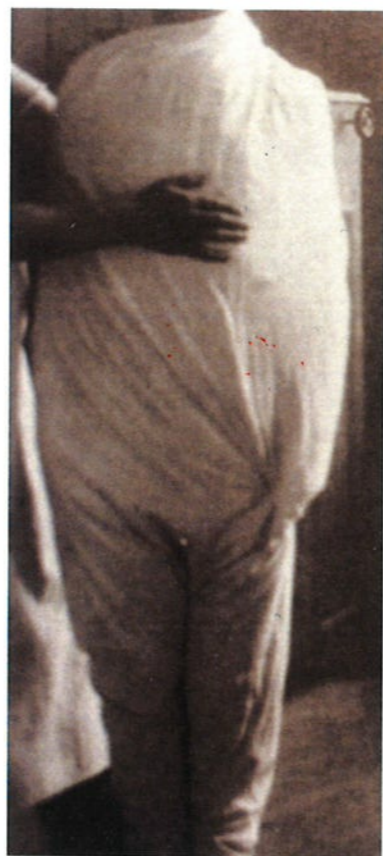


I visited Kunst Werke Berlin in December 2019 when the show: *The Making of Husbands - Christina Ramberg in Dialogue* was about to end. It was the first time I ever encountered the work of Christina Ramberg, whose work had playfully been put in dialogue with contemporary art works as well as pieces from the 70's and 80's. The show strongly resonated with questions I found myself asking, sculptures I was making, objects and sources I had been gathering - not yet able to fully formulate their connection. My work seemed haunted by bodily forms, textures and even parts, echoing shapes of loose limbs or bone looking fragments. Up until that moment, I'd mainly focused on making work that reflects the impact of spaces and enclosure, ways of entering and inhabiting them. But at that moment in time, it seemed as if a distance between body, object and space was narrowing in. I discovered a deeper lying fascination with the ways design takes a firm grip, invades and intrudes our bodies, in order to assist us. The physicality of this contact, at once claustrophobic, unnerving and sensual, preoccupies me. This piece of writing is a process of measuring surfaces and materialities against one another and against the body. By following leads and associative links, I sometimes reach a dead end, at other times profound connections are made. The true quality of the endeavour lies in the accumulation of all these findings, as I lay them all out and let the material intertwine, new connections arise and transform what I viewed as limited or one sided. Through this containment, through the act of wrapping up and binding together, new body configurations may emerge.



Gestures, an introduction

This research is a reflection upon the status of the human body in its physicality, as a complex site of vulnerability, of encounter and of agency. As specific gestures and materialities that contain and envelop the body are investigated, various renderings of the body are explored. Starting off with the encasing forms characteristic to Christina Ramberg's figurations, moving through highly specific artefacts of 20th century art and designs that clothe, shield and fixate the human form. By swiftly peeking in, scanning over or throughly scrutinising body and object alike, questions and reflections are brought forward.

The writing serves as an entangled thread that runs through and along its objects of interest; a body of text in need of support, held in shape by the art pieces and artefacts it discusses. The photographic source material and imagery directly referenced in the text is supplemented by visual research material, photography, scans and experimental documentation developed simultaneously to the writing process. These serve as a further commentary to the topic that at times associatively bind topics together and at other times disturb and problematise the written.

In order to describe what is meant by containing and enveloping gestures, thinking up examples and dividing them into categories is perhaps a useful beginning. Roughly speaking - thus leaving plenty of space for entanglement and contradiction, the categories wrapping, binding and covering come to mind. These three are all processual gestures but can also be states. When exposing the body to them, the boundary and division between an inside and outside is at stake. Boundaries become blurred and surfaces broken or re-located.

A human body that needs protection, or needs to be warmed up, gets wrapped in a blanket, a sheet or another wrapping materials. Wrapping entails protection, shelter, comfort and isolation from the outside environment. Wrapping can be so tight that it lies like a second skin around the body, but when the purpose is heat preservation, wrapping is applied loosely enough to allow some space between the body and its enveloping material.

Wrapping overlaps with binding, where binding is more specifically associated with the medical application of gauze bandage. It also has the preserving use known from mummification, but it could as well be associated with enslavement and captivity in a forced or fetishistic context. The narrow width of the string, bandage or cloth used allows for tight and precise application, enveloping the shape of the body completely.

Binding is used on a broken body. It entails a repositioning, a tugging and adjusting of bodily relations, forcing the ruptured connections together in order to let them heal and reconnect. It often entails the hand of another, the helping hand, the hand of a carer. It entails that someone outside oneself holds the fabric and carries out the binding.

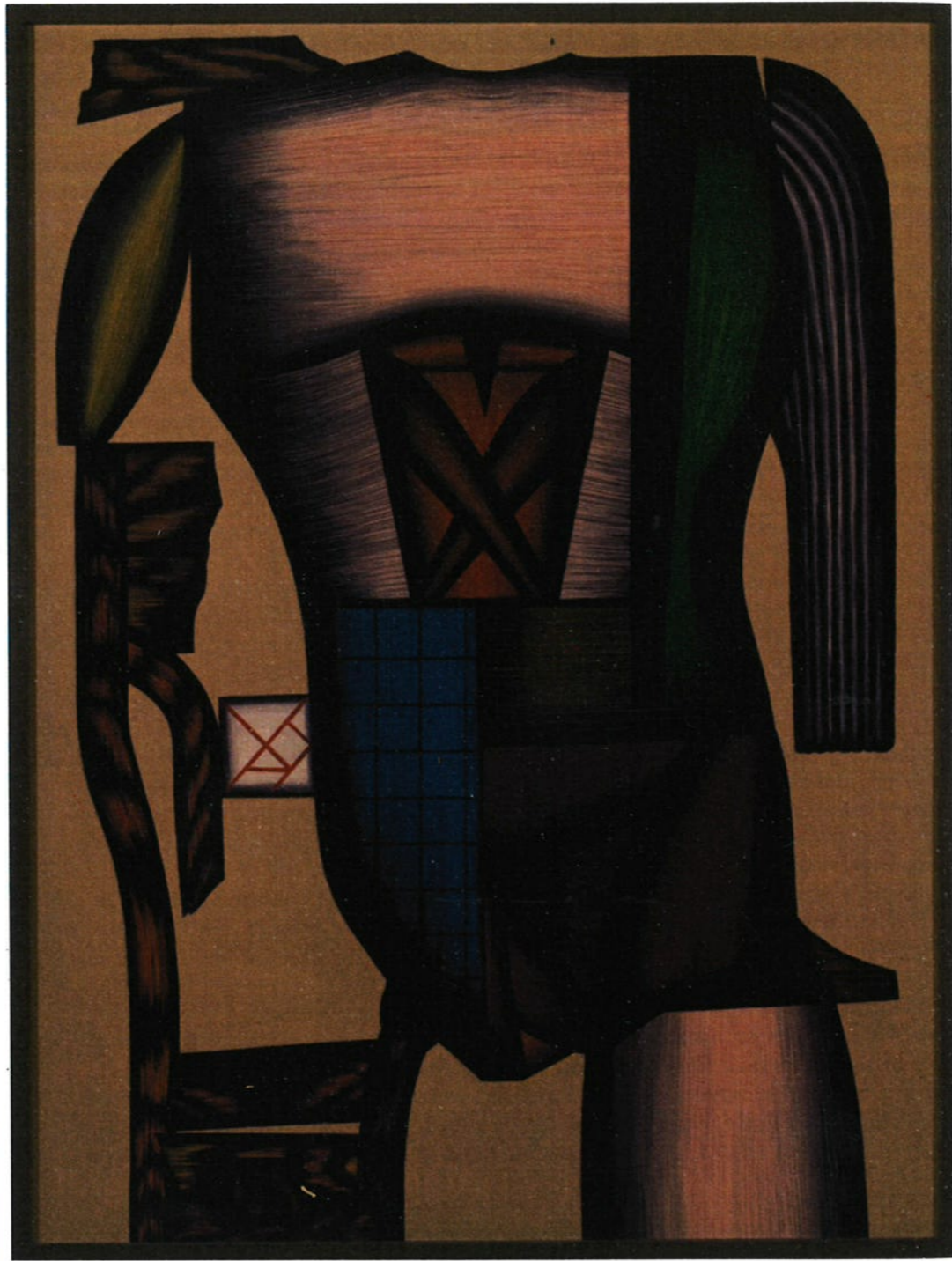
Covering is perhaps the least specific term; it can be done with almost any material depending on the use. It could relate to being clothed, as opposed to being naked or exposed, or it could be about hiding or keeping the body out of sight. A blanket is described as a cover, but covering could just as well be done with hard materials. Covering is akin to shielding in the sense of securing the body against some outer threat or in the meaning of seeking shelter, whereby it becomes architectural, a question of enclosure or even support.

The Function of Binding in the Work of Christina Ramberg

Within the paintings and sketches of the American artist Christina Ramberg (1946-1995), a nearly obsessive application of different forms of wrapping and binding plays out.

