

The Relational Surface

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Abstract

In this chapter we look into the future of the domestic interior space as a hybrid field of vibrations between physical and digital surfaces. We propose that design should focus on the active relations between and within human-centred systems, where human presence in a space is best described not as an observer or user, but as a locus of experience. In the future of interiors as the creation of relations, new encounters will arise between the material and the digital.

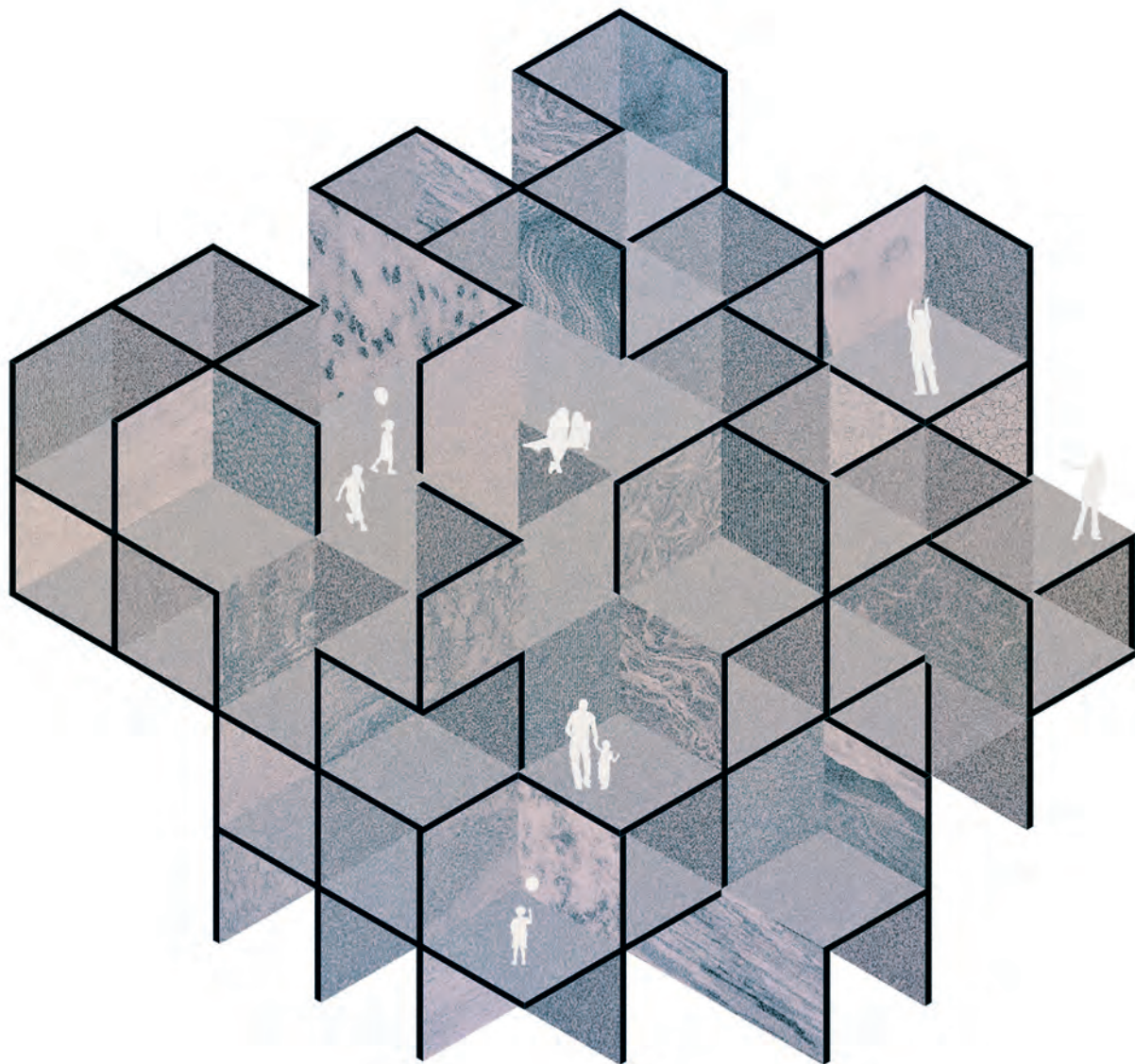


Fig 1 - I no longer know there is a wall'—Georges Pereç, Species of Spaces and Other Pieces, illustration by Mále Uribe, London, 2018.

