Unfrozen – a Design Research Reader by the Swiss Design Network

Triest

p. 17
Ruth Baumeister
Aarhus School of Architecture,
Aarhus, Denmark
rb@aarch.dk
Post-war Avantgardes in Art
and Architecture

Baumeister R. (ed.). 2015. *What moves us?
Le Corbusier and Asger Jorn in Art and
Architecture*, Zurich: Scheidegger & Spiess.

Baumeister R. 2014. *L'architecture
sauvage. Asger Jorn's Critique and
Concept of Architecture.* Rotterdam:
NAI 010.

p. 37
Ludwig Zeller
Academy of Art and Design (FHNW),
Institute Visual Communication and
Experimental Design and Media Cultures,
Basel, Switzerland
ludwig.zeller@fhnw.ch
Speculative Aesthetics, Interaction Design,
Design Theory

Zeller L. 2017. "A Post-Naturalist Wunder-
kammer", in: *form* 273 (Sept/Oct):
pp. 70–76.

Zeller L. 2017. "It's getting different.
Participation and deliberation the 'society
of the accidental'", Stuttgart: Fraunhofer
Publishing.

p. 63
Grace Lees-Maffei
University of Hertfordshire, Hatfield, UK
g.lees-maffei@herts.ac.uk
Design History, Heritage, Cultural History

Fallan K., and Lees-Maffei G. (eds.). 2016.
*Designing Worlds: National Design
Histories in an Age of Globalization.* New
York: Berghahn. Open access at http://www.
berghahnbooks.com/title/FallanDesigning

Lees-Maffei G., and Huppatz, D.J.. 2017.
"A Gathering of Flowers: on Design Anthol-
ogies", in: *Design Journal*, vol 20, no. 4. DOI:
10.1080/14606925.2017.1323426

p. 83
Anna Calvera
University of Barcelona, Department of
Visual Art & Design, GRACMON Research
Unit (Design History), Barcelona, Spain
annacalvera@ub.edu
Design History, Design Aesthetics,
Graphic Design and Semiotics

Calvera A. (ed.). 2014: *La formació del
Sistema Disseny Barcelona (1914–2014)*
(Essays on local history). Barcelona: UBe.

Calvera A. 2017. "Nulla ethica sine
esthetica: Should aestheticism still be
stigmatized?", Thread in: *The Radical
Designist*, Vol 2, Issue 7 (Des. 2017), Lisbon:
IADE. Online at: http://unidcom.iade.pt/
radicaldesignist/nulla-ethica-sine-esthet-
ica-should-aestheticism-still-be-stigma-
tized/

p. 99
Minou Afzali
Bern University of the Arts HKB, Research
Unit Communication Design,
Bern, Zwitserland
minou.afzali@hkb.bfh.ch
Health Care Design, Material Culture,
Culture-specific Nursing Homes

Klingemann, H., Scheuermann, A., Laeder-
ach, K., Krueger, B., Schmutz, E., Stähli, S.,
Afzali, M., and Kern, V. 2015. "Public art and
public space – Waiting stress and waiting
pleasure", in: *Time & Society*, 2015, 0(0),
pp. 1–23.

Afzali, M. 2013. "Forschen mit den Alten
– Forschen über die Alten. Partizipative
Methoden in der Designforschung", in:
Hülsen-Esch, A. Seidler, M. and Tagsold,
C. (eds.). 2013. *Methoden der Alter(n)
sforschung. Disziplinäre Positionen und
transdisziplinäre Perspektiven.* Bielefeld:
transcript, pp. 225–240.

p. 115
Marie Lena Heidingsfelder
Fraunhofer Center for Responsible
Research and Innovation am IAO,
Berlin, Germany
marie-lena.heidingsfelder@iao.fraunhofer.de
Design Fiction; Responsible Research and
Innovation; Science Communication

Heidingsfelder, M., Kimpel, K., and Schraud-
ner, M. 2017. "New ways of thinking about
the future. Design fiction for public reflec-
tion to new and emerging technologies,"
in: *Iterations* 5, pp. 44–51.

