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ABSENCE, GAPS, SPLITS, AND HOLES: DESIGN RESEARCH AS VISIBLE REPAIR

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ABSTRACT
This exploratory paper invokes a typology of textile repair methods as a metaphor for design research. A rising “visible repair movement” is emerging as a strategy for shifting cultural perceptions of the appropriateness of repair while encouraging lay persons to acquire the tools and skills (and confidence) needed to fix things themselves. By doing so, more goods are kept out of the waste stream and ideas about the value of things that are worn or damaged is transformed. Likewise, generally knowledge of research-led design practices could benefit from raising the visibility of the contributions that design research makes to meaningful design practices. By using a visually potent metaphor such as repair, this paper encourages the new ways to understand contemporary role(s) for research.

WHAT IS REPAIR?
The Merriam-Webster dictionary defines repair as the process of mending or restoring broken goods to a serviceable state if they become worn or damaged (Merriam-Webster, 2022). This is an activity with a long history. In her book entitled Fixation: How to Have Stuff Without Breaking the Planet, Goldmark (2020) asserts that people in Western countries commonly mended their worn or damaged goods until the middle of the twentieth century. At this time, most people’s knowledge and competency in repair practices declined as consumers became more apt to replace worn items with new ones, either because they perceived new goods as more affordable or because replacement created an opportunity to improve or “upgrade” their belongings through shopping. Goldmark promotes repair today as an environmentally-responsible way to address people’s desire to have—and subsequently discard—belongings. Beyond the noble role of keeping goods out of landfills and waste out of oceans, she also suggests that repair is an inherently creative act, due to the tendency of goods to break in different ways, with each situation calling for a bespoke strategy for the restoration of function or completeness.

INTRODUCTION
Absence, gaps, splits, and holes, as well as areas that have worn away are usually perceived as damage. This is particularly true in the realm of environments, products, and fashion. This paper explores how we might think about the repair of such conditions as an analogy for the ways we conceptualize design research methods. Specifically, it considers whether the recent rise in interest in repairing “flaws” using visible techniques and strategies that display or highlight interventions provides an opportunity to re-think how to make the role of research in the design process more apparent. After defining repair and summarizing the current state of the visible repair movement, I will connect my typology of mending practices to the desired characteristics of contemporary design research to extend our thinking about its current roles and limits, as well as its potential.
term plans for the continuation of your PhD project. Instead, it relies on recycling processes and repurposing waste in other ways. The Ellen MacArthur Foundation (2017) suggests that respect for nature and addressing the climate crisis should motivate our desire to transition from a linear to a circular economy.

In his 2021 book entitled Meaningful Stuff: Design that Lasts, Jonathan Chapman notes that in much of the global North along with Australia, New Zealand and developed parts of Asia, “the active process of corrective maintenance (repair) has all but disappeared from everyday life.” In addition to the fact that many people do not have the tools, space, or skills to conduct repair practices, Chapman notes that people lack the will to maintain their appliances, garments, and furniture because they have become “socially conditioned out of the making process.”

The authors of Repair Revolution: How Fixers Are Transforming Our Throwaway Culture expand Chapman’s description of repair as preventative and corrective acts to also include adaptive maintenance—the need for which is caused by alterations to the environment—and perfective maintenance, which is intended to improve product performance (Wackman and Knight, 2020). But while all forms of maintenance have a relationship to human inclinations to nurture, Chapman (2021) also suggests that many people find product repair a “frustrating and demoralizing process” that often ends in failure, additional damage, or a sense that time has been wasted.

Overcoming such hurdles requires the creation of a support community to teach people to perform repair processes or to provide them in a manner that is both affordable and collaborative. As literal repair shops disappear from the urban landscape, movements to promote fixing things are emerging, including the creation of fixer collectives and “repair cafés” where people can bring their worn or broken items and be guided through the repair process by an expert. Because of their typical reliance on local knowledge, repair cafés often connect more directly to the needs of specific neighborhoods, towns, or cities, although the products considered eligible for repair at cafés can be quite wide-ranging from electronics to clothing/textiles to jewelry and furniture to mechanical goods such as bicycles and lawn mowers (Wacker and Knight, 2020).

WHAT IS VISIBLE MENDING?