Although the painted figures aren't naturalistic representations, it's inviting to read the curved shapes and lines that intertwine with the human-like silhouette as fabrics and then imagine what types of fabric these might be. Types of bandage come to mind, when these are white.

At other times, the painted textures appear as textiles from fashion garments that complement the shape of the figure in an elegantly graphic manner. In some places, such textures are subtly stippled or painted in fleshy tones, positing them uncertainly between representations of fabric and skin. In this way, the paintings negotiate the anatomy and structure of a body. At first sight, the Silhouettes are read as straightforward portrayals of the human figure, yet understanding the figure as a body, gradually becomes complicated: Fleshy and fabric-looking textures merge and blank fields are left inside the figure - baring the skeleton of the body's entire internal structure - rendering it hollow as nothing but a frame without internal mass. These monochrome fields suggest a complete absence - or disappearance - of the body. In some cases they trigger a destabilisation of figure-ground



relationships. This calls into question whether the figure is actually the main motif of the image or if it is the realm around the figure, which was at first hand read as backgrounding negative space.

The same could be said for the incidents where figures are left unfinished or broken up, allowing ruptures and shortcuts to define new in-between spaces that aren't clearly part of - nor directly outside of - the body. The graphic qualities of the paintings play tricks on the way we read them, namely as contained, bounded entities. Yet, reading the harsh outline as a demarcating boundary of the body doesn't hold up; the fields around the figure are to be considered part of it. The boundary is not blurred but sharp, yet it creates inconsistent and unpredictable pathways through the body.

In the work of Ramberg, binding is the tool used to negotiate inside and outside. Like a möbius strip, the bandage won't reveal which side is its inside just as a clearly demarcated body will not reveal itself along the outline of the human figure.

Nobody's Body - Binding Gender

The paintings instil the question; where is the body of an individual subject to be located among all these structuring features that seem to uphold it?

As KW Institute's curator Anna Gritz emphasises: 'We see bentwood, wooden frames, stone masonry and metal wire, as well as lace, nylon, satin, leather, braided hair, bandages, wood grain, metal plating as well as what appears to be muscular flesh of various segments taken from the human body. Her main reference, nonetheless, is the world of female Garments.'¹

It is striking how certain shapes, when placed upon the human figure, are immediately read as feminine or masculine. Any urge to define the distinct gender category of the figures might also have to do with the visual language of graphic figuration and how that typically operates. In comic novels as well as in pictograms and signs, the hard outline has the function of conveying a clear message or direction which stands unquestioned and powerful. Gender is then typically ascribed through clear external markers such as clothing types or exaggerated female or male body shapes.

In the motifs of the paintings, there are only very subtle markers that hint toward a gendered attire. Yet looking at the oeuvre as a whole, it becomes evident that these forms are all taken from meticulous studies of various female garments and hair styles. These studies are then cleverly worked into the paintings, applied in abstracted ways that still manage to give off the rigidity and regulatory quality associated with for instance corsets or brasieres. The exaggeration of such devices makes the gendering or "feminisation" seem uniform and even militant, in the same way as a soldier not only wears a uniform but also adopts a certain stance, walk and expression which eventually integrates with their body. The figures have seemingly been allocated a gender through garments. Yet, the inconsistent outline of the figures also influences the gendering of the body. In these paintings, it is done from the outside: Applied, worn and bound around the body. And yet that isn't enough to claim that these figures possess one clearly distinguished gender or identity, nor where it is to be found.

Second Skin

The artist's drawings and sketches have a much more diagrammatic nature than her paintings do but their content is clearly associated; the drawings come across as way less static and monumental, the fine line-work suggestive of movement and ephemerality. One such page from Ramberg's notebook is particularly striking, it has a range of small drawings on it, all rather unnerving: A repetitive series of torsos posited within individual frames seem to wiggle and contort to create different types of folds in the fabric they're wrapped in.

As such, these form a methodical study of wrapped fabric's resulting textures. There is a strange and sudden shift from sketch to sketch, as the fabric enveloping the headless torso is touched by a hand coming from outside the frame. At times, it seems the hand belongs to the same body as the torso yet, at other times, it appears more as an outsider's hand reaching in; lifting away the fabric to touch the skin beneath. The wrapped body here seems restrained by the frame that sharply cuts off its head and arms like a body splayed on an examination table or cropped on an X-Ray print. It is further restrained by the fabric that tightly envelopes different parts of its torso. Perhaps because such wrapping is associated with protection and covering, the presence of the hand and the baring of the skin



Uncovered

The stripping and baring of Rambo was what was at first understood to be both unnerving and alluring, just as X-ray technology was invented and imagery of X-ray anatomy for the first time. X-ray technology greatly informed the field of anatomy and anatomical standings of the body were radically altered. The technology would later find a customary part of airport security for travellers, concerning their rights to be scrutinised, some travellers even shield their genitals, shielding off prying eyes. This replaces the use of the X-ray "Backscatter" technology with an alternative camera-based image of a generic body outline, which is used for scanning and other covers but stops at the surface along the bodily outline.

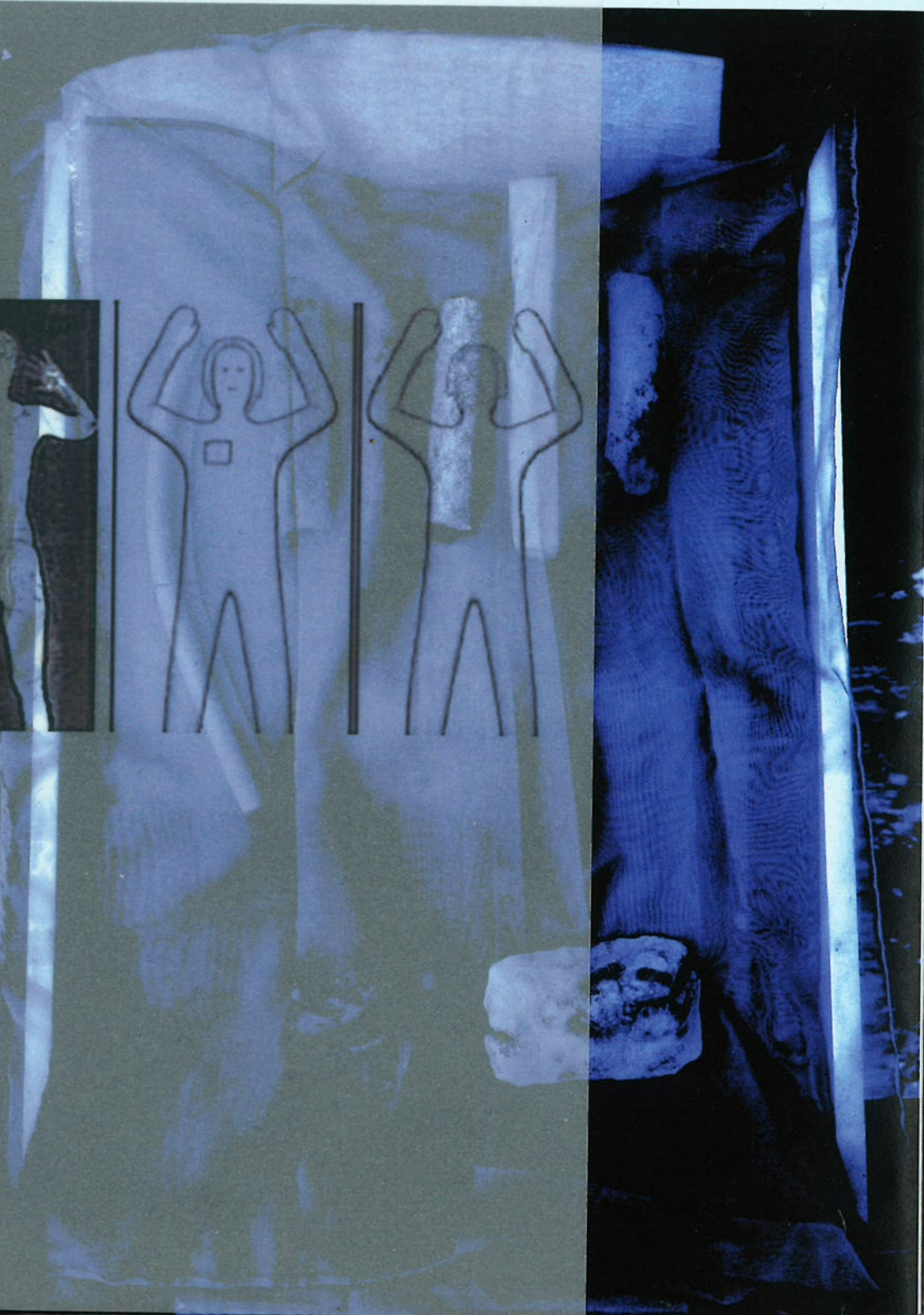
These procedures involve no physical contact. The picture created belongs to no-one and is not meant to feel intrusive because the public has been conditioned to accept it.