Häußermann, J. J., and Heidingsfelder, M.
2017. "Offen, verantwortlich und verant-
wortlich offen," in: *TATuP Zeitschrift für
Technikfolgenabschätzung in Theorie und
Praxis*, 26(1–2), pp. 31–36.

p. 115
Martin Kim Luge
Raum für Zukunft
info@raum-fuer-zukunft.com
Transformative Methods, Design-driven
Innovation, Process Design

p. 115
Kora Kimpel
Berlin University of the Arts, Institute
of Time-based Media, Berlin, Germany
kkimpel@udk-berlin.de
Interface Design, Interaction Design,
Design Research

Kimpel K. 2016. "Design Prototyping for
Research Planning and Technological
Development," in: Gengnagel C., Stark R.,
and Nagy E. (eds). 01/2016. *Rethink! Proto-
typing*, 01/2016. pp 23–35;

Heidingsfelder, M. L., Kimpel, K. and
Schraudner, M. 2017. "Design Fiction for
public reflection," in: *Iterations* 5, pp. 44-51

p. 129
Joshua McVeigh-Schultz
University of Southern California,
Los Angeles, California, USA
University of California Santa Cruz,
Santa Cruz, California, USA
jrmcveig@gmail.com
Ritual, Speculative Design, Design Research

McVeigh-Schultz J., Kreminski M., Prasad
K., and Fisher S. forthc. "Immersive Design
Fiction: Using VR to Prototype Speculative
Interfaces and Interaction Rituals within a
Virtual Storyworld."

McVeigh-Schultz J., and Baym N. 2015.
"Thinking of You: Vernacular Affordance in
the Context of the Microsocial Relationship
App, Couple" in: *Social Media & Society* 1(2).

p. 143
Daniela Peukert
Leuphana University of Lüneburg,
Center for Methods, Lüneburg, Germany
daniela.peukert@leuphana.de
Designerly Knowledge Production, Trans-
disciplinarity, Sustainability Transformation

Peukert D., Vilsmaier U. forthc. "Entwurfs-
basierte Interventionen in der trans-
disziplinären Forschung,", in: M. Ukowitz,
R. Hübner (eds.) *Wege der Vermittlung
– Intervention – Partizipation*, Wiesbaden:
Springer

Peukert, D. 2017. "Co-creating transforma-
tive processes – a designerly approach," in:
*Proceedings of Transformations Confer-
ence 2017*, Dundee, pp. 22–23.

p. 143
Andrea Augsten
University of Wuppertal, Chair of Design
Theory, Wuppertal, Germany
mail@andreaaugsten.de
Design Management, Innovation strategy,
Human-centered Design

Augsten, A., Gekeler, M. 2017. "From a
master of crafts to a facilitator of inno-
vation. How the increasing importance
of creative collaboration requires new
ways of teaching design," in: *The Design
Journal*, 20:sup1, pp. 1058–1071. DOI:
10.1080/14606925.2017.1353049

Augsten, A., Gebhardt, V.K., and Maisch, B.
2016. "Change by Design? Organisational
learning barriers in the German Automotive
Industry," in: *Proceedings of 20th Aca-
demic Design Management Conference*
(ADMC16), Boston, pp. 1529–1545.

p. 151
Matina Kousidi
Politecnico di Milano, Department of Archi-
tecture and Urban Studies, Milano, Italy
stamatina.kousidi@polimi.it
History and Theory of Architecture;
Space and the Body; Building as Skin

Kousidi, S. 2017. "When Walls Became
Membranes. Le Corbusier, Siegfried
Ebeling, and the Concept of the breathing-
wall skin," in: Thorne, M. and Rico-Gutierrez,
L.F. (eds.), *105th Association of Collegiate*

*Schools of Architecture Meeting (Session
on Design for Performance)*. Washington:
ACSA Press, pp. 85–90.

Kousidi, S. 2016. "Breathing Wall Skins.
Theorizing the Building Envelope as a
Membrane," in: *Journal of Material Design*
(Special Issue on Integumentary Design),
no. 1, pp. 141–153.

p. 151
Joanna Pierce
Central Saint Martins, University of
the Arts, London, UK
j.pierce@csm.arts.ac.uk
Textile Print, Material Designer

Images included in: Braddock Clarke S.
E., and Harris J. 2012. *Digital Visions for
Fashion + Textiles. Made in Code*. London:
Thames and Hudson

Images included in: Blackley L. 2006.
Wallpaper. London: Laurence King
Publishers

p. 151
Eva Sopeoglou
Senior Lecturer, Kingston School of Art,
Architecture, Kingston University London,
UK
eva.sopeoglou@yahoo.com
Architecture, Practice research, Sustain-
ability, Fabrication

Winner, Architizer A+ Award 2017. Work
featured in book: *A+ Architecture: The
Best of Architizer 2017*, New York: Phaidon.