The spatial environments we inhabit in the developed world are framed within categories of exterior and interior, virtual and physical, illusory and real, organic and artificial. But from a less human-centric perspective, our spatial environment is a much more complex system of multiple dynamic layers of information that simultaneously cross over with these categories in a continuous flux. This unfolds not through the fixed and rational Cartesian space, but through what Karen Barad calls 'intra-active relations'¹—space is a continuous process created by multiple relationships between material surfaces, humans, microbes, things, cultural codes, digital interfaces, and atmospheric phenomena. These dynamic relations actively generate space as a 'field of vibrations'² or a 'system of articulations' within 'infrastructural webs and local values' (Moreno, 2010). To consider the future of post-digital layers progressively overlapping with architectural surfaces, we must question and transcend the view of the interior as container, and instead look for alternative, unexpected relations. Within such an intra-active system,

what we come to regard as human is increasingly linked with digital technologies and the aesthetics of the non-human, particularly with the domestic use of computer interfaces, screens and lighting systems that turn our material interior surfaces into dynamic fabrics. These encounters of the digital, material and human in our everyday lives will shape our spaces into places, under new articulations of physical form, sensory experience, meanings and habits. If the domestic interiors we inhabit have a fundamental role in the construction of our own personal identity, feelings and memories (Bachelard, 1969), then analysing our current media encounters, or 'kissings' (Lavin, 2011), is key to speculation about the experimental narratives and potentials of the mixed architectural surface we describe.

Just as art has shifted from simple interaction to the creation of open-ended relations (Bourriard, 2002), design is turning into a relational field as exemplified by customisation and do-it-yourself cultures that have encouraged 'users' to become co-creators (Blauvelt, 2008).

As in music, fashion, and other commercial industries, interior spatial design is focused on immersive atmospheres and memorable experiences for occupants as users and consumers. Here we analyse interior spaces as a hybrid field of vibrations between physical and digital surfaces, and propose that design should focus on the active relations between and within human-centred systems, where human presence in a space is best described not as an observer or user, but as a locus of experience, and experiences.

Projecting data-interiors

In such an information-driven era, we live in a continuous data flow through different devices and interfaces at different scales and in various spaces. New digital technologies have 'warped space' (Vidler, 2000) into new forms of production and perception. 'Augmented space' refers to physical space filled with dynamic, visible and invisible layers of multimedia information (Manovich, 2006). Zooming in, our contemporary domestic interior spaces are increasingly filled with software

and devices that transform our intimate spatialities into simultaneously local and global spaces, with access to and from anywhere. By conceptualising our interiors as living systems that unfold through relational dynamics, we see blurred delineations between software and space, between function and sensorial experience, resulting from time-based flexible and adaptable performance.

With the new 'zoomscapes' (Zchwarzer, 2004), or modes of architectural perception brought by new technologies and the inclusion of software and screens in private spaces, a huge amount of 'poor images' (Steyerl, 2016) have conquered culture, flattening spatial and sensorial engagement into visual commodities, and reducing architecture value in media to its ocular obsessions. If the future of interiors is in the creation of relations, instead of purely material data surfaces filled with data, new encounters will arise between the material and the digital. Projecting the experience of interior space in terms of relations orients our focus onto the expansion of phenomenological experience

through the use of hybrid interactions with media in more meaningful ways—beyond surface decoration or the functionality of ‘smart’ architecture. This means new forms of sensorial, intellectual and emotional engagement with the relational surfaces that shelter and surround us. Our impetus as artists, designers and experiencers is to imagine the hybridisation of our interiors by embracing the agency of materials and media as an intra-active system.

