furniture industry affect the perception of design quality, value and accessibility among consumers and designers. In addition, the study aims to investigate how combining functionality and circularity creates different perspectives for designers and manufacturers and how consumer and user experience is perceived by designers. Analyzing the effect of increasing costs in the furniture industry on the design perception of consumers and designers is very important to understand how economic factors reshape values such as aesthetics and functionality. As a contribution to the field, the study also aims to contribute to the designer by providing a comprehensive perspective on what the common desires and demands of the user and the designer are in the interior organization of a production and consumption process. In this direction, it aims to look at the subject from different perspectives and look at the subject from the perspective of the user, designer and manufacturer.

Theoretical Background

Although it is addressed in various details in the furniture and housing literature, socio-economic economic, especially increasing costs, efficiency on design perception has begun to be studied. Space and furniture processes, functionality and aesthetic harmony according to user services, hand in hand work (Üst, 2015) and psychological effects as well as social effects, it has emerged that furniture is perceived as a status symbol and breaking data are shaped (Türkkan and Bezci, 2017). Since the Industrial Revolution, furniture design has emerged from different art movements and this directs the use of electricity. In the 1940s, plastic was made a popular material due to its low cost, durability for mass production and flexible formability (Güneş, 2020:2). Periodic material change shapes production capacities and interior design trends. It is seen that companies follow new trends according to their own budgets and whether they follow them or not, the features they use, programs, systems and workflows differ. Many factors from raw materials to logistics, labor, along with increasing growth, companies. Consumer preferences are also affected by these changes. While some prefer products with long-lasting, multifunctional and high investment value, others seek more economical solutions that protect their aesthetics. At this point, designers are tasked with offering central functional and alternative space interior arrangements and product-oriented presentations. In addition, environmentally friendly design is emphasized as a response to economic pressures (Güneş and Demirarslan, 2020). It is emphasized in research on alternative housing solutions that sustainability is becoming increasingly important (Güney Yüksel, 2019). However, studies have been conducted on the potential of circular economy applications to be stimulated in the furniture sector and the use of this approach in furniture production (Şenkal, 2023). It is one of the important focus areas of design creativity. Aralık draws attention to minimalist and sketch-based design approaches with a creative perspective that balances aesthetic and economic concerns (Kalay, 2017; Yavuz Öden, 2024). Brands are evaluated as structures that can provide compliance with market conditions rather than the source of original designs (Clark, 2008). This harmony is sometimes not available as cyclical, transformational managements or high-tech products. Thanks to this qualified research method, the capacity of increasing costs in the furniture sector and how it will reveal the design perception among designers will be revealed. The research allows examining the reflections of economic conditions on companies and interiors. By meeting with these regular furniture companies, important questions will be asked about furniture, production, product, cost, design changes and spatial perception. At the same time, it will be tried to understand how consumer preferences change and how the economic design perception is produced from a socio-economic perspective. In addition, the effects of changes in the literature on design quality, design perception and accessibility in the economic furniture sector will be tried to be understood. Vildan Güngör's study titled 'Furniture as a Status Indicator' emphasizes the increase in the preservation of objects in Turkish society. According to Baudrillard, traditional symbolic objects (tools, furniture, the house itself) were real storage tools. However, today we consume all items. Therefore, furniture has now become simply a tool for status rather than meeting (Dundar, 2017). This study aims to help understand how aesthetic and functional expectations are shaped, and also to understand how the interaction in the producer-designer-user trio is affected by socio-economic factors. This study aims to inspire and exemplify reaching cyclical space organization

and furniture and material alternatives that highlight the beauty inherent in design, while minimizing the effects of economic factors on both the designer and user dimensions.