Sopeoglou E. 2017. "The Generator, Cedric
Price, Gilman Paper Corporation – White
Oak – USA, 1976–1980," in: DOMES Index
(ed.). 2017. *Afetiries* 05, Domes Index,
Athens, Greece.

p. 173
Lisa Elzey Mercer
University of Illinois Urbana-Champaign,
USA
lemercer@illinois.edu
Design Research, Human Centered Design,
Interaction Design

Mercer E. L. 2016. "Operation Compass:
Riding Shotgun in the Fight Against Human
Trafficking," in: *The 20th DMI: Design*

*Management Institute, Academic Design
Management Conference Design Research
Meets Design Practice at the Inflection
Point*, Vol. No. 1, Boston, MA : Design
Management Institute.

p. 195
Venanzio Arquilla
Politecnico di Milano, Design Department,
Milano, Italy
venanzio.arquilla@polimi.it
Service Design, User Experience,
Social Innovation

Arquilla V., Barbieri A., "Design as enabler of
anticipatory systems: The MakeinProgress
case study," in: *Strategic Design Research
Journal*, 10(1): 2–11 January–April 2017
Mortati M., Villari B., Maffei S., Arquilla V.
2017. *Le Politiche per il Design e Il Design
per le Politiche*, Santarcangelo di Romagna:
Maggioli

Vitali I., Arquilla V., and Tolino U. 2017.
"A Design perspective for IoT products.
A case study of the Design of a Smart
Product and a Smart Company following
a crowdfunding campaign", in: *The Design
Journal*, 20:sup1, pp 2592–2604, DOI:
10.1080/14606925.2017.1352770.

p. 195
Annalisa Barbieri
Politecnico di Milano, Design Department,
Milano, Italy
isab89@hotmail.it
Service Design, Making, Social Innovation

Arquilla V., Barbieri A. "Design as enabler of
anticipatory systems: The MakeinProgress
case study," in: *Strategic Design Research
Journal*, 10(1): 2–11 January–April 2017

Arquilla V., and Barbieri A. forthc. "Sus-
taining and enabling territorial resilience
through making actions. The Makein-
Progress case study", in: *RGS-IBG Annual
International Conference 2016*. London

p. 215
Bianca Herlo
Berlin University of the Arts, Design
Research Lab, Berlin, Germany
bianca.herlo@udk-berlin.de
Design Research, Civic Design,
Participatory Design

Herlo B., and Unteidig A. 2017. "Socially and Politically Oriented Practices in Design, Design for Next/12th EAD," in: *The Design Journal*, London: Taylor & Francis.

Schubert J., and Herlo B. "Citizens, Technology and Power," in: *Nordes 2017: Design and Power*, No 6/2017

p. 215
Andreas Unteidig
Berlin University of the Arts, Design Research Lab, Berlin, Germany
a.unteidig@udk-berlin.de
Design and Politics, Civic Technology, Participatory Design

Unteidig A., Domínguez Cobreros B., Calderon-Lüning E., and Joost, G. 2017. "Digital commons, urban struggles and the role of Design", in: *The Design Journal*, 20(sup1), pp. 3106–3120.

Herlo B., Unteidig A., Jonas W., and Gaziulusoy, İ. 2017. "Perspectives on socially and politically oriented practices in design", in: *The Design Journal*, 20(sup1), pp. 4710–4713.

p. 215
Prof. Dr. Gesche Joost
Universität der Künste Berlin /
Berlin University of the Arts
info@drlab.org
Digitization, Human-Computer-Interaction, Participatory Design Research

Mareis C., Held M., and Gesche J. (eds.). 2013. *Wer gestaltet die Gestaltung?* Bielefeld: transcript.

Gesche J., Bredies K., Christensen M. et al (eds.). 2016. *Design as Research – Positions, Arguments, Perspectives*. Basel: Birkhäuser.

p. 231
Tomás García Ferrari
University of Waikato, Department of Computer Science, Hamilton, New Zealand
tomas.garciaferrari@waikato.ac.nz
Design Theory, Interaction Design, Web Design

García Ferrari, T. 2017. "Design and the Fourth Industrial Revolution. Dangers and opportunities for a mutating discipline," in: *The Design Journal*, 20(sup1), pp. 2625–2633. doi:10.1080/14606925.2017.1352774

Short, C., Garcia Ferrari, T., and Quijano, M. 2016. "HfG-Archiv Ulm Online. De la realidad exclusiva a la virtualidad inclusiva," in: *RChD: creación y pensamiento*, 1(1), pp. 13–25. doi:10.5354/0718-2430.2016.44192

p. 249
Isabel Rosa Müggler Zumstein
Lucerne University of Applied Sciences and Arts, Lucerne School of Art and Design, Lucerne, Switzerland
isabelrosa.mueggler@hslu.ch
Textiles and Lights, Colour and Material, Design-driven Innovation

Müggler Zumstein I.R., Tomovic T., and Reisinger M. 2016. "Empirical Approach to define a Digital Colour Space for Light emitting Textiles," in: *AIC 2016 Interim Meeting. Color in Urban Life: Images, Objects and Spaces*. Santiago de Chile, 18–22 October 2016.

