Wearing Memory: Translating Hibakusha Testimony into Conceptual Fashion through Material Experimentation: A Practice-Based Design Study of "Kurenai no Sora"

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Abstract

Fashion is usually discussed in relation to trend, identity and economics, but has also been a subtle vehicle of protest, grief and remembrance. This article presents the findings of a practice-based design study which explored whether the body and mind damage caused by the 1945 Hiroshima and Nagasaki atomic bomb attacks, the hibakusha, could be converted to wear without becoming spectacle. This research employed a qualitative and interpretive paradigm with a hermeneutic-dialectic approach. The main source of analysis was Michihiko Hachiya's Hiroshima Diary, along with survivor testimonies, medical archives and photographs. Nine stories were purposively sampled and categorized into four injuries: vaporised skin, melting flesh, penetration of glass and concrete and scar tissue. A translated design for each injury was created in terms of theme, shape, fabric, technique, colour, print and narrative component, and composed of multiple analogue material samples. The evidence demonstrates that damage can be conveyed through material performance, not literal illustration. Heat-distressed and singed-edge textiles, hot-glue, soldering wire, alum crystallisation, 3D-pen work, bullion knots and padded and stiffened structures conveyed each a different form of bodily harm. A sober range of ash greys, blacks, bone whites and dark reds was tied together through the repeated representation of blood and kinship with red thread. Garments articulated through individual testimonials – a bisected fused bodice for the two men who perished together, for example – gave each account an identifiable shape. Such wearable memorials are effective because they are experienced through the body, and the article offers a model of practice for other designers interested in sensitive engagements with traumatic histories.

Keywords: *conceptual fashion; hibakusha testimony; Hiroshima and Nagasaki; memory of/through clothing; material practice; practice-based research; wearable memorial*

1. Introduction

A garment is never just a covering. It is beneath the skin, moulded to a body, branded by body contact. Because of this intimacy, clothes have always served as a proxy for their owner: a child's shoe, enshrined in a museum case; a soldier's uniform, squirrelled away in a family

trunk; a worn silk scarf, kept because it still bears traces of the owner. Historians of dress have argued that dress can act as a language of its own: communicating preference and subversion, belief and belonging (Barnard 2002, Kawamura 2005). If dress can speak, then it can also be called to speak.

Informed by this notion, the article explores one of the most widely studied disasters of the 20th century. The atomic bombings of Hiroshima and Nagasaki on 6 and 9 August 1945, respectively, freed energy equivalent to about fifteen kilotonnes of TNT and twenty-one kilotonnes. In less than a minute, temperatures of thousands of degrees Celsius hit close to the hypocentre, buildings crumbled, shattered glass entered the air and fires raged in both cities. As many as 200,000 people are thought to have lost their lives in 1945, while survivors gained the name 'hibakusha' or 'bomb-affected people', their bodies plagued by scars, burn marks, and in many cases radiation-related malignancies and psychological trauma (Tomonaga, 2019; Ozasa et al., 2012).

8o years on, the facts are familiar, but in a way they have become listed. Distances, temperatures and body counts are simple to cite, and harder to keep in mind. What's less easy to recall is a particular body in a specific location: a bank clerk with glass in her back, a boy dragging a buddy whose shoes had melted off, a postal clerk lying on his stomach in a rudimentary ward for close to 2 years. This piece was born of a concern that remembrance has become too distant, and an interest in whether design could bring a few of the human measure back.

There were four questions that the research would answer. First, how can we look at fashion as a conduit for the pain and will of the bombed people? Second, what materials, techniques and design choices can show destruction, survival and remembrance? Third, how can we transform the testimony of named survivors into wearable forms? Fourth, why and how does clothing help us remember Hiroshima and Nagasaki's bombings? The related aims were to assess whether the bombings of Hiroshima and Nagasaki can serve as the inspiration for a collection based on survivors' lived experience, whether I could use glass fusing, hand and machine sewing, fabric manipulation and layering to evoke the aftermath of a nuclear assault, and whether I could employ empathy in fashion to communicate something of such magnitude. The research is a contribution to design research in two ways: it provides a documented approach to translating testimony into material, and it introduces a case study from South Asian design training to a discussion that remains largely focused on cases from Europe, North America and Japan. Subsequent sections engage with the literature, elucidate the research

methods, present the nine case studies and the material experiments, and reflect on how the results inform designers as they work with painful histories.

