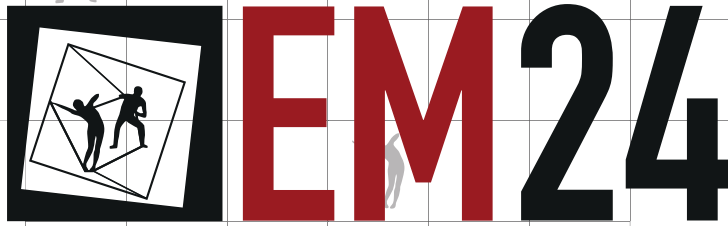


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EURAU - EUROPEAN RESEARCH ON ARCHITECTURE
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**IN-PRESENCE /
THE BODY AND
THE SPACE**

The role of corporeity in the era of virtualization

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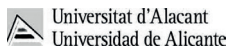
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The Department of Architecture and Urban Studies of the Politecnico di Milano organises at the School of Architecture Urban Planning Construction Engineering (AUIC), EURAU Milan 2024 "IN-PRESENCE / THE BODY AND THE SPACE - The role of corporeity in the era of virtualization", the eleventh edition of the international conference, which takes place from 19 to 22 June 2024.



/ EURAU Milan 2024

11th INTERNATIONAL CONFERENCE

EUROPEAN RESEARCH ON ARCHITECTURE
AND URBANISM INTERNATIONAL CONFERENCE

IN-PRESENCE / THE BODY AND THE SPACE

The role of corporeity in the era of virtualization

For those who deal with the city and the territory, space refers to the body
(C. Bianchetti)

The EURAU Milan 2024 Conference aims to unpack the significance of corporeality in contemporary times and its relevance for the upcoming years. Specifically, the focus is on the relation between body and space and how this relates to architecture, the city and the environment, interpreted as physical facts and processes. Within the background of a technological turn, the focus is now on what has changed or will further change in this relationship and what, on the opposite, remains unalterable, inherently bound to the material and impervious to the virtual.

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Spaces, Bodies, Design A Multidisciplinary Perspective

MARCO BOVATI, ANNA MORO, DANIELE VILLA

In an era in which many aspects of our society, lives, and disciplines are shifting - sometimes too lightly, others forcibly - from the physical to the immaterial, from the corporeal to the virtual, EURAU Milan 2024 Conference reflects on the current and future role of corporeality, examining what has changed and is changing, what is effectively irreducible from the material to the virtual intangible dimension and what, in terms of values and experiences, is gained or lost in this shift.

EURAU Milan 2024 solicits researchers and professionals in the spheres of spatial studies, from architecture to urban and environmental design, planning and policies, artistic disciplines and experimentations, etcetera, to reflect on the conditions/practices/tools that require the presence of a body or several bodies in a space, whether small or large, indoor or outdoor, in order to be lived, experienced and realised authentically, and if so, how this is different and why this is crucial compared to technologically mediated, non-corporeal, non-material, even non-human, experiences.

Considering diverse points of view and arguments, the perspective of corporeality appears intimately linked to architecture and urbanism in multiple ways and through the many approaches over time.

This vital link can be seen, for instance, if we consider the many perspectives from which space can be conceived: from the uses and the interpretations of space through 'practices', through a culturally-mediated perception of space, to the role of space itself as a source of sensory and environmental stimuli, to the production of space through design, or even to the social usability of space as a container of practices and events.

Following this perspective, the spaces of architecture, the city and the environment can be inhabited thanks to, by and through the body and its physical extension. The body is the transit of the relationship between design and space, practices and society. Placing bodies at the core of our disciplinary discourses means interfering with their material, organic and affective narrative, embracing their uncertainties and stumbles and dealing with the consequences. Bodies are traces of a creative multiplicity, interlaced with the possibility of an open and continuous dialogue with the world.

This multifaceted relationship occurs in two principal ways: one as 'acting bodies', bodies that touch, bodies that act, bodies as actors of practices and

actions, and as a tool for transformative reflection on space; and one as 'acted bodies', bodies as filters, bodies affected by the physical-spatial and environmental conditions of space. This dialectic between the body as an active medium and the body as passive exposure derives from Gilles Deleuze's reading of Spinoza and carries with it the idea that 'the body is the world, is made of the world, is at one with the world.'

Starting from the intention of investigating the space-body relationship, its modifications and resistances, the basic questions EURAU Milan 24 intends to ask are:

/ Is this condition still actual? How much has it changed, and will it change in the coming years?

/ What cannot change as it is effectively irreducible from the material to the virtual?

/ How has the body-space relationship changed with the advent of new technologies?

/ What still can a body do, and what can only be done by a body?

/ What is the added value of a body-centred approach to our disciplines?

The issue can be approached by questioning boldly a series of recent or well-known assumptions, which refer to different disciplinary fields but share a core theme: the co-presence and relationship of bodies in space.