Müggler Zumstein I.R., and Tomovic, T. 2014. "Light and Shadow: Industrial Integration of Electronics into Textiles," in: *Ambience 2014. Scientific Conference for Smart and Functional Textiles*. Tampere, Finland. 7–9 September 2014.

p. 249
Tina Tomovic
Lucerne University of Applied Sciences and Arts, Lucerne School of Art and Design, Lucerne, Switzerland
tina.tomovic@hslu.ch
Textile Design, Smart Textiles, Textile Sustainability

Moor T., Egloff B., Tomovic T., and Wittkopf S. 2017. "REPEAT – Textile Design for PV Modules! Design-driven Strategies for Photovoltaic Modules," in: *Design for Next. Proceedings of the 12th European Academy of Design Conference*. Sapienza University of Rome, 12–14 April 2017.

Müggler Zumstein I.R., Tomovic T., and Reisinger M. 2016. "Empirical Approach to define a Digital Colour Space for Light emitting Textiles," in: *AIC 2016 Interim Meeting. Color in Urban Life: Images, Objects and Spaces*. Santiago de Chile, 18–22 October 2016.

p. 263
Christiane Luible
HEAD, Geneva School of Art and Design, Fashion and Accessory Design Department, Geneva, Switzerland
Christiane.luible@hesge.ch
Fashion Design, Clothing Simulation, Fabric Characterization

Luible C. 2017. "Personalisierung von Mode und Bekleidung," in: Oberösterreichische Zukunftsakademie (eds.). *Trendreport Personalisierung*, online at: http://www.ooe-zukunftsakademie.at/Personalisierung_Endfassung.pdf.

Luible C., forthc."Innovate the way of working with textiles", in: Lucerne University of Applied Sciences and Arts.

p. 263
Caecilia Charbonnier
Artanim Foundation, Geneva, Switzerland
caecilia.charbonnier@artanim.ch
Motion Capture, Biomechanics, 3D Animation

Charbonnier C., Lädermann A., Kevelham B., Chagué S., Hoffmeyer P., and Holzer N. 2017. "Shoulder Strengthening Exercises Adapted to Specific Shoulder Pathologies Can Be Selected Using New Simulation Techniques: A Pilot Study", in: *International Journal of Computer Assisted Radiology and Surgery*,

Kolo F.C., Schwitzguébel A.J.P., Kourhani A., Denard P.J., Charbonnier C., and Lädermann A. 2017. "Fosbury Flop Tear of the Rotator Cuff. Diagnostic Assessment with Magnetic Resonance Arthrography," in: *BJR* Vol 90, Issue 1077.

p. 275
Françoise Adler
Lucerne University of Applied Sciences and Arts, Research group Products & Textiles
francoise.adler@hslu.ch
Textile Design, Design-driven Technology, Textile Sustainability

Weber Marin A., Adler F., Selbmann K.H., and Felder R.; Lucerne University of Applied Sciences and Arts, Bern University of Applied Sciences. *Verfahren zum Bedrucken eines Substrats und damit hergestelltes bedrucktes Substrat*. Switzerland and Principality of Liechtenstein, patent CH 712 180 B1. 2017 Aug 31.

Weber Marin A., Müggler Zumstein I., Adler, F., Häberle J., and Poldner K. 2014. *The Design Alphabet for Textiles as applied Method at the Frontiers of Textile Design Research*. DRS – Design Research Society. Umea, Sweden.

p. 275
Andrea Weber Marin
Lucerne University of Applied Sciences and Arts, Research group Products & Textiles
andrea.webermarin@hslu.ch
Environmental Sciences, Textile Production, Design-driven Technology

Weber Marin A., Adler F., Selbmann K.H., Felder R.; Lucerne University of Applied Sciences and Arts, Bern University of Applied Sciences. *Verfahren zum Bedrucken eines Substrats und damit hergestelltes bedrucktes Substrat*. Switzerland and Principality of Liechtenstein patent CH 712 180 B1. 2017 Aug 31.