2. Literature Review

2.1 The human consequences of the bombings

In medical and history scholarship concerning the bombings, the harm inflicted is typically categorised according to increasing distance from the hypocentre. Towards the epicentre, the heat radiation was capable of instantly vaporising or carbonising whole bodies, casting their silhouettes onto stone and concrete in now widely circulated images (Zhang, 2023). Within the next radius of around half a kilometre to one kilometre, bodies were wracked with full thickness burns and crush injuries. Within roughly one to two kilometres, thermal flash burns, blast injuries and, on top of this, acute radiation sickness arrived – marked with vomiting, haemorrhaging, diarrhoea and hair loss. Beyond this range, survivors presented with partial burns, acute radiation syndrome, and in the decades that followed, high rates of solid cancers and leukaemias (Ozasa et al, 2012; Tomonaga, 2019).

The impact was not limited to fires and heat radiation. Shock waves shattered windows over a very wide area, and the shattered glass became a bed of small projectiles. Shattered glass penetrated the skin, eyes and soft tissue, and remained for years. Zhang (2023) describes an industrial eye injury caused by this mechanism, and survivor reports routinely recount glass working its way out of the body for many years after. Black rain - radioactive fallout from the fires that soaked people and surfaces - also spread radiation onto people and water supplies, causing another round of contamination Hazama et al., 2013. Keloid scarring, the thick, raised and often painful tissue that developed over burns, was one of the most obvious signs of a person who had survived.

The psychological toll was just as great. Lifton (1967) described survivors' extended exposure to death, their feelings of numbness and guilt, and subsequent psychiatric research established elevated incidences of PTSD, depression, and anxiety years after the attack (Yamada & Izumi, 2002). Damage to others came as well. The fear of radiation resulted in discrimination against marriages and jobs and the Korean hibakusha, many of whom had been forcibly brought to Japan to serve as slave labourers, were further marginalized (Hachiya, 1955). One of the most poignant first-hand descriptions of this trauma is the diary of Hachiya, a physician who himself had been wounded in the attack.

2.2 Memory, witness and the enactment of suffering

How should other people's pain be presented? Sontag (2003) cautioned us against visualising suffering, as images can be repeated to make them meaningless, and they can be used for

voyeuristic spectacles. Caruth (1996) described trauma as unassimilated event that returns in repetition; in this way the narratives of survivors seem to cycle through the same moments. Hirsch (2012) discussed the concept of postmemory to refer to the extent of how later generations relate to events which they did not personally experience but to which they were heir through stories, photographs and objets. Nora (1989) separated lived memory with sites and objects that take the place of it once the actual living witnesses are dead. This thinking relates explicitly to this study. The generation that lived through 1945 is becoming elderly, so the responsibility for memory is being displaced from subject to object, from the people who witnessed the time to the images and performances that interpret it. The problem for design becomes: what is the capacity of a designed object to hold the witness of its subject, without numbing or exploiting its observer. Sontag's concern invites us toward restraint; Hirsch and Nora suggest that the handled and inhabited object may have a capacity for that task which the photograph cannot possess.

2.3 Fashion as a vehicle of remembrance and resistance

In fashion studies, the dressed body has been regarded as a site where cultural signification is inscribed (Entwistle 2000). Kawamura (2005) pointed out that fashion is a system of circulating meanings rather than a mere collection of objects. For conceptual and experimental designers, especially those avant-garde designers in the Japanese and Belgian tradition of fashion since 1980s, tearing, fraying, distortion and asymmetry have been used to subvert the idea of beauty. A hole or a burnt edge is not a flaw in the hands of these designers.

Fashion has also been employed in memorials. Mourning dress, banners and sewn memorial quilts all testify to the capacity of cloth to contain shared emotion. These memorials are, however, relatively uncommon in the case of harmful acts inflicted by nuclear weapons, and even rarer where research projects base their investigation on specific testimonies (rather than an indeterminate atmosphere of destruction). This particular project is one of those rare and it approaches each testimony as a vignette, each wound as translation problem.