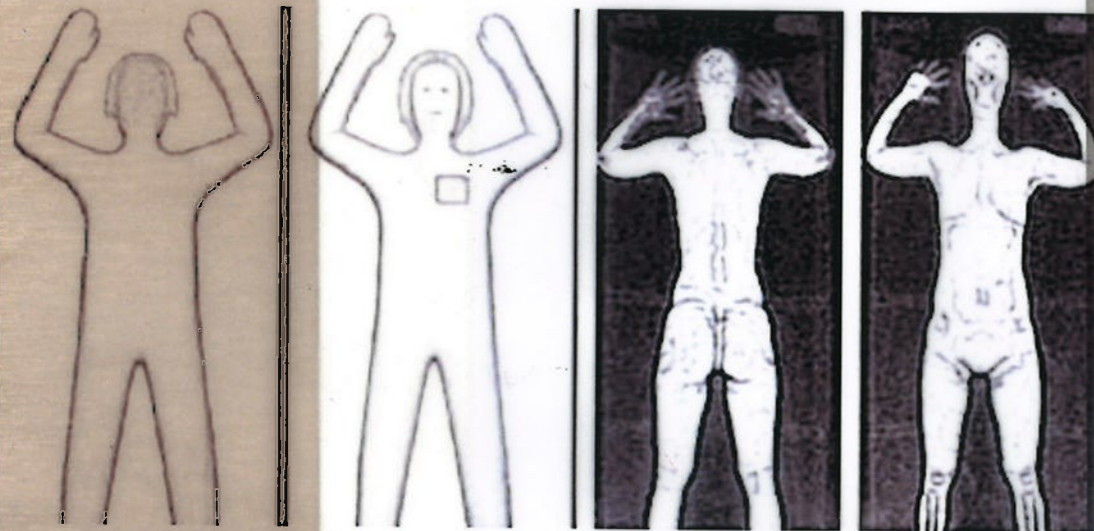
Images of the body are also used in advertising, such as the "Backscatter" technology used in airport security. The technology is a form of X-ray that creates a generic body outline, which is used for scanning and other covers but stops at the surface along the bodily outline. This technology is a form of X-ray that creates a generic body outline, which is used for scanning and other covers but stops at the surface along the bodily outline.

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Own body

Reactions to the invention of the X-ray were mixed. Some people were concerned about the exposure to radiation, while others were fascinated by the ability to see inside the body. The technology was used in medicine to diagnose and treat various conditions. Over time, the technology has become an essential part of modern medicine. The technology is a form of X-ray that creates a generic body outline, which is used for scanning and other covers but stops at the surface along the bodily outline.





Uncovered

The stripping and baring of Ramberg's figures offers a form of transparency, a peek inside what was at first understood to be the body's interior. Such an opened up body can be both unnerving and alluring, just as it caused great shock and excitement when the X-ray was invented and imagery of X-rayed bodies and their skeletal insides were displayed for the first time. X-ray technology was first discovered by Wilhelm C. Röntgen in 1895. It greatly informed the field of anatomic research and as a consequence, established understandings of the body were radically changed. The phenomenology of Ponty grounds itself. The technology would later find additional uses, outside the medical realm, and becomes a customary part of airport security controls. This was met with critique and opposition by travellers, concerning their right to individual privacy. Refusing to have their bodily images scrutinised, some travellers even wore specially designed protective underwear to cover their genitals, shielding off prying eyes. Such concerns caused US airports to eventually replace the use of the X-ray "Backscatter" technology that rendered the body naked in clear detail with an alternative called Millimetre scanners. These scanners only generate an image of a generic body outline on the monitor. In both cases, the scan goes through clothing and other covers but stops at skin level, so any irregularities would have to be detected along the bodily outline.²

These procedures involve no physical touch but manifest as a scrutinising gaze. The depiction created belongs to no-one, yet it has been taken of the scanned subject. This can feel intrusive because the public body is a clothed body and the right to decide when to be naked, and toward whom, seems a basic right. Besides from the problem of where the imagery ends up and who gets to see and keep it, letting the machinic gaze peer through the clothed body is, arguably, already an intrusive act. X-ray and scanning technology is powerful in manifesting a factual, juridical and medical truth. Having an X-ray read by a doctor leads to a diagnosis or a statement about one's physical health. The interpretation of such imagery can be a powerful means to determine a person's reality. Therefore, it is also important to realise how this information always appears through a certain form of display, such as a screen or a transparent sheet on an illuminated background. The image of the penetrated body is a mediated one. It comes in a specific form with the aesthetic qualities inherent to its technology. The more such imagery becomes customary and increasingly commodified as an image, the less confronting it is as a felt bodily truth, specifically connected to the personal body. Studying the body from outside to in, either visually with the X-ray, or physically in the bodily openings and slits of Ramberg's figures, is intrusive and estranging. In the case of the X-ray, rendering the body transparent indeed changes the spatial paradigm; it creates more spaces, reveal that they exist. It makes bodies assailable to a scrutinising interpretation and suspicion under a judgmental gaze.

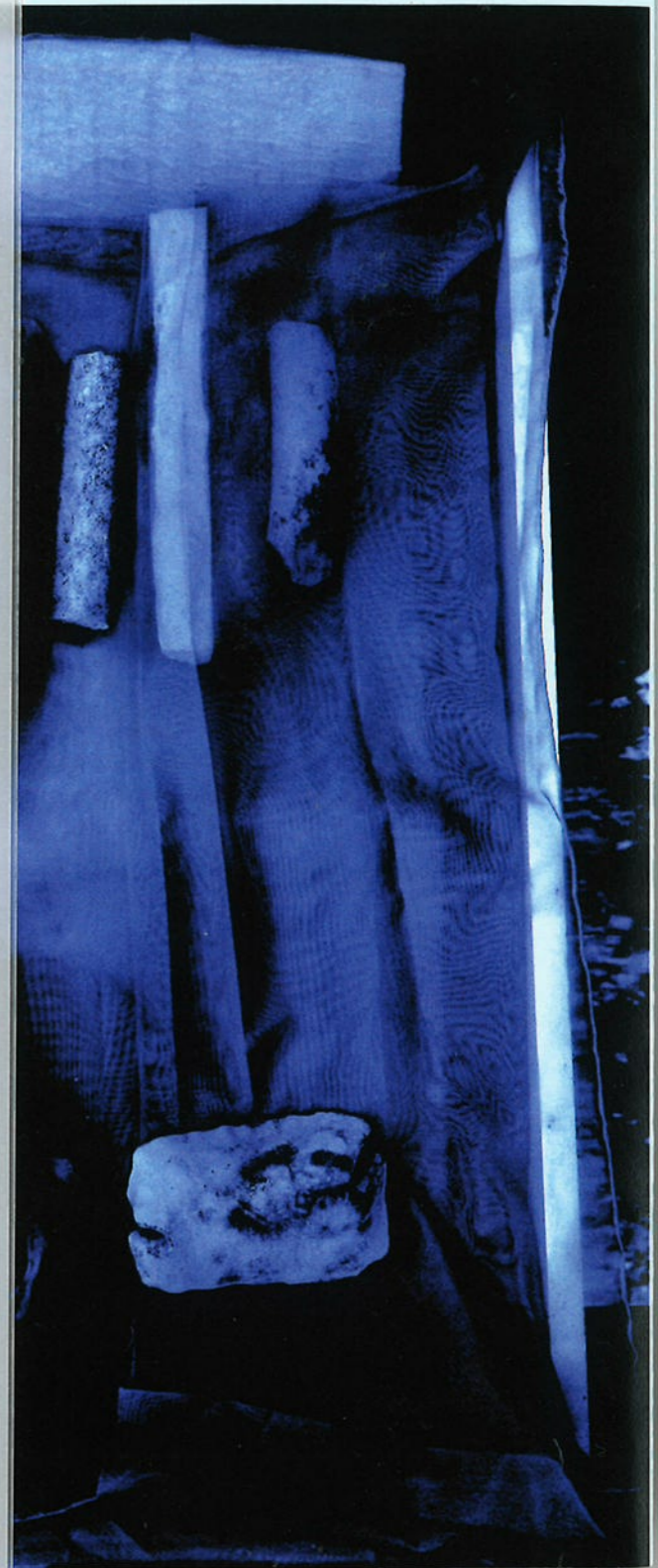
The scan on the one hand reads through the body, accessing truths otherwise hidden. On the other hand, it creates a new realm of understanding where scientific truths and confirmed suspicions are deemed superior to subjective sensations, feelings and utterances.

Own body

Judith Butler renders the body exposed, by means of its surface, to all possible affective experiences. Reactions to the invention of the X-ray and implementation of body scanners show an insistence upon the existence of boundaries; surfaces must constitute boundaries that barricade and shield off the outside. This suggests an urge for control and ownership over one's physical body and reveals the difficulty of conceptualising its boundary.