Weber Marin A., Müggler Zumstein I., Adler F., Häberle J., and Poldner K. 2014. *The Design Alphabet for Textiles as applied Method at the Frontiers of Textile Design Research*. DRS – Design Research Society. Umea, Sweden.

p. 285
Tina Moor
Lucerne University of Applied Sciences and Arts, Competence Center Products & Textiles, Lucerne, Switzerland
tina.moor@hslu.ch
Fibers, Textile Architecture, Textile Structures

Moor T.; Egloff B.; Tomovic T., and Wittkopf St. 2017. "REPEAT: Textile Design for PV Modules: Design-driven Strategies for Photovoltaic Module", in European Academy of Design EAD (eds.). *The Design Journal*, pp.1879–1893. Abingdon UK: Taylor & Francis Journals Production. Volume 20, 2017.

p. 285
Daniel Wehrli
Lucerne University of Applied Sciences and Arts,Competence Center Products & Textiles, Lucerne, Switzerland
daniel.wehrli@hslu.ch
Product Design, Textile Design, Research and Development

p. 303
Ruedi Baur
HEAD, Geneva School of Art and Design, Geneva, Switzerland
silent@ruedi-baur.eu
Problem-oriented Design, Design of Public Spaces, Design Research

Baur, R. and Felsing, U. 2016. "Researching Visual Application Respectful of Cultural Diversity," in: *Studies in Visual Arts and Communication – An International Journal*, Vol. 3, no. 1. Online at: http://tinyurl.com/k3rgdez

Baur, R. and Felsing, U. 2015. "The Visualization of Knowledge: Researching for New Methods for Information Design in the Intercultural Field," in: *Review of Arts and Humanities*, Vol. 4, no. 1, pp. 27–41, DOI: 10.15640/rah.v4n1a5

p. 303
Ulrike Felsing
HEAD, Geneva School of Art and Design, Geneva, Switzerland
ulrike.felsing@multilingual-typography.com
Design Research, Knowledge Visualization, Picture Theory

Baur, R. and Felsing, U. 2016. "Juxtaposing Chinese and Western Representational Principles: New Design Methods for Information Graphics in the Field of Intercultural Communication," at: the 50th Anniversary Design Research Conference. Brighton, Theme: design and translation, 28 June 2016, online at: http://www.drs2016.org/384

Baur R., and Felsing U. forthc. "On the Cultural Anchorage of Knowledge Visualization", in: *Design Issues*,

This book collects a selection of the contributions of the First SDN Design Research Summit held on 28-31 January 2016 in Giessbach, Switzerland.

MATINA KOUSIDI
Department of Architecture Design Theory
Politecnico di Milano, Italy

JOANNA PIERCE
Textile Futures Research Centre, Central St Martins
University of the Arts London, United Kingdom

EVA SOPEOGLOU
Department of Architecture
Kingston University, United Kingdom

We are Never Naked: Insulation as a Performing Surface

In May 1987, an assorted group of thirty-three participants—including fashion and textile designers, academics, and practitioners—gathered to explore fashion and design practices as a function of time, through an intensive 12-day workshop held at the Bauhaus Foundation in Dessau. Organized by Germany's Board of Industrial Design, the workshop considered the reciprocal relationship between designers and the social dimension of their work. On the one hand, the session questioned the qualities a designer ought to have so as to promote a progressive influence on contemporary dress, textile, and product design; on the other, it questioned the effect that each social and temporal context has on the design process itself. Experimenting with a broad selection of materials, ranging from paper to painted silk and knitted goods, participants used each others' bodies as canvases that often exceeded the bodily terrain and crossed over into the surrounding space of the historical Bauhaus building. "This process of permanently exchanging views and communicating on material, color and the language of forms," one of the participants remarked, "was the real essential feature of this seminar, the outcome of which manifested itself more in thinking and in joint ventures than on paper" (Krauß 1987).

Twenty-nine years later, on Saturday, January 30, 2016, nine delegates at Unfrozen—the first Swiss Design Network Winter Summit—took part in a workshop titled "We are Never Naked: Insulation as a Performing Surface," which we organized with the goal of exploring surface interventions aimed at accommodating the body amid Brienz's wintry climatic conditions. Because the term *insulation* may refer to both an integrated or external surface of a building, as well as to additional layers of material surrounding the human skin, the workshop prompted a reflection on the interrelation between spatial, dress, and textile design. It dealt with surfaces that not only entail properties of envelopment, cladding, and ornamentation, but also comfort, regulation, and fit. Participants were presented with a wide range of raw materials, and invited to grasp, delineate, and demonstrate how the intersection and exchange between architecture, textiles, and dress has influenced our perception of space, the relation between space and the body, and the boundaries between these respective design disciplines.