Methodology

This study uses a qualitative research approach to investigate the impact of rising costs in the furniture industry on design perception among consumers and designers. By focusing on in-depth perspectives and lived experiences, this approach aims to capture the complexities of how economic factors shape design choices, consumer expectations, and industry responses. The study relies on semi-structured interviews with manufacturers, designers, and consumers to gain insight into their perspectives on the evolving relationship between cost, design, and functionality. These interviews will help uncover, through open-ended questioning, how professionals and users navigate economic constraints while maintaining aesthetic and practical values in furniture design. The study also includes observational insights based on first-hand experience in the furniture industry. Drawing on real-world interactions and market observations, the research aims to demonstrate how economic pressures affect both design decisions and consumer purchasing behavior. The qualitative data collected through thematic analysis will be categorized according to key themes such as the changing perception of design value, adaptation strategies of manufacturers and designers, and changing preferences of consumers in response to economic fluctuations. This study ultimately aims to deepen the understanding of how the interaction between cost, design, and user experience unfolds in the furniture industry. By prioritizing qualitative methods, it aims to provide a rich, detailed exploration of the challenges and opportunities faced by both industry professionals and consumers in a changing economic environment.

Conclusion

This research is the first step toward understanding how rising costs shape the perception of design in the furniture industry. The study addresses the economic and social challenges faced by designers, how functional and aesthetic alternatives that can meet user needs are developed, and the psychological effects of furniture on users. Increasing material, production, and labor costs necessitate the development of new strategies in furniture design. Designers are turning to different materials and production techniques to create budget-friendly solutions while maintaining aesthetics and functionality. However, how does the cost-oriented design process affect creative freedom and the perception of quality? This question will be explored in more detail in the following sections of the research. While manufacturers aim to reduce costs, designers seek to preserve aesthetics and functionality, and consumers want to purchase affordable yet high-quality products. In this environment where interaction is decreasing, the role of designers increasingly becomes that of an intermediary. Designers must understand user expectations while also considering the cost concerns of manufacturers. This research will examine how this balance is established and how it influences design decisions. In the later stages of the study, the issues mentioned above will be explored in more depth through interviews with manufacturers, designers, and consumers. In particular, it will analyze how leading furniture brands in Turkey have adapted to this change and how they appeal to different market segments. This study serves as a starting point for understanding the impact of economic fluctuations on furniture design. Topics such as how design is shaped, how costs guide aesthetics and functionality, and how consumer preferences evolve are planned to be examined more comprehensively in the next phases of the research. In this context, the concept of "unsuccessful design" is also discussed; Because not every design process may end successfully and especially in periods when economic pressures are intense, it is inevitable for designers to have difficulty in maintaining the balance between production and aesthetics, functionality and user costs. However, failure should be considered as a natural part of the design process. In this context, design writing gains importance as a critical field that addresses not only successful examples but also failures. Design writing is a tool that deepens different thoughts, makes broad analyses and develops a critical perspective. In this research, it continues to trace not only the designs that emerge due to economic conditions, but also where they are considered "unsuccessful", where they are evaluated accordingly and how this narrative is represented in writing.

REFERENCES

Clark, H. (2008). Slow fashion: An oxymoron—or a promise for the future? Fashion Studies: The Journal of Dress, Body, and Culture. Accessed December 17, 2024.

Çetin, P. (2022). Mobilya tasarım yarışmalarının paydaş görüşleri üzerinden değerlendirilmesi. Accessed April 27, 2023.

Değirmentepe, S., & Çolak, M. Türkiye'deki iç mimarlık firmalarının ahşap malzemeleri kullanımı ve tercih düzeyleri. Accessed December 17, 2024.

Elibol, G. C., Türkkan, V. D., & Bezci, İ. (2019). Sanat esinli "mobilya" tasarımı. Yıldız Journal of Art and Design. Accessed December 17, 2024.

Engin, D. Günümüz mobilya tasarımının zaman içinde değişen insan gereksinimleri ışığında incelenmesi. Accessed 2011.

Eskicioğlu, S. Ö., & Öztürk, B. (2020). Tasarım eyleminin içmekan tasarımı özelinde algoritmalar ile ilişkisi ve yapay zekalı içmekan tasarlayıcılarının var edilme süreci. The Turkish Online Journal of Design, Art, and Communication. Accessed December 17, 2024.

Güneş, S., & Demirarslan, D. (2020). Sürdürülebilirlik ve mobilya tasarımında çevreci yaklaşımlar. Uluslararası İnsan ve Sanat Araştırmaları Dergisi. Accessed December 17, 2024.