Peering below the surface through this technological window is perhaps shocking exactly because it confronts us with how unfamiliar the bodily interior appears to us. X-raying offers a glimpse of a mesmerising parallel world but also signifies a loss of control and connection between body and self. It is a deeply captivating sight, yet looking at an X-ray rendition doesn't necessarily entail the ability to understand one's own bodily interior and fully grasp this depiction as embodiment hereof. The experience of disassociation from one's own interior is laid out in the philosophy of Merleau-Ponty (1908-1961) within the term Viscerality, a term that talks about the bodily interior as a different level than the body's sensing and visible surface.

Philosopher Drew Leder has written various essays about this slightly hidden aspect of Ponty's phenomenology, expanding upon the thinking laid out in the *Phenomenology of Perception*, he writes:



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Social Surface

The private and intimate relation to one's own body is in a sense constitutive to the body
as a public and political presence; it is the prerequisite for determining a boundary toward
the world and others.

*'The boundary of who I am is the boundary of the body, but the boundary of the body
never fully belongs to me... the fact that one's body is never fully one's own, bounded
and self-referential, is the condition of passionate encounter, of desire, of longing, and of
those modes of address and addressability upon which the feeling of aliveness depends.
But the entire world of unwilling contact also follows from the fact that the body finds its
survivability in social space and time; and this exposure or dispossession is precisely what
is exploited in the case of unwilling coercion, constraint, physical injury, violence.'* ⁴

Philosopher Judith Butler renders the body exposed, by means of its surface, to all possible
feelings and affective experiences. The body is a meeting point between the individual be-
ing and the external world. This condition implies that the body as much as it is one's own
and should (ideally) come with a set of rights, it is also exposed to so many factors beyond
the subject's control.

Rendering the body exposed and open means it's vulnerable but it doesn't mean the body
is without agency or control. Vulnerability rather underscores the perhaps banal but often
neglected fact that we exist as bodies among other bodies that we constantly react to and
depend upon and, of course, stem from. Recognising that in our exposure we are endan-
gered by - and dependant upon - others, is the very prerequisite for living among other
things and beings (the only possible way to live).

So the exposed body is a social body. It is posited in a contracted relationship, bound up
in dependence with its surroundings as well as with other bodies and the challenges, forces
and aids, it is exposed to. Butler introduced the term Injurability in relation to the exposed
state of the body. It is to be understood more physically than vulnerability, where vulnera-
bility encompasses myriad ways we are affected and shaped through our lives, injurability
has to do with the risk of bodily injury - and the use of the term also implies an awareness

Uncovered
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agents nor objects of sensibility. (...) Like the visible, the Visceral cannot be properly said
to belong to the subject: It is a power that traverses me, granting me life in ways I have
never fully willed nor understood'.³
In this reading of Viscerality, the Visceral - the inner world beneath the skin - is understood
as the foundation for the very existence of the living body and thereby for the sensory
capacities that enable us to perceive the world. The phenomenology of Ponty grounds itself
in how, through perception, we understand and navigate in the world. The paradox seems
that grasping one's own interior - Visceral world - will have to be done from outside and
inwards. The very prerequisite of embodied existence, the functioning of organs, intestines,
skeletal structure and bloodstream, appears to us as an unknown layer to be discovered -
gradually uncovered - rather than as a defining and essential core of the self.
That Viscerality is different from the bodily surface, is not to say that it is experienced as
completely separate from it - there are of course signals and sensations deriving from the
inner organism which are distinctly felt as internal. Perhaps the familiarity of the exterior
surface body largely has to do with the feeling of ability and control ascribed to it. Carry-
ing out a movement with one's hand is for instance experienced as an intention based ac-
tion, whereas the liver's processing of blood into nutrition is done by the body itself without
any will or direct cognition initiating it.
Understanding the body from its inside renders it uncontrolled, unfixed and ungrasp-
able in nature. Perhaps fully grasping or "entering" into one's bodily interior will never
be achieved without causing estrangement from oneself. This interpretation of the body
doesn't resolve the sharp inside/outside distinction but rather lays out the experience of
it. Yet, based upon these reflections it can be said that the body is posited in an oscillation
between familiarity and estrangement. Following this understanding, the surface is the
part, the mode, of the body which is the most familiar - both as a recognisable form of
materiality and as that which we experience the world through. Therefore, the boundary of
the body, can be a point of tension and conflict. The public and the private body start - and
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...this sensibility / sentient surface cannot be equated with the body as a whole. It rests upon

of this risk.
This term will become relevant in the following examples of artefacts that move uneasily on
a spectrum of aiding and violating the body, both protecting it and destroying it. As their
histories and implications are unwrapped, different renderings of the body are revealed.

programme - Master Interior Architecture:
for Alex Augusto Suárez and to the tutors
and in writing my thesis: Golnar Abbasi,
Thank you for your engagement and many

with the MIARD research award has made it
materialise the thesis into this form.
Marnix for your readings, inspiration and

Wrapping as Isolation

The exposed and injurable body lies at the core of the urge to render oneself sealed and closed off. The body as a singular unit that has - or through aids acquires - the ability to shield itself off from contact and exposure.

Is it possible to claim a fixed sphere around one's body, an articulated boundary? Joseph Beuys's work *Filzanzug* (1970) seems to speak of this.

Renowned German artist Joseph Beuys (1921-86) used wool felt extensively in his sculptures and installations throughout his artistic practice. He was initially inspired by the ideas of Rudolph Steiner (1861-1925), especially Steiner's ideas concerning a unification of the social, economic, spiritual and artistic. The intertwining of these elements would come to play a key role in Beuys's practice.⁵ Readings of his work have likewise allowed for an overlapping of material, spiritual and political interpretations. Beuys sought to create a myth around himself as an artist. This involved a tale (later to be disproven) of crashing his plane in Crimea, when he was serving during the Second World War and was rescued by indigenous Tartar people, who wrapped him in felt and fat to keep him warm.⁶

Felt, a dense material that isn't usually typically used for larger garments, is thick and has a damping quality. It is very mouldable and has historically been used for especially hats, socks and shoes. It also holds water well and is excellent for heat preservation. It is one of the oldest fabrics developed, dating back to at least 2500 BC, found in crafts and clothing from several ancient cultures.⁷ The use of felt in *Filzanzug* can be read as referential and metaphorical. At the same time, this specific materiality is what makes the piece very sensuous, challenging the standardised image and functional role of a suit. Looking at the felt suit instills a bodily relation, a sensing and projecting of one's own body into the inside space of it, evoking its tactility against the skin and the warmth its enclosure would induce. Beuys spoke of *Filzanzug* as an image of the contemporaneous isolation of the individual, an image that becomes manifold within the insulating material quality of the suit itself:

'[O]n one hand [the Felt Suit] is a house, a cave insulating the person from everything else. On the other hand, it is a symbol of the isolation of the person in our time'.⁸

Joseph Beuys's word play with the similar terms insulation and isolation capture exactly what is so fascinating about this work. In its capacity of insulating, the suit can create a shielding, warming and protective sphere around the body - both wrapping and covering it, while the isolation it represents speaks of the urge to see the body as a defined, unified entity. *Filzanzug* then amplifies a quality already inherent to the image of a suit as such, that of enclosure and secluded anonymity - the human body as its own contained world.

A suit is one of the most authoritative garments one can wear, it is particularly (although not exclusively) associated with the male body and with a certain social position. It is a look mostly fashioned for the sake of the outside world - to look the part, look representable. In a way, wearing a suit is almost the closest one can come to not being seen as a body but solely be seen in the capacity of one's profession or social standing. A suit allows the body to be read at surface level; the gaze bounces off it without questioning what lies beneath it. In that sense, a suit made from felt seems contradictory. Why would it be necessary to shield the suited body, a body that supposedly possesses privilege, control and authority? Is it a matter of cushioning and introducing comfort into the design of an otherwise rigid garment? Comfort etymologically stems from the latin *fortis*, meaning strength. *Fortis* is also the root of fortifying - strengthening and protecting against attack.⁹ Considering the comfort offered by this suit, there is a lot more at stake than the soft and pleasing sensation of felt against the skin.

Somebody's Body: the Body of Beuys

The fabricated myth of Beuys's rescuing with felt and fat served to position felt in his practice as a healing material with a spiritual potential, introducing an approach to art and to the qualities assigned to materiality which wildly differentiated from the rationale of the modernist art scene he sought to enter. Beuys's enigmatic practice was radical in its performative qualities and is both praised and problematised by critics. Returning to the fabricated myth of his rescuing, a fact remains that Beuys did serve in the war for allied Germany, as a radio operator and later on, as a rear gunner. At that time he was then indeed involved in a planecrash that injured him severely.¹⁰

What if, with this knowledge in mind, rather than focusing on the shaman or the healer, we look at Joseph Beuys as an example of the soldier - someone who embodies a materially

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intimate relationship with military life?