Analogies between Building and Dress

The dialogue between building, textiles, and concepts of dress has deep roots in architectural historiography; it dates back to the era of Vitruvius, who compared the fluting of the Ionic order to the folds of archaic female robes (Forty 1989), and spans the treatises of Adolf Loos, who, in the spirit of Gottfried Semper, traces the origins of dwelling back to humans' cladding of the body in textile coverings. For Loos (1898), such covering becomes "the oldest architectural detail originally made from animal skins or textile products," as it addresses humans' need to protect themselves from inclement weather. Evident throughout the era of modernity, the shared terrain between architecture, the body, and textiles distinguishes the reflections of architects and architectural theorists alike. From the latter half of the twentieth century onwards, however, the rise of domestic, material, and climatic technologies once again places particular emphasis on the body, questioning the architectural process, its materiality, and its agency.

Paco Rabanne introduced his first collection of metallic dresses in 1966; just a few years earlier, Andrés Courrèges had presented his own sartorial creations made of PVC, metal, and plastic. Imagery from the work of both designers can be detected in Archigram's archival collection and its "Ephemera" folder, which stores documentation of their time and reveals a vivid interest in bodily interventions ranging from Yves Saint Laurent's Mondrian dress to an advertisement for a prosthetic arm. Influenced by Pop and Op art, space technologies and concepts of nudity, the design creations of that era aimed to launch the body's new coat—and as the body donned garments made of new materials, architecture was already adopting a new coating. Browsing the architectural magazines of the time, it becomes apparent that the stratification of "personal architecture" expanded far beyond the body itself. An array of insulation and coating surfaces, such as polyester fibers and fabrics treated with PVC resins, was advertised for its ability to isolate a space from light, sound, dust, and high temperatures; its also articulated a concern with processes of molding, insulating, cushioning, and so on. Nevertheless, "much more than walls were insulated in modernity"; insulation was elevated to "a highly active, physical and conceptual agent," calling for further consideration of the larger flux of energy in architecture (Moe 2014).

4° C, Fit for Cold

"Environments may be made fit for human beings by any number of means," Reyner Banham affirms in his 1960 essay "Stocktaking. Tradition and Technology," and then goes on to compare the thermal comfort provided by clothes in extreme weather to the one anticipated by the architectural artifact. "Just as a snowy landscape may be rendered fit by means of a ski-suit, gloves, boots and a balaclava, the erection of buildings is not anymore a prerequisite for the accommodation of human activities," he observes, employing the term "personal architecture" to refer to the stratification of material layers situated around the body, everything from underwear to vests and overcoats.

 Around the same time, Archigram's "Cushicle and Suitaloon" project emerged, accompanied by the slogan "clothing for living in (or) if it wasn't for my Suitaloon I would have to buy a house" (Webb 1966). He was referring to an inflatable dwelling unit capable of being dismantled and transported by its owner, which embodied the vision of a technologically advanced, portable, and personalized enclosure. At a transitory stage, however, this enclosure would reveal its hybrid character and direct relationship to the human body, as it appears to have been reduced from a dwelling or shelter to a transparent, ethereal layer circumscribing the body: architecture conceived of as an "extra skin"—suggesting a shift from habitable space to wearable space.

 A number of recent projects more broadly consider the concept of comfort provision through architectural means, including: Sean Lally's "Wanderings" installation (2013), which employs climate- and energy-based approaches to urban placemaking; the earlier works of Olafur Eliasson, such as "Heat Pavilion" (2000) at the Irish Museum of Modern Art in Dublin and "Weather Project" (2003) at the Tate Modern in London, both of which provoke the viewer to reconsider boundaries between interior and exterior realms; and Michael Rakowitz's "ParaSITE" project (1997), which is supported by the warm air emanating from a building's duct system. As long as well-established, solid walls continue to give way to climatic technologies, immaterial media, and energetic interventions, the concept of insulation as a performing surface will merit further research.