Gündüzlü, E. B., & Erçevik Sönmez, B. İç mekân tasarımında özgünlük ve konsept: Özgün ve özgün olmayan mekânların karşılaştırılması. Accessed December 17, 2024.

Güney Yüksel, F. C. (2019). Konut içmekana sürdürülebilir yaklaşımlar. Accessed December 17, 2024.

Kalay, T. (2017). İçmekan kurgusunda mobilya'nın yeri: Minimalist yaklaşımlar. Journal of Advanced Technology Sciences. Accessed December 17, 2024.

Koç Altuntaş, S., Ertaş Beşir, Ş., & Dereli, B. (2021). Bauhaus dönemi ışığında mobilya atölyelerinin incelenmesi. Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi. Accessed December 17, 2024.

Özkan, K. (2023). Modernizm akımının ikonik mobilya tasarımı üzerine etkisi. Accessed May 20, 2023.

Şenkal, H. Mobilya endüstrisinde döngüsel ekonomiye geçiş: Değerlendirme yaklaşımı. Accessed December 17, 2024.

Tunçel, S., Candan, Z., & Satır, A. Mobilya endüstrisinde gelecek vizyonu: Endüstri 4.0 ve akıllı makineler. İleri Teknoloji Bilimleri Dergisi. Accessed December 17, 2024.

Türkkan, V. D., & Bezci, İ. Statü göstergesi olarak mobilya. İleri Teknoloji Bilimleri Dergisi. Accessed December 17, 2024.

Yavuz Öden, H. Mobilya tasarımında eskiz ve biçime etkileri. Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi. Accessed December 17, 2024.

Üst, S. Konutlarda içmekan ile mobilya etkileşimi bağlamında mobilyaya dair özelliklerin incelenmesi. Accessed December 17, 2024.

Part 5
Round-table:
Creativity and Failure

Don't fail (with) the others, Fail Yourself for failing really well

Asst.Prof.Dr. A. Can ÖZCAN, Course Instructor

INTRODUCTION

This year FFD572 Creativity and Design Management course explored the relationship between creativity and failure. Starting by examining creative processes in inorganic, organic, social, technological and even theological frameworks the course spared a well amount of time regarding human and non-human artificial intelligence creativity especially by examining "creative" people from different fields of life. These examples cover a wide range of variety from music (Keith Jarrett) to acting (Hedy Lamarr), from science (Oppenheimer) to gastronomy (Heston Blumanthal) and Midjourney. While examining different types of creativity with different types of failures over these examples it is a great pleasure to share the conclusions of our course and discuss at the DSS 2025 Panel with the participants. The greatest contribution can well be summarized as "Don't fail (with) the others, Fail Yourself for failing really well"

Creative Persona: Heston Blumenthal

Giuseppe Marco Alotto

"Perfection is the enemy of creativity. The opposite of failure is discovery. Failure is the opportunity to learn." – Heston Blumenthal.

Failure is often seen as a flaw to avoid, but for my creative persona, Heston Blumenthal, it is a foundational ingredient in the recipe for innovation. Blumenthal's journey as a self-taught chef reveals how transformative mistakes can be. His radical experiments—like bacon and egg ice cream or dishes paired with sound—challenge sensory expectations and often began as failed attempts. Yet, through these failures, he uncovered insights that shaped his signature multisensory cuisine. What I find most inspiring is Blumenthal's open embrace of what he calls "creative fragility." He fosters a culture where his team is not only allowed but encouraged to fail. This approach turns the kitchen into a laboratory where errors are data, not disasters. His story teaches us that discovery often emerges from what didn't work, not just from what did. In my view, creativity demands vulnerability. It involves risking failure in order to access something new, something not yet visible. This is why I believe true creativity lies not in control, but in the willingness to explore uncertainty. Failure is not the opposite of success; it is its precondition. Without it, we merely replicate the known. Like Blumenthal, I aim to adopt a mindset where failure is not feared but welcomed. Because in the messy, unpredictable moments of the creative process, the most meaningful ideas often arise.