From the very beginning of his artistic endeavours, he had a specific relationship to felt, as his long time amanuensis Caroline Tisdall writes:

*'Beuys developed the idea of the self as icon (...) the artist's own body and persona as a vehicle of expression. The familiar elements of the icon all had functional origin and were then refined into style: a felt hat because the metal plates used to repair his damaged skull needed insulating from the chill pain of cold.'*¹¹

Felt becomes intimately connected to Beuys's own body in its particularity, a trademark at surface level but with the very specific function of protecting his hidden injury beneath. The felt suit, in a similar manner as the hat, comes off as a marker of Beuys as person and as a kind of relic or testimony to him. There are myriad sculptures of his that use felt and speak of the body, but the suit is particularly interesting in regards to bodily rendering. It might not have been the intention but the suit seems to directly address and portray how part of Beuys's identity was deeply grounded in Western identity, as much as he aspired to become a spiritual and shamanistic persona, elevated above national and cultural specification.

The felt suit renders the body vulnerable and in need of cover, protection and comfort. It is the suit for the body of a German war veteran who encompasses many complex notions all at once. Beuys is both a perpetrator and a victim of the war, an authority and a rebel who can be considered rigid as well as spiritual. His body is a site where conflicting notions play out, the suit renders his body in need of protection but it also lends him an exterior that enables him to enact these different qualities.

Looking at the specific physicality of this man - his background as a soldier, his skull injured and repaired by metal plates - a strange and particular bodily intimacy is evoked in regards to not only nature, archeology and art but also to the standardised, industrialised, uniform and militarised objects that surround the soldier's body. These objects and devices would have an emphasis on shielding and sheltering, since the body in war is generally in a highly exposed state. In this state, it is likely that an intimacy and specific attention toward the sparse elements that surround and avail the soldier occurs. These elements - boots, uniform and various protective gear but also blanket and first aid equipment - come together to form a realm around the body serving as its shelter, lending it a sense of protection and comfort.

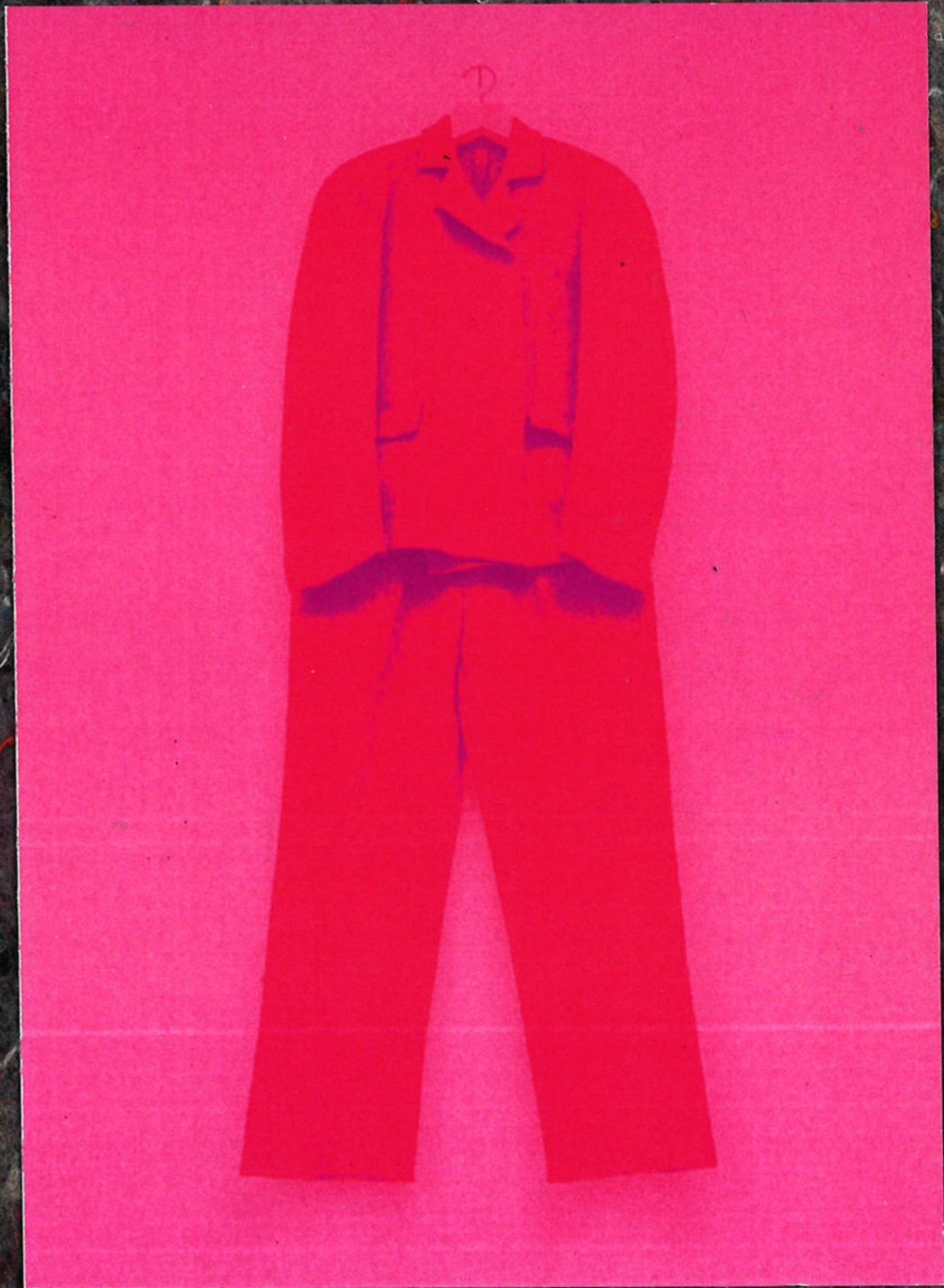
Comfort is an interesting notion because it encompasses a wide range of intensities. In the most mild sense, it would signify ease; a comfortable couch which is soft and allows the sitter to lean back or the extra comfort provided by travelling 1st class. Such examples suggest a state of relaxation and wellbeing one can enter into. A more intense meaning of comfort is in the understanding of relief, lessening the pain of something in order to endure pain. If artefacts and designs have the power to comfort, avail and assist in the most severe situations, could they also have the power to do the opposite? the belief in the power of design seems to bring about an increasingly more complex understanding of the tools, artefacts and objects as either vital or potentially dangerous for the human body.

*'...what could it mean that at some point in the mid-twentieth century, designers of all kinds, and especially architects, began to take it for granted that the basic assumption with which one begins designing a book, a chair, or a building - is that we not experience the potential to cause pain that could be inherent in the object as such?'*¹² writer John Harwood speculates in his essay: *The Interface: Ergonomics and the Aesthetics of Survival*. How do these assumptions about comfort, pain and the role of design render the body? In the following examples, it seems the body is considered neutral and constant; strong and steady but with an inherent risk of injury - like any machine.



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Revised splint showing limbs secured by bandages wrapped through slots



Repair and Calculated Damage

"When war was declared in December 1941, the question for all creative people was bombs or bandages(...) Bandages was the Eameses's choice."¹³ Says design expert and researcher Daniel Ostroff. With what seems quite a pragmatic outset, during World War II, designers ventured into designing various aides for warfare. One such is the leg splint, designed for first aid use in the battlefield where injured soldiers might be in urgent need of leg support. Splint used to be made from metal but that was too heavy and would in some cases harm the wounded further or block their blood circulation. The Eames designers - married couple Charles Eames (1907-1978) and Ray Eames (1912-1988) developed a favourable solution to this, in the form of a pressed "Plyformed wood" leg splint. The idea came to them through a friend of the couple, who happened to be a military doctor and could describe to them the problems involved in first aid of wounded soldiers. The Plyforming technique enabled them to mould wood plies into almost any shape by layering thin sheets of veneer with glue and putting these under heat and pressure around a mould. They developed prototypes in their apartment as small scale mechanisms to experiment with. They'd only used the technique once before, making furniture for a competition, so the prototype for the splint was one of their earliest designs. It would also be their first design to get mass produced, developed and fine tuned in close collaboration with the US military in 1942.¹⁴ It was the discovery of this very manufacturing technique that would later propel the design of the infamous Eames chairs in the very same Plyformed wood, decorating homes and offices stylishly from the mid 1940's. Leftover parts of the splints were even reused for creating various interior design elements and toys for children. Charles Eames's own leg was used to create the mould, adding to the artefact's latent uncanniness.¹⁵

The splint indeed seems to speak of a bodily presence, both as a potential for use and as a remnant of someone's silhouette and form. However, the ghostly quality has just as much to do with the inherent threat that a soldier would end up needing the splint - its mass produced presence carried with it a gloomy prospect.