2.4 Practice-based research and material thinking

It takes inspiration from a tradition where making is a process for knowledge generation. Schön (1983) said practitioners talk through their work in the moment, responding to the affordances of the material at hand; Frayling (1993) distinguished research for, through and by art and design, much of this work falls largely into the middle bracket, where artefacts generate the research outputs. Candy (2006); Gray and Malins (2004) argue that so long as decisions and the artefact are recorded, rigorous research can be had from documenting and reflecting on this process of making. Ingold (2013) adds that making is a dialogue between maker and material,

and the properties of fabric, glass or heat inform the final outcome; much of the data here was generated by such actions, whether pushing it, setting fire to it, crystallising it or melting it.

2.5 Research gap

The three gaps I've identified remain: medical and historical accounts provide detail on the phenomenon of injury but often fail to link it to design. Anthropologists studying fashion have theorized memory and protest, while still (see below) citing survivor accounts only broadly, not translating stories into a language of the body. Finally, and perhaps most significantly, few design projects have engaged with South Asian histories of violence.

3. Methodology

This was an interpretative, qualitative study. I judged a qualitative methodology more appropriate than a quantitative one because the purpose was to hear and communicate human pain not to quantify it. The project was a synergy of literature analysis of texts of testimonies and medical writing and of design practice. Reading and making were interactive and simultaneous processes. Passages from the sources hinted at materials, the samples generated additional queries and those queries brought me back to the texts.

The central text for the core section was Hachiya's Hiroshima Diary, because it was so close to the events, because it was medical and emotional and because it was arranged in a chronological diary-format enabling the reader to chart the course of suffering. The larger universe of sources was huge including diaries, journals and Medical Reports, official reports, journalism and critical writing. This larger universe was constrained by the researcher down to the population which dealt with the bombs' immediate impact on bodies, minds and social circumstance.

The sample was of a non-probability, purposive type. The nine testimonies were selected because they gave enough physical and emotional information for close reading, and because they encompass various injuries, ages, places and histories. The names are: Akiko Takakura, Eiko Taoka, Hashizume Fumiko, Akihiro Takahashi, Lee Jong Keun, Toshiko Tanaka, Hiroshi Morimoto and Kenji Yamamoto, Sumiteru Taniguchi and Sadao Hirano. Seven cases were from Hiroshima, two from Nagasaki. The cases were divided by 4 of 12 factors: vaporisation of skin, melting flesh, glass and concrete particle penetration, and keloid scarring, with these divisions of categorised as independent variables, to systematise the interpretive work, and as each category could relate to its own design translation.

The primary data collection method was a secondary data analysis approach, using secondary data being the observer notes. This involved the researcher reading written testamonials, examining photographs of archival material and clinical photographs, and reading academic

texts, and noting, for each survivor, age, place, distance from hypocentre, injuries sustained, and the survivors later life. If details were missing this was recorded as unknown. Collection development followed the standard processes of the collection development. Inspiration, symptom, mood, story, colour, technique, accessory, silhouette, and make-up boards were made and a customer profile was established.

Design development sketches were developed into a series of sample pieces which were photographed and annotated, ranging from soldering-wire melting, alum crystallisation, hot silicone and glue work, padded piping inside fabric tubes, bullion knot embroidery. Final garments were then made and photographed.

This analysis was laid out as a design translation matrix. In each category of injury, the researcher listed seven different factors: theme, silhouette, material, technique, colour group, motif or pattern, and narrative point, with a statement of what each of these factors was intended to convey. These matrices were then analysed across the nine cases to discover common meanings of the materials, as well as to seek a response to the four questions.

Citing, as it does, actual anguish, entails responsibili ties. The testimonials from which the study draws are both published and public, and a number of the survivors expressed their willingness to be broadcast in order that the broadcast might be broadcast. Nevertheless, the concept of the study was that it ought to have three working ideas: that it should not gratuitously imitate gore, that it ought to attribute every inspiration to the individual whose expertise created it, and that it ought to favor suggestion over reproduction.

The thought was a fact fabric that might be open to criticism; to shock, not to shock. The eight cases we purposively selected do not represent all hibakusha, and the way we interpret each individual interview is influenced by us. Some of the personal details are omitted in specific cases, such as age, while other details may be exact distances from the explosion site. The study depends on published testimonies and no survivors were interviewed.

4. Results and Outcomes

4.1 Overview of the nine cases

Table 1. The sample contained survivors who were near to the hypocentre and those who were more than a k away; child as well as adult, woman and man, and one Korean forced labourer. By this range, the collection was enabled to speak both of difference and common experience.