As Don Ihde (2009) explains in his ‘postphenomenology’, technology is the environment—a new kind of context that transcends the personal, social and physical. Engaging with screens, listening to music from loudspeakers, even being in a room with surfaces illuminated by artificial light, we bodily-experience the world through electronic devices and non-human interactions. There is an inseparable bond between the human body, space and technological interactions; hence, the hybrid relations of space also have emotional implications and the power to change the way

we sense and feel things, spaces, and people. We should thus understand augmentation not only as a technology-in-use but as a cultural and aesthetic practice that constitutes context. New material engineering, and the use of moving image, sound and light will play a key role in the production of interiors, making architectural surfaces not only sentient but also capable of triggering dynamically changing aesthetic experiences at an intimate level.

Surface encounters

The use of augmentation in interior design has brought ‘a key quality of computer driven representations and systems: variability’ (Manovich, 2006). This variability can make material and static surfaces dynamic, adaptable and flexible. But at the same time, ‘augmentation’ implies something added to an existing physical surface, as an additional layer that only perpetuates this division and limits the transformative capacities of the encounter. An exception to this is projection mapping, which uses the three-dimensionality of pre-existent architectural surfaces to articulate new spatial

meanings in a collaborative, performative, more intra-active way. It has so far primarily been used in public, commercial or artistic contexts, but some technological and artistic experiments point in the domestic direction.

In future domestic interiors therefore, expansive hybrid encounters of the surface cannot be reduced to temporary visual interventions onto the white wall as an inanimate canvas, nor can they be reduced to art within a framed screen in which software art can be purchased from a digital catalogue. While the latter approach brings variability, in the end it is only the translation of the TV screen to the wall.

Moving images on a wall are dead once the power and light is gone, leaving behind a white frame or black rectangle; the imagery make us temporarily forget the presence of the material surface in the first place. While our focus in this chapter is on digital interventions, taking a relational view means looking beyond technology and the artificial to see connections within and between ourselves and other natural organisms

and phenomena at all scales—microbes, light, sound, plants, insects, materials, things and behaviours that mask and reveal, forms and formations—all the tangible and intangible things present in the domestic environment

New technologies in digital displays and materials enable new 'kissings' as Lanvin has articulated, with the architectural surface, with new forms of virtual materiality and unexpected possibilities, blurring categorisations to create new definitions of the surface 'that operate through suction and slippage rather than delimitation and boundary' (Lavin, 2011). Relational capacities of sentient, hybrid interiors include the sensorial and emotional effects they can trigger beyond the visual embellishment of the surface of the wall as a mere digital cladding. With advances in textiles and interactive wearables that can connect us to the environment and each other, the architectural surfaces that surround us can become not only dynamic but adaptable, sentient and expressive, while enhancing their material and multi-sensorial nature. Technological instruments have enabled us

Fig 2 (Following page - left) - 'Panopticon' exhibition at UCL, London, by Kevin Walker, David di Duca, Suzy Hogg, Ollie Palmer, 2013.

Fig 3 (Following page - right) - 'River Is...' installation by Art+Com, Gwangju, So. Korea, 2012.