Creative Persona: Midjourney

Dogukan Demirel

Generative AI systems like Midjourney are trained with algorithmic liking-based visual data sets, largely collected over the internet. This data tends to reproduce culturally accepted aesthetic codes and representations. These systems, which claim to simulate creativity, are in fact algorithmic reflections that repeat the aesthetic tastes of the majority.

This is particularly evident in conceptually or emotionally complex images. It is no coincidence that when an abstract and multi-layered concept such as "failure" is given to the system, the output is often hopeful, clean and graphically balanced. Failure is not representable within the system because the aesthetically unapproved or "ugly" does not find much space in its visual memory.

Similarly, the same limits are observed when we take a more specific example: Given the prompt "a wine glass filled to the top", Midjourney is unable to reproduce this image in its complete form. This is because this type of image either did not find enough space in the dataset or was excluded as an aesthetic form that the system did not consider "appropriate".

Over time, as the system is fed with new datasets, political correctness may further limit itself in line with changing aesthetic perceptions and ethical filters. On the other hand, as technological advances and algorithms become more powerful, it can also evolve beyond these frameworks into true creative potential. It is precisely in this tension that the success or failure of Midjourney will take shape.

Creative Persona: Nicola Tesla

Özgün Alp Öztin

"The present is theirs; the future, for which I really worked, is mine."

When we consider the failings of my creative persona, Nikola Tesla, it becomes clear that his shortcomings were not due to a lack of creativity or innovation, but rather to a lack of commercial awareness and public relations skills. Tesla was remarkably successful in developing transformative ideas. His work with the wireless transmission, and electrical engineering remain foundational to modern technology even today. As we just check it from the pure inventive output, it is safe to say that Nicola Tesla was among the most creative minds of his era.

However, Tesla struggled to manage his inventions into lasting financial or commercial success. Nicola Tesla's inability (or unwillingness) to engage in strategic self-promotion and cultivate relationships with the media, the investors, and the broader public left many of his innovations unsupported or unnoticed by better-networked contemporaries such as Thomas Edison. Unlike Edison, who was both an inventor and a businessman, Tesla often dismissed the commercial aspects of the work, choosing to prioritize science and creativity over financial sustainability.

From a personal standpoint, Nicola Tesla's experience shows clearly the fact that creativity alone does not guarantee success. In today's world, much like in Nicola Tesla's, innovation and creativity should be communicated effectively, marketed strategically, and supported by networks of trust and collaboration. Failure, in this context, is not a reflection of the ideas but of the creator's ability to position it within a competitive and often commercially driven environment.

Nicola Tesla's life illustrated the critical balance between invention and influence. While his creative genius was unquestionable, his neglect of financial planning, public image, and interpersonal diplomacy (relationships) ultimately limited the impact of his work during his lifetime. Therefore, I can say that true creative success does not only require imagination and insight, but also the ability to connect ideas to people, markets, and moments in time.

Creative Persona: Robert J. Oppenheimer

Tunca Erciyas

"The optimist thinks this is the best of all possible worlds. The pessimist fears it is true."

Creativity is often praised as a symbol of progress. It promises possibility and change. Yet for J. Robert Oppenheimer, creativity became a source of profound internal conflict. His quote captures a quiet despair. It reveals that what seems like advancement can lead to irreversible harm.

Oppenheimer's work on the Manhattan Project stands as one of the most significant scientific accomplishments of the 20th century. He led the development of the atomic bomb not by accident, but through deliberate intention. The bomb was never a miscalculation. It resulted from brilliance applied to a purpose that had a high cost. His failure was not technical. It surfaced later, when success exposed its consequences.

After Hiroshima and Nagasaki, Oppenheimer felt the weight of what had been achieved. He quoted the Bhagavad Gita: "Now I am become Death, the destroyer of worlds." These words expressed sorrow rather than shock. He had anticipated the outcome. He accepted responsibility and never escaped it.

For many creative minds, the connection to their work is deeply personal. Ideas become emotional extensions of the self, sometimes cherished like children brought into the world. Yet even the most beloved creations can bring harm.

Oppenheimer's story reminds us that success does not always mean success. He helped shape a world he could no longer fully embrace. His failure is defined not by failure in method but by the cost of seeing a creation become something he could no longer love.