Furthermore, in the current global conditions – full of innovation but with multiple crises that must be overcome through collaboration and research aiming towards a different future – researchers and professionals are driven to question even the fundamental traits of our disciplines profoundly. What the recent crisis, starting from Covid-19, has reiterated is indeed the centrality of the individual bodies and of bodies interacting in space.

Among the many emerging issues recently developed at the international level – for instance, the European Agenda or the international SDGs (Sustainable Development Goals), which points to sustainability, justice, equality, freedom, hospitality, health, a new and fairer economy, care for the most fragile people and territories, memory, beauty and socio-spatial transition – EURAU Milan 24 aims to underline and integrate the aspect of 'togetherness' that can be defined as being together, sharing practices and values through bodies and multiple, even non-physical bonds that occur within space.

The format of the conference is the result of a shared reflection that started with a research seminar on the current state of scientific events, held in March 2023 at Politecnico di Milano. As our network is based on a deep-sharing approach to research and design, we have identified a flexible format that includes both online and in-presence moments. The integration of modes has allowed us to promote a long-term format going from the summer of 2023 to the summer of 2024, called The Road to EURAU, which has engaged participants in bringing their contribution to the table and shaping the conference themes and contents.

We have proposed five preparatory thematic meetings organised by EURAU network partners to discuss this topic in advance. Each meeting introduced a different thematic approach to the conference topic. The outcomes of the meetings helped refine the thematic sessions of EURAU Milan 24 and the preparation of the open call. The aim was to activate an ongoing and wide-ranging discussion, fed by other forms of communication (a forum, an Instagram profile, a website), leading up to June 2024 as the final moment in which - IN-PRESENCE - we have met to draw conclusions.



The EURAU Milan 24 Conference addressed issues that delve into the tapestry of the relationship between body and space, framed and articulated within five thematic areas:

/CONCEIVED, /INTER-ACTIVE, /AFFECTED, /VULNERABLE and /AUGMENTED.

These five themes, as adjectives of the body as well as of the space, are intended as facets of a unique narration that is brought into focus through the exploration of each area. Cross-reading these themes provides a comprehensive lens through which to investigate the dynamic interplay and the multiple layers underlying the body-space relationship.

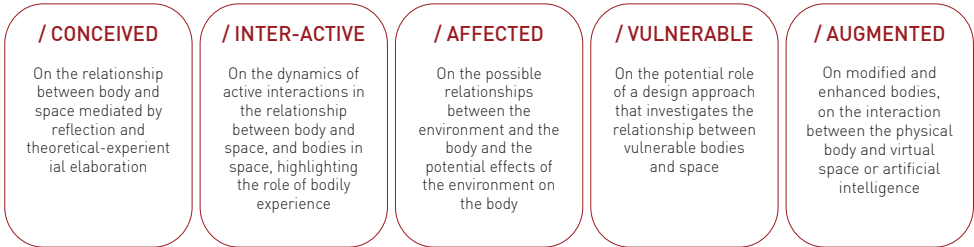
Specifically, **/CONCEIVED** anchors the exploration in the realm of reflective and theoretical-experiential elaboration and its foundations. Going beyond the notion of body-space relations grounded in proportions, measurements and geometry, there is an opening towards new forms of action, inter-action and reflection.

In the second session, contributions are asked to delve into the adjective **/INTER-ACTIVE**, which refers to the dynamics of active interaction in the body-space relationship, highlighting how movement, gestures, and sensory engagement contribute to craft a tapestry weaving together the materiality of space and the embodied experience.

The third theme, **/AFFECTED**, refers to the possible relationships and actions of the environment on the body, where the environment is understood as the artificial urban territory but also the natural and the natural and climatic domains. This thematic area underscores the profound impact of external factors on bodily experience.

/VULNERABLE bodily experience as well as climatic and natural consequences on space, points at the potential role of a design approach that investigates the relationship between fragile bodies and space. The session is dedicated to the manifold layers of vulnerabilities of bodies in space, and their role as a critical contribution to refocusing our disciplines.

The last thematic area, **/AUGMENTED** disciplines towards the design and reflection of inclusivity, is dedicated to modified and enhanced bodies and the interaction between the physical body and virtual space or artificial intelligence. It explores the evolving landscape of technologically mediated interactions, as well as contemporary art interventions.