The ensuing Eames design chairs would appear to signify a search for comfort in the meaning of rest and leisure. However, as the prospects of streamlining workers' performances for profit grew, designers' approaches to war, work and leisure seemed to increasingly blend. The image of the worker had become comparable to the image of the soldier: He, or she, needed to be equipped, protected and given a clear overview within a defined set of spatial relations. By calculating strain and easing the physical and mental burden of the worker, his or her capacity and performance could be extended and pushed to produce maximum gain.

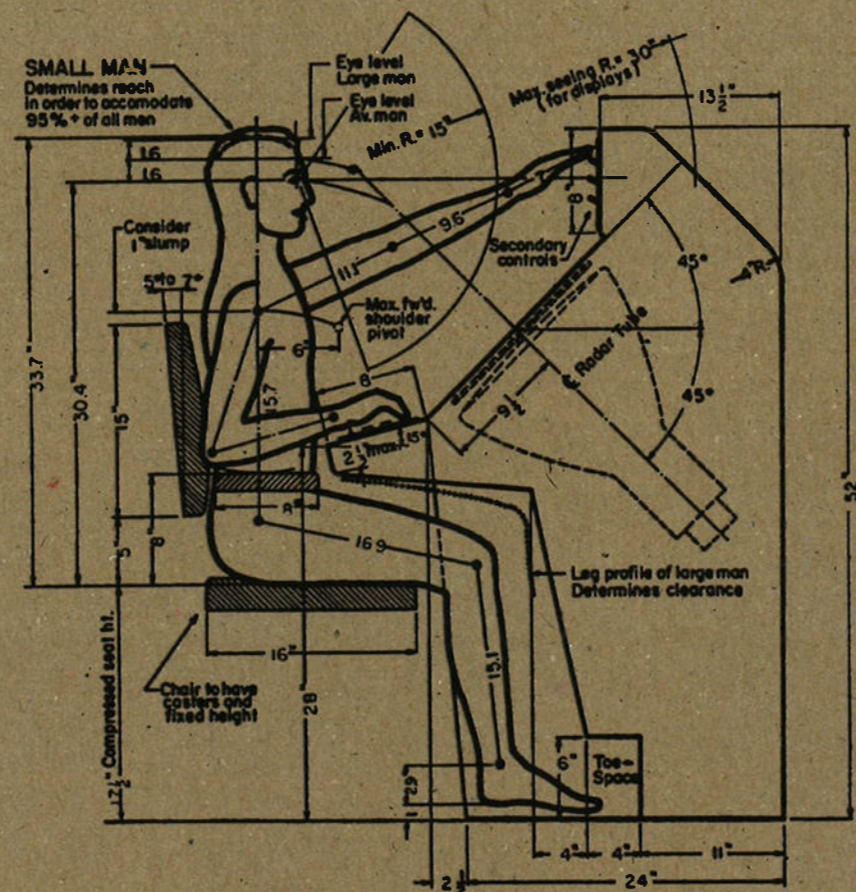
The soldier and worker were both kept in a state of heightened comfort, the smoothness of their machine interactions simultaneously forged and concealed the intensification of their performance. A process which was calculatingly aided by the designs and materialities of the work space. The Eameses' practice in many ways encapsulates attitudes that prevailed within design at the time. The emphasis of their design was on comfort for the soldier, the worker and within the domestic environment. The leg splint is an example of a well designed, frictionless and smooth object that seamlessly envelopes the leg and is convenient to bring on the go; stack up in trucks and transport to the battlefield. It is a design based on an understanding of comfort as a strengthening and repairing state: making the body ready for use again.

Spheres Around the Body

Covering, wrapping and shielding of the body are universal gestures that don't relate to one specific culture or history. The form these gestures take, their materiality and design do, however, have very specific cultural and political implications. When the body is rendered exposed and injurable, design comes to the rescue by providing protection in a tangible form.

During World War Two, a new science emerged in America. It was termed *Ergonomics* and it was all about the body/object relation, or rather, the relation between the worker's body and the machinery and devices the worker interacted with, in order to complete given tasks. At the time when this science was founded, design was already extremely advanced and intricate in terms of conceptualisation and application for almost any thinkable purpose. This decisive change was caused by industrialisation, mass production and thereby a





APPLICATION OF THE HUMAN FIGURE TO A CONTROL CONSOLE FOR THE BELL TELEPHONE LABORATORIES, INC.

new focus on the infrastructure of production and coordination of a large number of workers, operating highly specific tasks. From its onset, Ergonomic design was preoccupied with work and the body of the worker.¹⁶ A simultaneous fascination, optimism and fear of new technologies had defined the political and cultural climate since industrialisation, theorists and designers speculated and attempted to give direction to the implementation of these technologies into people's lives and especially into workplaces. Although machines, factories and various technologies had immense prospects for efficiency, there was an awareness that these might not harmonically fit together with the way humans worked and what they were able to handle. The wartime climate appears to have given rise to a lurking feeling of danger as well as an urge to protect and strengthen those in the battlefield - exemplified by the Eames leg splint. The military design strategy already expects the soldier to become wounded and provides comforting aid for the purpose. When it comes to the worker, the comfort provided serves to create a sense of ease, lightening his burden so the strain and use of his body happens gradually. In both cases, the durability of the body is of concern, adapting the design around the body to the span of its endurance - squeezing a short and forceful performance or a long and consistent stretch out of the body's capacity. In predominant design theory from this period formulated by German architect Ernst Neufert (1900-1986) and the American designer Henry Dreyfuss (1904-1972), the human figure is constantly portrayed as a sharply demarcated figure navigating in a complex set of relations.¹⁷ Design's task was to make the set of relations manageable and to keep the human figure in check, in order to minimise any risks and hazards but also, importantly, to keep the worker in calculated vicinity of the elements needed to carry out their work as efficiently as possible.

'Sound bombards Joe and Josephine from all directions. (...) the rise of industry has brought the thunder of rivet guns, the clanging and roar of traffic, and the screaming of tires rounding a curve or stopping abruptly. Painful sound registers 130 decibels, thunder 120, the average auto 70, normal conversation 60, but even a whisper registers 25. Clearly there is no complete escape.'¹⁸ As Dreyfuss writes in 1955 book titled *Designing for People*, there is no escape from the overwhelmingly rough factory floor or loud traffic outside. His overall language as he introduces the anthropomorphic line drawings Joe and Josephine has a jovial and warm tone, but the underlying threat posed by mass production cements the coercion entailed in the production process. In the above example, the worker's environment is portrayed with the same intensity as a battlefield.

Returning for a moment to wool felt as an example of the search for protection, there's a parallel to Beuys' service in the war with German forces and a "renaissance" of felt production in their adversary's country, Allied America. As a precaution, the industry reacted to the imminent threat of war that would likely result in shortage of various important materials by finding replacements and alternatives. The many qualities of felt were used and refined for production means and for a lot of military purposes. Felt came to clad the interior of a soldier's helmet as well as it helped reduce vibrations in the factory environment, making the worker's environment more comfortable.

'Felt is now rendering service in thousands of recently discovered ways (...) It becomes cushioning for gun-turret mounts, insulation against vibration in fighting planes and tanks, and gaskets for gas-masks. In desert fighting felt keeps fine sand out of airplane engines. (...) Recently, United States Army research in arctic Alaska, as well as civilian experiment, revealed once more the meritorious properties of wool felt for keeping troops warm.'¹⁹ Writes reporter Worth Colwell in an article from 1943.

Mass Renderings

An important aspect of both the Felt Suit and the Leg Splint is that they're not unique items. Mass production was inherent to the idea of the Leg Splint from its very conception that smoothly developed into a collaboration with the U.S. Navy. *Filzanzug* however, has till this point only been mentioned as a singular and personalised representation of Joseph Beuys himself. But the work is in fact one of Beuys's *Multiples* works, it exists in one hundred identical versions, owned by different institutions, collectors and galleries.²⁰ *Multiples* was an approach to making art which Joseph Beuys and many of his contemporaries practised. It has a wealth of implications for the art world and in determining the artwork's value. Making multiples can be considered opportunistic and capitalist, radical or democratic, depending on the context and which reading is given ground. If we stay with the

idea of the suit as an echo of Beuys's body, the body of a soldier, these one hundred suits come to form an entire army. A body of work that infiltrates several spaces at the same time. In regards to the question of bodily rendering, the army of suits is interesting as a non-hierarchical body of sameness and perhaps a kind of solidarity - being of the same origin. The "mass production" of the work enacts the same complexity that's at stake in mass-produced design from the Second World War period: the body seeks protection by means of the very technologies and materialities that threaten and harm it. War keeps the production going. The worker produces comfort for the soldier and the soldier destroys and is destroyed, when possible repaired and if not - replaced. The mass rendering of the body in the Eameses' splint or Beuys's Felt Suit enacts how the body is bound-up with this process.