Insulation: Detachment, Protection and Insularity

Insulation is the state of being isolated and detached; an insulating material detaches the wearer from their environment, reducing or preventing the transmission of heat between the wearer's body and surroundings. Insulation acts as a protective layer. From tents to outdoor gear to spacesuits, insulation plays the role of a protective layer from hostile or even extreme environments deemed unfit for human life or survival. Extremities of performance, which offer the potential to create exaggerated and expanded silhouettes, come together with the extremities of cold to allow direct evidence of the performance of insulated materials: their ability to preserve temperature, expand, and inflate. These parallels and cross-disciplinary qualities were explored in the workshop.

Of course, enough insulation or the lack of protection is only a relative measure of the response to hot or cold stimuli—that is, the sense of thermal comfort. Thermal comfort is understood and defined both as the physiological state and goal of the homeostatic body, but also as a subjective state of mind, which is always shifting according to location, social situation, and the psychological state of the subject. This awareness of comfort—and, of course, of discomfort—is perceived through all the body's main senses: vision, touch, taste, hearing, and smell, as well as through thermoception and kinesthetic perception. The pursuit of comfort juxtaposes the physical need to protect the body from cold with the perplexing delight in experiencing a variety of temperatures, reminding us that feeling cold and warm is subjective and personal.

In Wim Wenders's 1991 film *Notebook on Cities and Clothes*, fashion designer Yohji Yamamoto declares his love for the Parisian air because "it's always fresh and stings my face." Architect and painter Alfons Walde became known for his nude photography projects in the Tyrolean outdoors. Similarly, architect Philippe Rahm explored the comfort of naked bodies in the social and architectural context of his 2009 Venice architectural biennale exhibition "Digestible Gulf Stream." Naked bodies sought comfort in a spatial enclosure defined not in tectonic terms, but as a thermal landscape. Comfort is achieved not by means of insulation and dress, but rather by migration and the consumption of food and beverage, a gastronomic and atmospheric experience. Finally, an experimental

device called Wristify promises a reimagined comfort beyond the whole-body experience. The device provides targeted relief from hot and cold by means of "targeted relief" at the wearer's wrist.

A Tableau of Materials

In the hands of textile designers, insulation materials are creatively trans-formed and manipulated using processes such as stitching, folding, wrap-ping, and knotting these elements into textile surfaces, to cover both the body and space. These textiles can perform in many ways, fulfilling ritual-istic, technical, and ecological requirements. The layout and arrangement of the materials and tools allowed for a tableau-inspired, scene-setting approach to the workshop. The material and word stimuli offered at the final part of the workshop's introduction, alongside the materials arranged and displayed, provided starting points for participants to apply their thought and speculation to the development of project ideas for both makers and non-makers in the workshop. A wide selection of insulation material sourced from the building, interior, packaging, and apparel industries provided a stimulating selection from a veritable cabinet of curiosities.

The materials, with the potential of performance both in terms of function and inherent qualities, were organized into four principle categories:

1   Packing materials: bubble wrap, air-filled pockets, polystyrene, cardboard, hand-held warmers, hot water bottles.
2   Automotive windshield and other covers: aluminum foil, polyeth-ylene insulation layer; leather (small sample, origin unknown); wool blanket, 100% woven wool; recycled wool-fiber blanket; cork (flexible sheet); synthetic wool fur, poly/wool mix; Climaflex, radiator foils.
3   Fleece: polar fleece, a soft-napped insulating fabric made from a type of polyester called polyethylene terephthalate (PET), other synthetic fibers; Horticultural Fleece, polyester fibers; Colbond and other non-woven technical fibers, 100% polyester.

4   Flooring and underlay composites: mixed recycled fibers, varied
        examples including bonded and rubber-backed composites; foam
        laminate underlay, 100% foam material; recycled foam underlay,
        mixed foam materials; recycled denim composite, inno-therm.
        com; knit fabrics (kevlar), 2 x Jersey weights; Tilsatec, advanced
        textile materials; neoprene, scuba.

The *Panorama Enhancer* Workshop

The workshop and its location provided an enticing platform to bring
many threads of narrative into one realm. Participants explored the con-
ceptual intersections of body and space, textiles and buildings, soft and
hard materials, interior and exterior spaces, public and private realms,
and long-lasting and ephemeral functions. They reflected upon the ability
of a piece of cloth to assume various roles, questioned the production
of collective, ephemeral dwellings, and expanded on the function of
waterproof coverings. In echoing Hans Hollein's 1976 statement about the
1974 "ManTRANSform"s exhibition at the Cooper-Hewitt Museum in New
York, they did not proceed with exhibiting "products of design, but rather
(with) retracing the process of design—returning to sources to show
design as a multi-layered, often ambivalent process." Advancing, pro-
voking, and shifting the disciplinary boundaries between architecture,
apparel, and textile design, they addressed the need to revisit the multi-
faceted character of our surrounding surfaces, not least of the environ-
ments therein created.