Because the possession of damaged goods developed negative connotations in the Modern era in Western cultures, cultivating a culture of repair now is challenging. This is, in part, because the goal of mending activities in the past was nearly always to restore objects to a condition where their repair is undetectable. A high level of expertise is required to perform such actions. Such an approach eliminates an intervention’s ability to serve as a visible argument for keeping goods in an extended state of usefulness, however, so efforts to build a movement that favors the practice of visible mending have begun. Correspondingly, the nature of what is considered desirable as an approach to repair is shifting, perhaps due to gradually rising concern about the climate crisis and the cultivation of interest in developing a circular economy as a primary way to address it. Changing the perception of so-called damaged goods—goods with gaps, splits, or holes, or things that simply don’t work anymore—requires creative strategies for understanding and mitigating their problems.

There are many examples of visible mending techniques found in history. Traditional Japanese approaches to visible mending such as kintsugi (a lacquer repair technique that uses gold) and sashiko (a textile mending technique that uses an irregular running stitch to reinforce tears or thin areas) are still relevant, along with more contemporary ways to patch or reinforce broken material in a growing number of hackerspaces, repair cafés, and fixit clinics that are found in major cities around the world. Information about how to make visible repairs is also available online content that proliferates on social media sites. Kits with the needed materials and tools to make visible repairs are readily available in online marketplaces. Some small manufacturers focus their Instagram accounts on showcasing creative mending strategies to keep their goods in usable condition.

The relationship of these making practices with acts of design has been identified by both Goldmark and Chapman, because “repair is a progressive process that pushes something forward into a coproduced and expanded form,” rather than “a regressive process of restoring something to a former state” (Chapman, 2021). He also asserts that processes that highlight the presence of an intervening repair material or technique suggest the presence of a new type of “transformative repair.” To me, repair and design form a natural alliance because both processes appear to focus on solving a problem or resolving a challenging condition.

A TYPOLOGY OF TEXTILE REPAIR STRATEGIES

After surveying methods for fixing that have been posted on Instagram, YouTube, and Pinterest over the past three years, it is clear that to me that there are a proliferation of possible ways to approach repair and a correspondingly high level of interest in them. My analysis of these sites reveals that there have been hundreds of thousands of postings to Instagram and Pinterest about visible mending as of November, 2022,
invites exploration and reinvention in ways that infill and reconnection do not.

MACGUYVER

Named after the character in a well-known American late 1980s television series, this is a quick adaptation to a textile or garment to enable it to perform a specific task that may or may not be related to the materials’ original purposes. The protagonist of the show often implemented everyday items as tools for tasks for which they were not originally intended. These reflexive or spontaneous acts undertaken while in danger are a version of reimagination that occurs quickly and perhaps temporarily and they are primarily characterized by recognizing relationships between a need and the potential of the available material to address it. Damage to a garment while wearing it often stimulates impulsive intuitive solutions that involve nail polish or office tools such as staplers or tape of various types, for example.

CRITICAL

This is a deliberate modification or correction to a textile that highlights the presence of damage in order to call attention to its cause. Critical mending is related to critical design in terms of serving more as a provocation than as an act that is focused on the restoration of function. Critical visible repair uses characteristics such as exaggeration or humor to call attention to the fact that an intervention or reparation has occurred as a means of communicating the importance of mending’s potential to extend the life of goods.

By viewing the damage or failure of a textile as a problem, strategies for repair can also serve as a metaphor for design research. In each case, the repair strategy deployed affects the outcome of the process undertaken, just as design research tactics yield different recommended outcomes; thereby demonstrating the need for a diverse range of research methods to match the growing diversity of domains into which design can be deployed.

POSITIONING DESIGN RESEARCH AS REPAIR

It has been almost a quarter of a century since Susan Roth called design research “an activity in search of a definition” (Roth, 1999). Since that time, many useful definitions have emerged, including the three categories that Faste and Faste (2012) identified a decade ago: 1) empirically-oriented direct observations to identify design opportunities; 2) iterative prototyping with users to determine the usability of design ideas; and 3) speculations that probe cultural discourses and practices to open up possibilities for new design domains. In other words, when there is a “hole” in what already exists, design research has been used to identify how designers can fill what they perceive to be an existing...
need, or they can act on the inputs of others to
determine what is needed, or they can stimulate new
perceptions of what is needed through provocative
intervention. More recently, Sanders (2017) has
proposed that the purpose of design research is to
inspire the design process.