Table 1.

Survivors, documented injuries and design categories

Survivor	City	Distance from hypocentre	Principal documented injury	Design category
Akiko Takakura (aged 20)	Hiroshima	About 300 m	Over a hundred glass lacerations on the back; flash blindness; black rain exposure	Glass and concrete penetration
Eiko Taoka	Nagasaki	About 750 m	Loss of her infant son; radiation illness in the family; long-term trauma	Glass and concrete penetration
Hashizume Fumiko	Hiroshima	NA	Glass fragment near the right ear; chronic complications	Glass and concrete penetration
Akihiro Takahashi (aged 14)	Hiroshima	About 1.4 km	Extensive third-degree burns; embedded glass	Glass and concrete penetration
Lee Jong Keun (aged 16)	Hiroshima	Near ground zero	Severe burns, infected wounds, exclusion as a Korean survivor	Flesh melting
Toshiko Tanaka (aged 6)	Hiroshima	About 2.25 km	Burns to head, neck and arms; keloid scars; skin grafts	Skin vaporization
Hiroshi Morimoto, Yamamoto	Hiroshima	Very close to ground zero	Bodies fused by heat while standing together	Fused garments (flesh melting)
Sumiteru Taniguchi (aged 16)	Nagasaki	About 1.8 km	Burned and stripped skin on the back; two years lying prone; later activism	Flesh melting
Sadao Hirano	Hiroshima	NA	Thick keloid scars; restricted movement	Keloid scarring

4.2 Penetration glass and concrete

The accounts of Akiko Takakura, Eiko Taoka, Hashizume Fumiko and Akihiro Takahashi share one physical mechanism. In each, the blast turned ordinary surroundings into weapons. Takakura, a young bank worker, was struck by shards that left her back covered in wounds, and the testimony notes that she needed medical care for them throughout her life. Fumiko carried a fragment near her ear that caused lasting pain and dizziness. Takahashi, a schoolboy more than a kilometre from the centre, was both burned and cut, and kept a blackened nail as a reminder. Taoka's story is different in kind: the glass that wounded the body is secondary to the loss of her child, and the grief that followed her for the rest of her life. The design translation for this group was distressed cotton, gauze and mesh, with layered asymmetrical shapes. The

strongest aspect of the palette was glass melting, then later alum crystallisation. Alum, a salt crystal that grows over a number of days into jagged shapes, seemed such an appropriate material – it grew over time in a random way and evoked effects of radiation as well as the lodging of shrapnel in tissue. Soldering-wire melting created bruised and bled scars of warped steel frames, while a soldering iron was used to pierce fabric to suggest injury, with embroidered holes and additional glass-like details echoing the idea on a smaller scale. The palette remained mostly black or grey, navy and other dark neutrals signifying contaminated ground, with elements of red thread and crane motifs signifying hope.

4.3 Vaporisation of skin

Toshiko Tanaka was six when the bomb fell and was more than two kilometres away, yet she suffered burns to her head, throat, neck and arms, followed by keloid scars and repeated grafts. Her case was used to express the idea of a narrow escape. The garment is deliberately imbalanced, with one side more scorched than the other, to convey life divided between what was lost and what remained. Reflective foil, gauze and sheer layers evoke the flash of light and heat, while ripped and frayed edges, slashing and hand embroidery build up layers of trauma. A back panel printed with a cityscape in faded smoke carries a marker showing a distance of three hundred metres, tying the piece to the location of the blast. Red thread tracing scars refers to bloodline and to the child's survival.

4.4 Flesh melting

The story of Sumiteru Taniguchi and Lee Jong Keun, that is all about back part of bodies, that they have felt all the power of the radiation. Taniguchi, who was sixteen, was riding a bike when he saw the flash. When he came to his sense his shirt burned off, and the skin of his back in strips hung down. Almost 2 years he lied on his stomach, as there were not enough beds in the hospital. The photo of his back became well known. When he recovered, he fought for the prohibition of nuclear weapons, and headed a group of victims. Another 16-year-old, Lee Jong Keun, he was forced labourers and he lived with infected wounds almost without any medical treatment. After the war he was forgotten, however then he began the movement. The panels on the backs made with the help of distortion effect. Burnt silk, charred organza, and textured leather, they all have been melted, burn out and reformed in a way of soft flesh. Hot glue applied to the fabric produced some sort of "wounds", which were colored with tints of red and black. Embroidered red threads remind the veins and scarification. Words taken from the Taniguchi testament on the back as an identity tag. Lee's stories are on a half-finished seems and grey and ash and white colors – which means his uncomplete life.