       Participants were asked to address the role of insulation for the
body and the built environment. They were prompted to respond with
a piece of "performance architecture"—for example, a piece of clothing
or a site-specific architectural enclosure—to be worn by one or many.
One proposal demonstrated that body warmth can become social, a
shared means to spend time outdoors, even among strangers. Another
concluded that a "duvet wall" can facilitate conversation between people
at a bus stop. A third conceived of a site-specific outfit including built-in
insulation, furniture, a garment, and goggle accessories allowing one to
enjoy a multisensory panorama of the wintery landscape. In their entirety,
the proposals considered insulation alongside the collective or sublime

experience of cold environments. The workshop prompted participants to continue their pursuit to design environments fit for human activities, and, at the same time, the winter symposium was an excellent excuse for everyone to delight in the cold.

"We are Never Naked: Insulation as a Performing Surface" Workshop – Rendering the Surrounding Landscape Fit. Photo © Kim Corti

"A Tableau of Materials" – Automotive Windscreen and Radiator Foils, Horticultural Polyester Fleece, Ropes and Cord selection in natural and synthetic fibres. Photo © Kim Corti
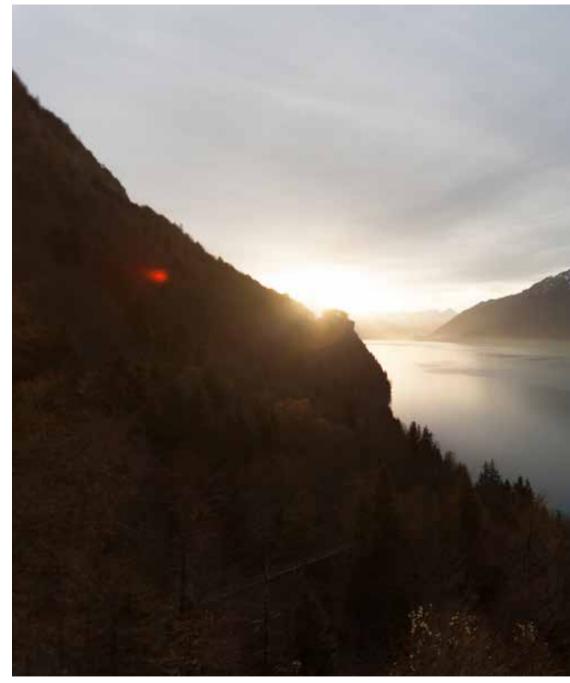
"A Tableau of Materials" – Recycled Wool-rich Fibre Blankets, Recycled Foam Composite Underlay, Polyester Fleece and Cotton Polyester Jersey material samples. Photo © Kim Corti

Workshop Participants Perform "Get Connected - Socially Shared Heat" – A Group Response to the Challenge of Designing with Thermal Comfort. Photo © Kim Corti

"We are Never Naked: Insulation as a Performing Surface" Workshop — A Shift from the Visual to the Sensorial Landscape.
Photo © Kim Corti

REFERENCES

Banham, R. 1960. "1960 1: Stocktaking – Tradition and Technology," in: *The Architectural Review* 127, (756): 93–100.

Forty, A. 1989. "Of cars, clothes and carpets: Design metaphors in architectural thought," in: *Journal of Design History* 2 (1): 1–14.

Hollein, H. 1976. *MANtransFORMS: An international exhibition on aspects of design*. Washington, DC: The Smithsonian Institution.

Krauß. 1987. AIF. Internationales Bauhausseminar: Textil – Bekleidung (document from author's archive).

Loos, A. 1898. "The Principle of Cladding," in: *Spoken into the Void: Collected Essays 1897–1900*. Cambridge, MA: The MIT Press, 1982, 66–69.

Moe, K. 2014. *Insulating Modernism*. Basel: Birkhäuser.

Webb, M. 1966. Untitled text in: *Archigram* 7.

The essays collected in this volume explore a broad number of approaches to design research: Historical, critical perspectives on design and design research, overviews of the social conditions of design and the theories and instruments of co-design, investigations of design research practices, examples of concrete projects and developments, and connecting the material and digital worlds.

Unfrozen encompasses a selection of research projects that were presented at "Unfrozen", the SDN Design Research Summit.

SWISSDESIGNNETWORK