Unbounded

Looking at Christina Ramberg's work opens up possibilities to explore the body as non-fixed form. It enables a language that renders the body in its complexities and contradictions, intertwining the body as sensing subject and an object of scrutiny. A rendering which allows for imaginative contemplations of what the body is and what it could become. The boundaries of her painted bodies are sometimes hard, sometimes blurry, simultaneous views of inside and outside gets enabled through such rendering. The body gets problematised and celebrated, wrapped and unwrapped, rendered physically bound but unbounded in its potential and ability to continually negotiate its own extent.

As examples have shown, locating the boundary of the body has consequences for bodily freedom in a physical, political, philosophical and social sense. Addressing design and interior architecture through this lens is relevant because as each example has shown, design makes an assumption of where the body's boundary is located. Even when designers carefully study and consider the human body and its needs, it entails a determining of this boundary and eventually also places the boundary that determines and defines the body and its space. Those who possess the technology, and power, to look inside the body have access to a form of truth. But perhaps the social surface of the body is where its truth is located and bodily freedom is to be found. The surface is where degrees of exposure play out and contact is able to take place. The boundary of the body has the ability to move and mutate depending on the type of encounter it is exposed to.

The tighter the body is wrapped, covered and bound, the more these appendages tend to assume the role of a prosthetic extension of bodily capacity.

The designs that surround the body will affect, fix and control it but the body in the process of integrating and merging with them might in turn take them over.

The body has already migrated, its surface has moved, it has become unbounded by means of the very tools and gestures that were meant to surround and protect it.

Throughout this exploration, and by means of various aids and technologies, a manoeuvre has been carried out, a gradual zooming out beginning from inside the body, looking through its surface and laying around it skin tightly, moving outwards, travelling past clothing and away from the body into the realm of object relations. If this zooming out would continue, we would arrive at architecture - at rooms that envelop, shelter and contain.



DESIGNING FOR PEOPLE

ceivable part of the body; we are familiar with the amount of pressure the average foot can comfortably exert on a pedal; we know how hard a hand can effectively squeeze; the reach of an arm—for we must know how far buttons and levers can be placed away from the central controls of a machine; size of earphones, telephone operators' headsets, helmets for the armed services, binoculars—all are determined by our information on head sizes. From these facts we arrived at this maxim—the most efficient machine is the one that is built around a person.

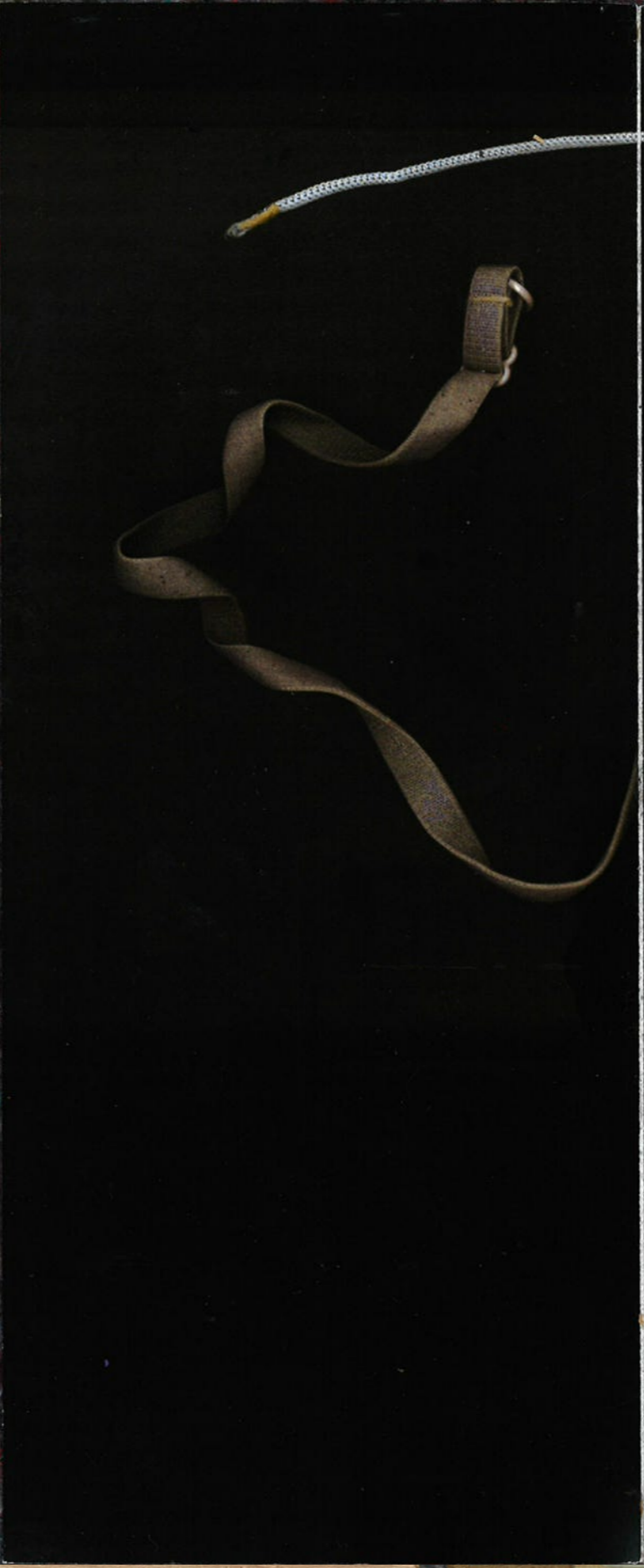
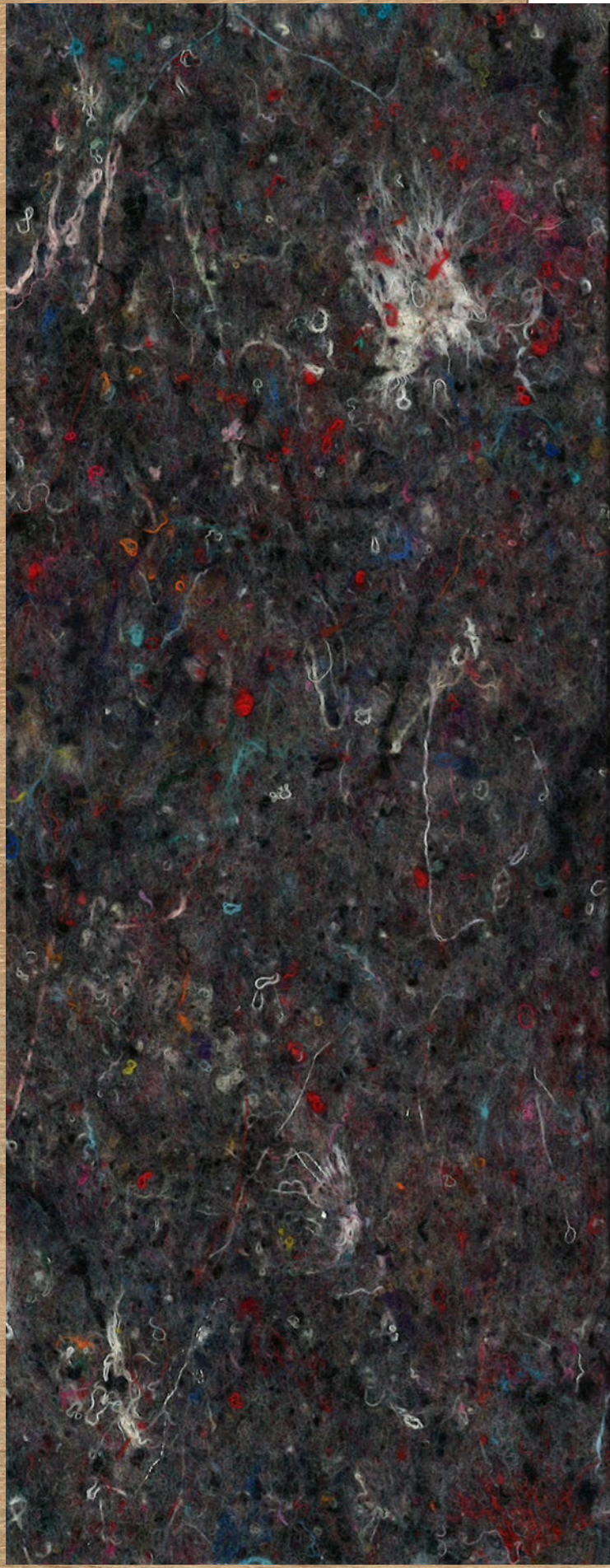
CONSIDER the problem furnished by Josephine doing her weekly ironing. She will spend several hours at the ironing board and unless the iron is "right" she may burn her hand or become excessively fatigued or strain parts of her body.