According to Victor Margolin’s 2010 historiography of
design research, it has been continuously evolving, just
as the practice into which it is embedded has expanded.
The understanding of what constitutes design practice
has grown notably over the past two decades, from a
time when it was typically conceptualized as a domain-
specific “sequence of decisions made to balance goals
and constraints” (Edelson, 2002) to its current identity
as an increasingly domain-fluid “materially engaged,
world-building activity” (Wilde, 2022). In order to
support this more expansive scope, design research has
likewise diversified in its purpose, methods, and
approaches to how research insights are formed and
disseminated. By doing so, its value has been elevated
through the emergence of organizations and
publications that increase its visibility to those who
practice design today. Yet design’s identity as a
research-based discipline still eludes most public
perception because an established visible role for the
collection and application of research insights to the
exploration and evaluation of design ideas is lacking.
Like visible mending’s role in the creation of a culture
of sustainability, design could benefit from the
implementation of (more) visible design research.

Could connecting some of the attributes of
contemporary design research to visible mending
strategies be useful? To test of this idea, I propose the
following possible connections between my repair
typology with some key research characteristics. Infill
or the replacement of missing material with like
material is least visible and it correlates well with the
most traditional forms of design research processes that
respond to clearly defined problems.

Other more nuanced approaches that make repair visible
offer alignment with the more complex qualities of
design research today. For instance, recent articles by
scholars such as Wilde (2020) encourage design
researchers to draw from a wide range of disciplines and
worldviews to devise appropriate tactics and strategies.
The Reconnect repair technique is the repair strategy
that most captures the spirit of this characteristic
because it often depends on the inclusion of a
contrasting material that if carefully selected, can add
positively to the visible quality of a textile. In fact, both
repair and research techniques that reconnect disparate
entities are dependent on inclusiveness.

Also according to Wilde and others, today’s design
research methods have the potential to yield
“unexpectedly rich responses” to questions, just as the
visible mending strategy I call enhance has the potential
to create qualities that are not present in the original
subject of consideration by creating new patterns or
color schemes. Participatory and collaborative design
research usually raises new possibilities and
understandings that add texture and depth to what is
discovered because people who are the experts of their
own lived experiences and who are most likely to be
affected by potential design outcomes are included in
the research endeavor. Bringing new voices and
perspectives to the question enhances what is possible in
ways that are often not foreseen.

Visible mending that reimagines its object changes it,
usually by taking it apart and reassembling it in a new
way. The redefinition of all that an object entails as raw
material suggests that researchers should think about
everything that is collected through a design research
process as potentially relevant to the insights that may
be drawn. This approach to research provides a strategic
and deliberate means to account for the breadth of
possibilities that are raised when a wide net is cast for
the collection of research data and associated stories,
creating another way of conceiving that so-called non-
designers have the capacity to contribute to design
responses.

Many scholars note the value of using diverse and
accessible language and forums to disseminate design
research findings. Just as quick, intuitive, and
sometimes temporary approaches to visible mending are
sometimes appropriate, the scope and pace of design
research is hardly uniform. Not every problem requires
an elaborate multi-pronged research strategy to gather,
interpret, or communicate the insights that are drawn.
Expressing research findings in a range of formats to
ensure that it is open to all relevant audiences
demonstrates the flexibility that is implied by the
invocation of MacGuyver’s responsiveness to dire
circumstances.

Finally, just as critical visible mending creates repairs
that challenge those who encounter them to think about
the meaning of repair and its implications on systems of
consumption, radical modes of design research leverage
techniques such as exaggeration or embellishment to
push the ways in which insights can lead to unexpected
or even contrary possibilities for the sake of making
change in stagnant systems or creating innovative
responses to seemingly wicked problems.

While direct connections between design research and
repair may not be drawn automatically, the use of such a
metaphor may help communicate the value of research,
as well as the diversity of the forms it takes. Likewise, if
we accept the argument that the effectiveness of making
repair visible has the potential to shift cultural
perceptions of damage and recovery, so too might the
implementation of more visible research contribute
meaningfully to the case for its value as a necessary part
of design practices.
REFERENCES