4.5 Keloid scarring

Sadao Hirano's grotesque, bulbous keloid scars also restrict his ability to move. His garment is chunky and misshapen. Thick fabric and appliqué create bulges and ridges, while pen-like lines extruded into the fabric create a network of tentacle-like ridges that are consistent with the physiology of scar tissue. Stiffened sleeves and shoulders limit movement, so that the garment forces a tiny fraction of survivor's restrictions on its wearer. The use of deep red thread as well as pinks, purples and reds flesh tones enhances this. The panel of the skin before and after the formation of keloids makes clear that scarring happens over time rather than all at once.

4.6 The fused pair

The most challenging of all is the story of Hiroshi Morimoto and Kenji Yamamoto, two men whose bodies were so close at the time of the explosion that they became fused together through heat. Rather than literally illustrate this, the researcher produced two bodices stitched together in the middle with bullion knots to symbolize torn tissues and veins. Melted fabric and glass at the centre and the flowing fabric above reveal the intimate proximity of these two in life and in death. The pair of garments is intended to be shown in juxtaposition so that audiences view them separately, then simultaneously upon a second viewing.

4.7 Materials and techniques that communicated most clearly

Answering the second research question, the material experiments produced a consistent set of translations, shown in Table 2. What stands out is the number of techniques that depend on change over time or on heat: crystals that grow, glue that cools into drips, fabric that darkens at the edge. These transformations echo the original event, in which a very short burst of energy produced effects that continued for decades.

Table 2.

Principal materials, techniques and their symbolic functions

Material or technique	Meaning and role in the collection
Alum crystallization	Cellular change, radiation and crystallised tears; grows slowly
Glass with metal wire	Shattered buildings and the fragility of human life
Melted glass pieces	Broken memory and destruction; sharp yet beautiful
Three-dimensional pen	Keloid ridges and damaged veins; a direct translation of post-burn skin
Hot glue and silicone	Melted skin and muscle; the stretching and dripping of flesh
Soldering wire and soldering iron	Melted and drooping metal; penetration of cloth as a sign of radiation passing through the body
Bullion knot embroidery	Twisted veins and threads of pain; connections between bodies
Puffing, padded piping	Swelling from radiation sickness; oozing tissue
Burnt, frayed and slashed edges	Heat damage, wounds and exposed layers

4.8 Colour and recurring motifs

Colour was kept limited on purpose. Black, charcoal and ash grey referred to burnt ground and contamination. Bone white and muted browns suggested fading and exposure. Reds ranged from deep thread colours to flesh tones and appeared as blood, scars and veins, while amber, clear white and oxidised silver appeared in the garments for the younger survivors. Red thread became the unifying device of the collection, running through scars, veins and bloodlines, and appearing in each category. Cranes, a Japanese symbol of hope and peace, were used sparingly in embroidery. This restraint was important. By withholding colour, the collection placed weight on texture and structure, and left the viewer to complete the picture.

4.9 Design translation by injury category

Table 3 condenses the design translation matrices for the four injury categories, which together answer the third research question.

Table 3.

Design translation by injury category

Injury category	Silhouette	Key techniques	Symbolic focus
Glass and concrete penetration	Distorted, asymmetrical, layered	Glass melting, alum crystals, soldering wire, punctures, fraying	Chaos of the blast; lodged fragments; shattered childhood
Skin vaporisation	Torn, one side more scorched	Ripping, slashing, foil, hand embroidery	Narrow escape; half lost, half alive
Flesh melting	Asymmetrical draping; exposed back	Burnt-out fabric, hot glue, distortion, scar embroidery	Melted skin; moral resilience and advocacy
Keloid scarring	Structured but distorted; restricted movement	Appliqué, layering, 3D pen, stiffened structure	Permanent scars; long-term effects of radiation

4.10 Answers to the research questions

After question 1, the project found that fashion can physically carry pain and resilience in a way that other historical sources cannot as it is worn, touched and moved through. Where a photograph is seen, a garment is touched and this difference between sight and touch is the most significant finding of the project. After question 2, the material choices that performed most effectively were those that responded to the original injury: they melted, grew, tore, stiffened or darkened. After question 3, the matrix approach was shown to be an effective means of translating from named testimony to individual garment, where each injury type dictated the material logic and individual life histories chose the components. After question

4, the collection showed that clothing encourages remembrance by engaging viewers to imagine a person's body at human scale. The garments, together, stand as witness to those people, for the individual and for the cities.