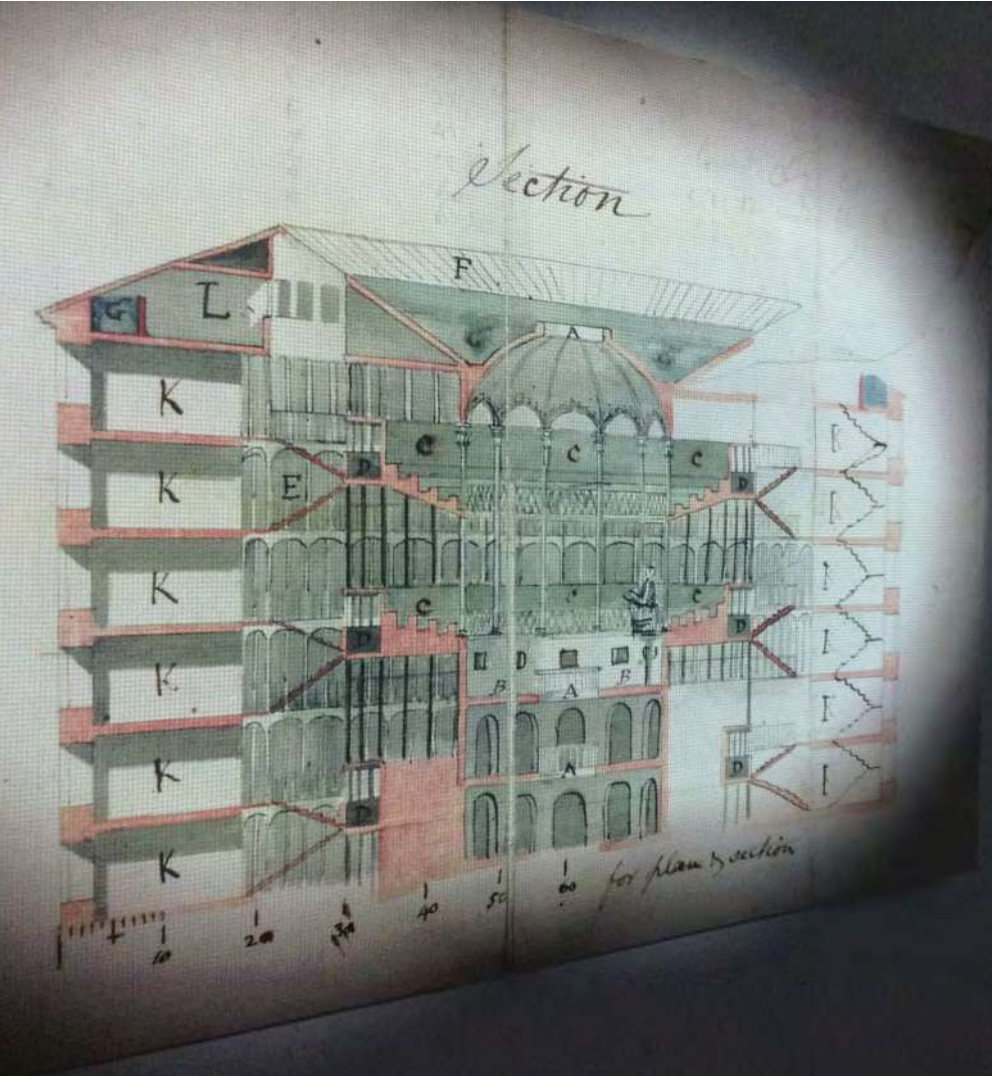
to perceive phenomenon that are beyond our natural sensitivities—from X-rays to satellite images to sounds from space, we are able to translate data into our everyday life in order to expand our perception of the environment. This constitutes what Ihde (1993) calls hermeneutic relations. Future interiors thus can go beyond customisation of light and temperature and serving media, to being truly relational systems where surfaces can bring meaning on multiple levels across physical and virtual worlds through complex but precise interventions.

A few examples by ourselves and our colleagues illustrate some of the relational and material properties that constitute post-digital design. While all of these were done in public contexts, again they point to potential applications in the domestic interior. *Panopticon* by Walker (2013) utilised projection mapping for bespoke lighting and information delivery, to direct occupants' attention to objects of interest on the walls, augmenting them with relevant text and images, and linking them with surrounding objects, to curate immersive narrative content in an

otherwise static environment. [Fig 2]