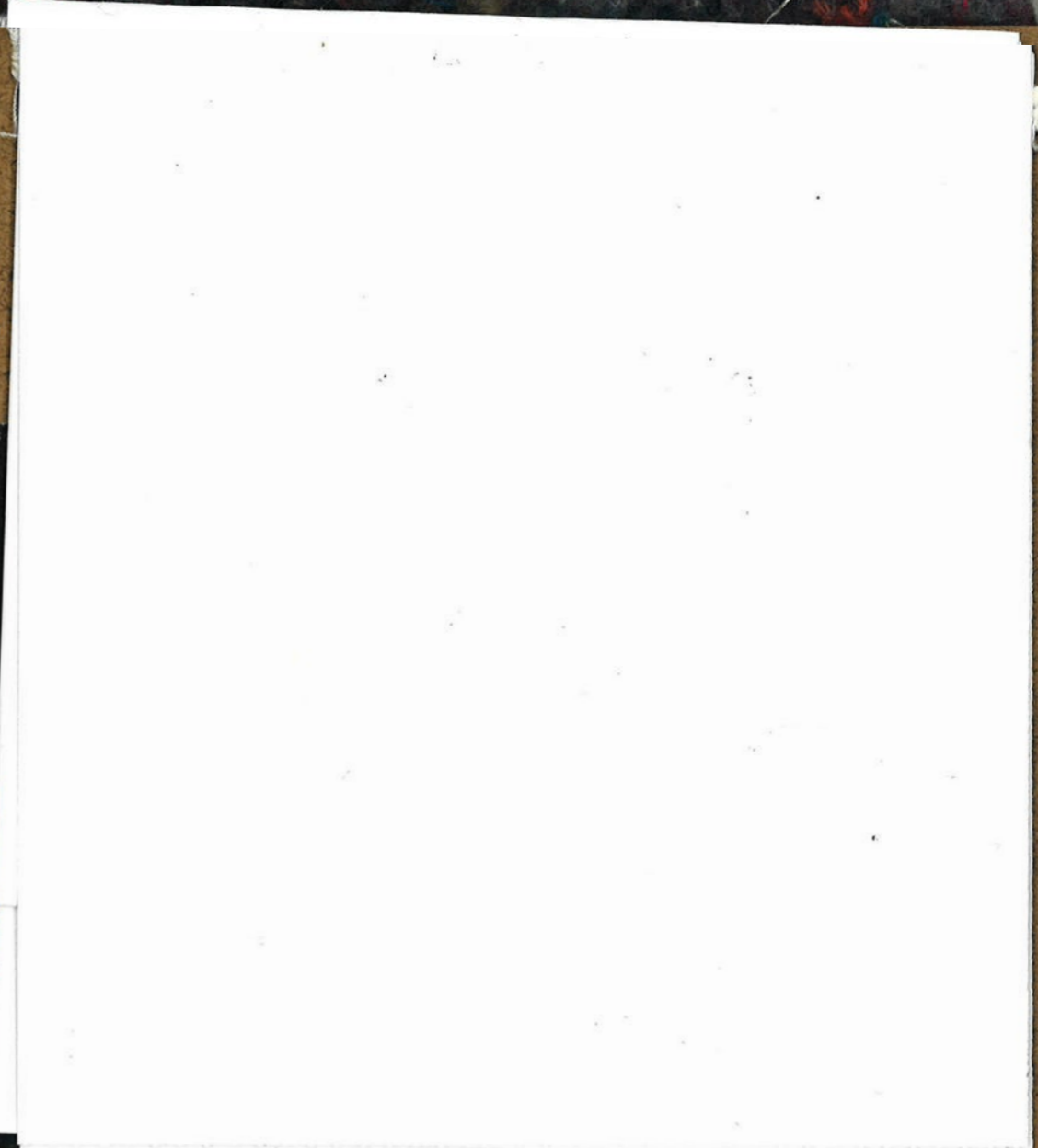
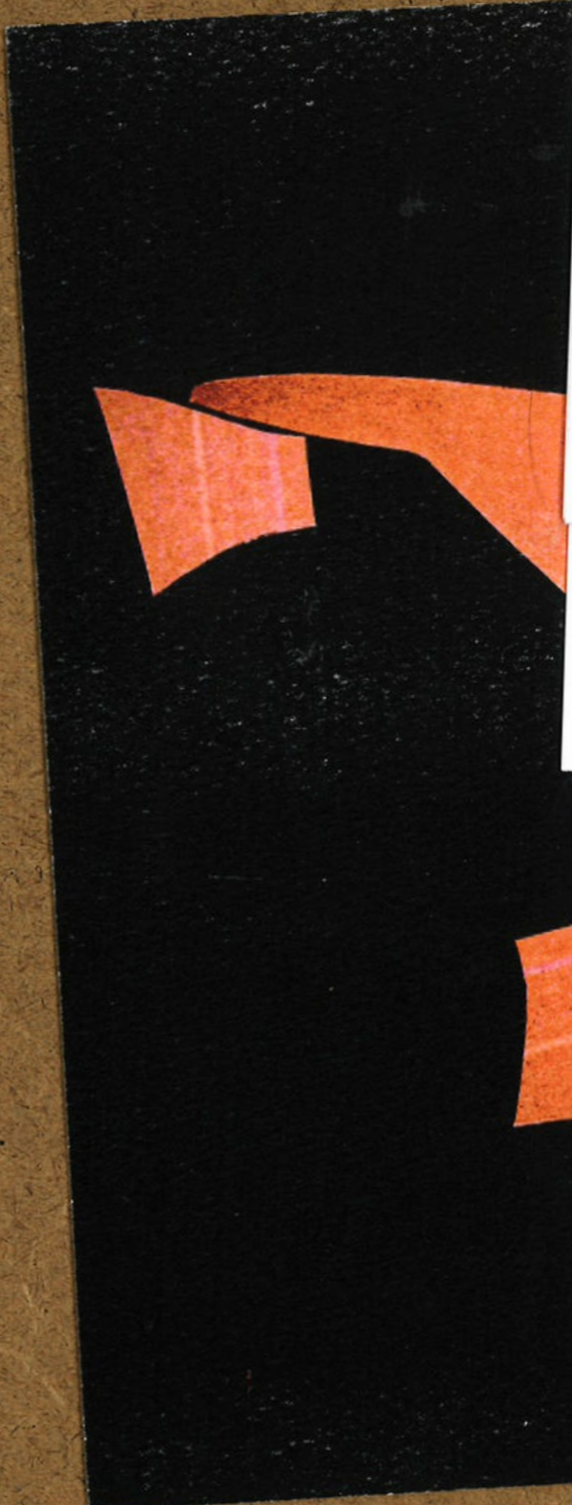


Before beginning our design, we contemplate the projected iron as an extension or an appendage of the arm. We accept the wrist as a flexible joint and the fingers and palm as a viselike grip that fastens to the handle. The idea is best conveyed by ignoring for the moment which is flesh and bone, which is plastic and metal, and considering the entire linkage as an integrated unit. With this in mind, we turn to our anthropometrical charts for Josephine's bodily dimensions. Furthermore, we know from talking to many housewives that the aches and pains from a hard day over a hot iron are not always in the hand and arm but in the neck, shoulders and back. We determine the amount of heat a hand can comfortably take and develop a design so that the hand is shielded by an insulating plastic. Verification comes from our consultant doctor. And so we set our sights

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- by Hedvig Koertz

A sincere thank you goes to the MIARD programme - Master Interior Architecture: Research + Design in Rotterdam. To director Alex Augusto Suárez and to the tutors who guided me in making my artistic work and in writing my thesis: Golnar Abbasi, Natasha Marie Llorens and Ephraim Joris. Thank you for your engagement and many insights!

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White, medium fine, 125 g / PART ONE

IMAGES:

Full body wrap Hydrotherapy treatment at the sanatorium Lebendige Kraft by dr. Maximilian Bircher-Brenner, Zurich. 1910. *X-ray Architecture* by Beatriz Colomina, Lars Muller Publishers, 2019, plate 40.

Ramberg, Christina *VERTICAL AMNESIA*, 1980, Acrylic on Masonite, 121,3x90,5 cm. Collection of the Madison Museum of Contemporary Art, <https://www.mmoca.org/artist/christina-ramberg> Accessed 12 February 2021.

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Transparent, 90 g / PART TWO

IMAGES:

X-Ray Backscatter body scan versus Millimetre radiation body scan. N.d. photograph. "TSA to remove X-ray naked-image scanners." *San Francisco Chronicle* 19 January 2013, pp. 7. Pressreader. Web 2. April 2020, www.pressreader-com.ezproxy.hro.nl/usa/san-francisco-chronicle/20130119/

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Bandaged leg in Eames Leg Splint, 1941, N.d. Photograph.
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Charles and Ray Eames Walnut LCW Lounge chair ply-formed wood, 1946, 22x61.6x67.3 cm - sitting height 39.4 cm. N.d. Photograph, Wonderwood, Amsterdam.
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Various paper types APPENDAGES:

unshield, 2020, scan of sculpture, scale 1:1

Chest, 2019, distorted and scaled photograph of sculptural assemblage

Faulty print (Magenta) of Joseph Beuys Filzanzug, 2020.

Certainty stance, 2020, Analogue collage digitally edited - printed - scanned and reprinted, dimensions vary per edition.

All by Hedvig Koertz