5. Discussion

The core finding of the paper is that the bodily scale of what happened can be recovered by design. Numbers tell us what a catastrophe was like; the garments tell us what it was like on a person. This is similar to what Hirsch (2012) makes the point that inherited memory is held in objects and images that connect you to the past, even if you haven't lived it. It also addresses in part what Sontag (2003) worries about: a garment that is displayed rather than worn on the runway, and which conveys injury by texture and form rather than by showing it, beckons the viewer nearer and to 'work out' what is being observed. That slower, more active observation is less likely to induce the numbness Sontag feared.

Our findings emerged repeatedly: materials not only make visible an idea, but they push back and sometimes make itself anew. Alum crystals were attractive, but the slow way in which they grew turned out to be the lesson, because the slow development mimicked the delayed effects of radiation that survivors endured for decades. The emerging research again points to the practice-based notion that knowledge is generated by making that could not have been predicted in advance (Schön, 1983; Ingold, 2013). Materials-based research indicates that trauma-focused design may need to make room in the design process for materials to suggest meaning, and should record those insights, because they count as research itself. Any work that converts real suffering into attractive objects is open to the charge that it makes suffering pleasurable. The study has not answered that charge, and probably it cannot. Some choices were made to mitigate the risk: use of a neutral palette, no attempt to make any piece appear glamourous, and writing a paragraph on the symbolic meaning of each technique so that every effect has a narrative attachment. The preamble tags connect the pieces back to the survivor, in her own words. Yet some of the pieces, like the glass and crystal, are very beautiful, and can visually seduce the viewer. The authors see that as permissible as long as the narrative then acts as a sequence of cues. But the question deserves discussion by other designers.

Another difficulty is authorship. The collection is Lee Jong Keun's interpretation of other people's work, as he never met the survivors and based the designs on writings and images. Lee Jong Keun's and other Korean survivors' stories are of particular importance since they were devalued in official histories for decades; the collection risked simply imitating that devaluation by claiming to know their stories better and presenting them as just another story. Drawing Lee a garment of his own with his own colour coding and symbolism of

"unfinishedness" was an attempt to counter this; future work might involve survivors' families, museums or testimony archives directly.

The matrix here could have implications far beyond this course. Its seven elements (theme, silhouette, fabric, technique, colour, motif and storytelling element) act as a form of designer's checklist, connecting a source account with tangible design proposals, and asking for an explanation of the meaning of every element. Similarly, designers could interpret other histories of loss - displacement, industrial disaster, war - using the same tools: beginning with a written account, but starting instead from the question of what material would have responded in the same way. For design training especially, this structure can integrate historical research and studio trials.

Limitations and future work

This study has obvious limitations. It is based on nine purposively selected testimonies, collected from published rather than oral sources, and some survivor details are not known. The interpretations have been made by one researcher, and no audience study was undertaken to find out how viewers have responded to the garments. This thesis also discusses themes which I was unable to develop here, such as the blind survivor, second-generation hibakusha, and the later evolution of medical understanding of radiation. There are various ways future researchers might usefully test the audience response through exhibitions and interviews, work with museums and survivors' organisations, and apply the approach to other trauma histories.

6. Conclusion

The purpose of this project was to investigate whether fashion can give form to the suffering of the survivors of the atomic bombings of Hiroshima and Nagasaki. The answer I found, through nine testimonies and material trials, was a tentative yes. Garments can carry memory if the materials are sympathetic to the injuries they evoke, if their symbolism is elucidated and linked to narrative accounts, and if we maintain our composure when speaking of such a traumatic subject. Heat-melted fabric, crystals, hot glue, wire, open veins, and stiffened walls all became ways of talking about pain without describing it literally. As a collection, Kurenai no Sora was not designed as trendy. It was designed as an act of remembrance, and its main contribution is a methodology that other designers could take when working with painful histories.

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