River Is... by ART+COM (2012) is a surface that encodes messages through the interaction of material and light. Based on how light refracts on water, the designers created a complex, faceted chrome-plated surface that reveals specific reflected messages when light is projected from a specific angle. The highly detailed engineered material process, together with the intangible reflections, generates a constantly moving surface, articulating the interior space itself in relational meaning making. This also implies an aesthetic experience related to contemplation through simple spatial alterations, while also re-visioning the interior surface as informational. [Fig 3]

In *Texture of Light* by Uribe (2017), an interior surface is constructed as a hybrid and sentient device that intra-actively constitutes the environment. A two-meter-wide surface with thousands of geometric pieces create a large-scale micro-texture that reacts to light, sound, and the vibrations of the inhabitants in space in







a multi-directional dynamic. While the surface itself is physically motionless, it creates an illusion of continuous dynamism through the relational interface of projected light, shadows and sound. [Fig 4]

Projecting these examples into larger spatial and temporal scales, we can imagine entire surfaces with the ability to dynamically relate to us and the surrounding interior and exterior environment, bringing new uses and ambiances to everyday interiors, telling us about the weather, news, ourselves and others. This also opens up many questions: To what extent do we want our surfaces to be flexible? How might this constant variability in the environment change our behaviour and that of the non-human occupants of our interior spaces? And what happens to media surfaces without power and data?

Understanding matter as a vibrant agent with the ability to affect us (Bennett, 2010), we propose that new, relational mediations of the

Fig 4 - 'Texture of Light' installation at the Royal College of Art, London, by Mále Uribe in collaboration with Thibaut Everard and Barney Kass, 2018.

surface can bring new forms of materiality, to trigger new emotional and sensorial responses in a post-digital architecture. If walls can be turned into sentient, material actors, interior space will truly become what we have called an 'information architecture' (Walker, 2001), in and with which we can literally program human behaviour. This brings with it commensurate ethical responsibility on the part of designers, developers and data purveyors.

Making surfaces vibrant and relational gives interiors under systemic dynamics, where adaptability and resilience replace fixation and delimitation; where personalisation and spatial expression of individual identity replace the standardisation and the flattening of current spatial categorisations. Physical and virtual materialities are not only tools at our service, but means to help us experience space in more personal, intimate, and critical ways. This also goes in the direction of building conscious relationships with our environment, using technology and its variability as a means for reflection and social interaction. 'To begin

experiencing the relationship between persons and other materialities more horizontally, is to take a step toward a more ecological sensibility.' (Bennett, 2010) Projecting our future interiors as more open-ended, self-organising systems will thereby transform us as experiencers.

References

1. *Intra-action is a concept proposed by Karen Barad in her agential theory, using concepts from Niels Bohr's quantum theories, with the term referring to a new ontology where reality is not created by pre-fixed 'things-in-themselves' but by 'things-in-phenomena'. Intra-action implies an instantiation of reality in which all human and non-human are active agencies in the creation of phenomena in an indestructible relation. See Barad, K. (2007) Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning. (Duke University Press).*
2. *Term used by Olafur Eliasson (2006) where he proposes that forms, objects and the relations*

between them are temporal and constantly changing through time as fields of vibrations, where 'everything is in motion' and 'everything is coloured by intentionality'. See Eliasson, O. (2006) 'Vibrations' in 'Your Engagement has Consequences' (Lars Muller Publishers).

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Author Biographies

Mále Uribe Forés is an architect and artist, with an MA in Information Experience Design from the Royal College of Art. With a background in lighting design and spatial design for fashion and exhibition spaces, her work explores the interactions between art, space and the body through the surface as a *medium* at an architectural scale, situated between the real and the supernatural, the material and virtual, the digital and crafted.

Kevin Walker runs the Information Experience Design programme at the Royal College of Art. He is a researcher, designer, writer and artist working at the boundaries of the digital and physical –specifically in curation and computation in physical spaces, grounded in cognitive and cultural theory. Author of *Hackers & Slackers* (2012), co-editor of *Digital Technologies and the Museum Experience* (2008), his background is in journalism, art and design, interactive media and social science.