Oppenheimer's quote endures because it confronts this tension. It embodies both hope and fear about possibility. The true challenge of creativity is to look beyond invention itself. It is to consider not only what can be made but what it might come to mean.

Creative Persona: Hedy Lamarr

Mehmet Deniz Özdemir

"The world isn't getting any easier. With all these new inventions I believe people are hurried more and pushed more. The hurried way is not the right way."

This quote speaks to me on a deeply personal level — not because I consider myself an inventor in the traditional sense, but because I, too, create out of necessity. My ideas are not born from the pursuit of praise or recognition. They emerge from discomfort, from curiosity, from an inner pressure that demands expression. To me, creativity is not a choice. It's a condition I live with.

In that sense, failure becomes a complicated idea. If I create because I need to, how can I possibly fail? Is it a failure if something I design is not accepted? If it's not understood? Or if it never reaches completion? Maybe from the outside, yes. But internally, the act of creating — even privately, even imperfectly — already defies failure.

As a woman in design, I often feel this tension between visibility and authenticity. I've been told my work is "too emotional," "too conceptual," "too unpolished." But the truth is, when I've tried to meet expectations rather than follow instinct, I've felt truly disconnected from my own voice. And that, to me, is the real failure: to silence myself for the sake of fitting in.

Hedy Lamarr didn't wait for permission to be taken seriously. She invented because she had to. I design for the same reason. Not because it's always successful — but because I wouldn't feel whole if I didn't. In that way, I don't see myself as someone who fails. I see myself as someone who continues.

Creative Persona: Edgar Allan Poe

Simay Çeliker

"Never to suffer would never to have been blessed."

Although Edgar Allan Poe is one of the darkest and most influential figures in gothic literature, his personal life was shaped by deep failures and destructive choices. This quote claims that suffering is a fundamental part of life and even of creation. Poe shaped his life under the shadow of this very idea, because despite all the material and social opportunities he had, he managed to fail, and caused others to suffer as well.

He was abandoned by his father at the age of one, lost his mother at two, and was later adopted by a wealthy family. He received an education, had financial support, and was given the chance to produce in a creative field. Yet despite all these privileges, he turned to destructive habits like alcohol and gambling, avoided responsibility, and often overshadowed his own talent with his instability. He married his 12-year-old cousin. And no — that wasn't considered normal even at the time; the girl was so young that they had to use false witnesses to make the marriage legal.

Although Poe's quote reveals what he valued as a writer, it also exposes the contradictions in his life. While glorifying suffering, he seems to justify his own personal tragedy. Still, it must be remembered: had Poe not possessed literary talent, he would have been remembered solely for his addictions and unethical decisions. In this sense, his writing ability became a kind of salvation. However, this should not be taken as an excuse for all his faults. I believe creativity should be approached with responsibility, rather than romanticizing suffering. Rather than being an admirable figure, when one considers his works alongside his life, it becomes clear that the beauty of his writings is overshadowed by his failed character.

Creative Persona: Keith Jarrett

Yaren Gürbüz

"Music always turns into music. As soon as I play a key, push a key down, there's no theory any more. When I go and I hear a sound on the keyboard, all theories go out the window."

When we think of failure in terms of Keith Jarrett, we need to re-evaluate the concept of "failure" within the process of creative production. Jarrett's most famous performance, The Köln Concert, almost didn't happen:

A different and faulty piano was brought to the concert against his wishes, he was very tired and even considered canceling the concert. In many ways it was a failure of planning and organization. But Jarrett changed his mind and turned the tides in his favor, turning it into a historical performance. This concert, the biggest concert in the history of jazz, has a legendary place in the history of improvised music.

Jarrett's other "failure" was on a physical level. In the 1990s, he suffered from chronic fatigue syndrome and stayed away from the stage for a long time. In 2018, he lost the use of his left hand due to two bak-to-back strokes, and his stage career was largely over. For an artist who built his career on live improvisation, this could have been devastating. However, Jarrett did not stop producing music even during these trying times; he continued to compose.

Jarrett's story shows us that failure is not an obstacle to creativity, but a part of the creative process. Real inventiveness arises from adaptability rather than from perfection. Keith Jarrett's quotation clearly shows this awareness:

"Music always turns into music. As soon as I play a key, push a key down, there's no theory anymore.

When I go and I hear a sound on the keyboard, all theories go out the window."

This statement provides a distinct perspective on Jarrett's imaginative abilities. To him, music isn't merely a collection of guidelines, but rather an experience that emerges from the present. Theory and understanding could serve as the basis for creation, yet once he presses the keys, emotion, the present moment, and freedom take precedence over everything else. Using this method, Jarrett turns music from an abstract framework into a vibrant, dynamic entity. This insight offers an uplifting viewpoint for not only in music but also for design, art, and all creative processes.

Part 6
Photos from DSS2025
& Poster Exhibition

Photos from DSS2025 & Poster Exhibition

Group Photo, DSS2025

Opening Talk, Efe Biresselioğlu

Opening Talk, Ender Yazgan
Bulgun

Photos from DSS2025 & Poster Exhibition

Keynote Speech, Orçun Kepez

"Getting Your Foot in the Door" Workshop

"Getting Your Foot in the Door" Workshop

Photos from DSS2025 & Poster Exhibition

Session 4 – Individual Papers
Session Chair: Zeynep Tuna Ultav
Speakers: Filiz Özbengi Uslu-Ender Yazgan Bulgun, Deniz Akdeniz-Didem Yavuz Velipaşaoğlu, Güliz Yazıcı-Murat Bengisu, Elif Gündoğdu-İlker Kahraman, Hande Yıldız Çekindir-Gökhan Mura

Best Poster Award, Mehmet Deniz Özdemir-Saba Çevik, Deniz Hasırcı

Best Presentation Award, Bekir Tanrıkuli, Deniz Hasırcı

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Opening Talk-Deniz Hasırcı

Keynote Moderator - Emre Yıldız

Group Photo 2

Photos from DSS2025 & Poster Exhibition

IUE Press

IUE Publishing Manager-
Gülce Başer

Moderator Esra Bici Nasır

Photos from DSS2025 & Poster Exhibition

Moderator-Zeynep Tuna Ultav

Volunteering IAED Students

Volunteering IAED Students

Photos from DSS2025 & Poster Exhibition

Speed Mentorship Session

Speed Mentorship Session

Poster Exhibition

Photos from DSS2025 & Poster Exhibition

Poster Exhibition

Poster Exhibition

Exhibition Organizers

Photos from DSS2025 & Poster Exhibition

Exhibition Organizers-Şölen Kipöz

Exhibition Organizers-Ali Aslankan-Onur Mengi

Exhibition Organizers Gözde Damla Turhan Haskara-İdil Bakır Küçükkkaya

Photos from DSS2025 & Poster Exhibition

Exhibition Organizers -
Deniz Avcı - Didem Yavuz
Velipaşaoğlu

Discussion Session-Can Özcan

Discussion Session-Can Özcan

Photos from DSS2025 & Poster Exhibition

Symposium Exhibition

Symposium Exhibition

Symposium Audience

Photos from DSS2025 & Poster Exhibition

Symposium Audience

Symposium Cocktail

Two and a Half Band

List of Poster Presenters

- **Ahmet Can Sever**

- **Aleyna Güna**

- **Bekir Tanrıkuli**

- **Berfin Tutaklı**

- **Can Tunca Erciyas**

- **Deniz Akdeniz**

- **Dilara Yetiş**

- **Doğukan Demirel**

- **Eda Korkuter**

- **Egzi Eda Eltutan**

- **Emma Eva Bilazarian**

- **Engin Deniz Eriş**

- **Faraz Roudbari**

- **Giuseppe Marco Alotto**

- **İlayda Uygur**

- **Mehmet Deniz Özdemir**

- **Nazlıcan Karasu**

- **Nazmiye Nazlı Tezel**

- **Nil Tüten**

- **Özge Nur İşler**

- **Saba Çevik**

- **Simay Çeliker**

- **Yağmur Çıtak**

- **Yaren Gürbüz**

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