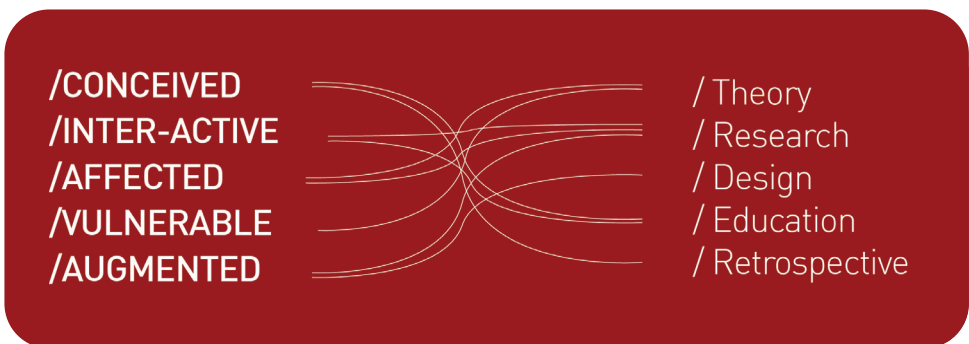


The thematic areas are intersected transversally by five operational perspectives: **Theory, Research, Design, Education and Retrospective.**

These propose five possible approaches that can also be combined within the same contribution.

The five approaches are based on the idea that the theme of the body-space relationship can be investigated according to different and interrelated modalities and perspectives, allowing for the various theoretical and practical experiences that characterise the activity of architects and urban planners, whether they operate as historians, theorists, designers, educators or professionals.

The thematic areas and transversal perspectives form a matrix where contributions can be freely placed.



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/GABRIELE PASQUI, graduated in Socio-Economic Disciplines and in Philosophy and PhD in Urban policies, is full Professor of Urban Planning at Politecnico di Milano, Department of Architecture and Urban Studies. He is President of the Scientific Committee of Urban@it, National Centre for the Study of Urban Policies, former coordinator of the Research Project "Excellence Department – Territorial Fragilities" funded by the Italian Ministry of University and Research and former Director of the Department of Architecture and Urban Studies (2013-2019). His key scientific interests are: interpretations of contemporary cities dynamics, urban populations and policies, strategic planning, urban governance, urban regeneration tools.

"Bodies, encounters, scenes. City assemblages and design strategies"

/RENATO BOCCHI, professor of Theories and Design of Architecture at IUAV University of Venice till 2019 and Director of Architectural Design Dpt. from 2006 to 2009. He coordinated the research program Re-cycle Italy, involving 11 Italian Universities (2013-16). He held lectures in Spain, Portugal, Argentina, Scotland, Ireland, Greece, and Slovenia. From 2015 to 2020 he promoted cultural initiatives among Iuav University, Ca' Pesaro Museum of Modern Art, and Querini-Stampalia Foundation. From 2019 onwards he is collaborating with the Doctorate Schools at Iuav Venice and Sapienza University of Rome. The dominant topics of his research and publications are the relationship between arts, architecture, city, and landscape. His most recent book: "Spazio arte architettura. Un percorso teorico", Carocci, Rome, 2022.

"Art And Architecture. Between Space And Body"

/CRISTINA BIANCHETTI, architect, PhD in Urban Planning, is full professor of Urban Planning at the Interuniversity Department of Regional and Urban Studies and Planning, in Politecnico di Torino, where she has also served as Deputy Dean. Her work focuses on themes related to living spaces and the critique of contemporary urban planning projects. Her presence in the cultural sphere is evidenced by her participation in and coordination of numerous research projects and by her many writings. Her latest books, "Corpi tra spazio e progetto" (Mimesis 2020 – English edition Jovis, 2021) and "Le Mura di Troia: lo spazio ricomponi i corpi" (Donzelli 2023), explore urban planning projects and their practices from a perspective centered on the body, revealing unexpected scenarios that emerge when the viewpoint shifts away from the actor, decision-maker, technician, or a legal or statistical entity, to that of a body that cannot be reduced to its abstractions.

"Insights for a theory of embodiment in urbanism"

/FRANCO FENOGLIO, a nuclear engineer at the Polytechnic University of Turin, he joined Thales Alenia Space (then Aeritalia) in February 1990, dealing with thermal and environmental control of spacecraft. In the late 1990s, he became Chief Engineer of the Nodes in ISS, leading "Nodo 3" until the integration and launch campaign in 2010. Subsequently, he started the Orion European Vehicle Service Module and managed exploration studies and advances. Today, he is Director of Human and Robotics Planetary Exploration, including Thales Alenia Space programs running for Artemis (lunar orbit and surface) and robotics to Mars. As part of his career, he has interacted with major Space Agencies (NASA, ESA, ASI) and major international companies.

"Beyond Earth. Thinking and designing solutions for humans in the (deep) Space"

1 / CONCEIVED

/ On the Body-Space relationship mediated by reflection and theoretical-experiential elaboration.

In recent years, architecture has shifted its paradigm regarding the relationship between body and space. This transition towards a new understanding of actions, movement, and experience has flanked – and partially replaced – the traditional emphasis on proportion, measurement, and geometry.

This evolution prompts a fundamental re-evaluation of how architecture, urbanism, and spatial practices conceptualise, theorise and practice the body-space relationship. To grasp the depth of this transformation, it is critical to delve into the historical modification of this relationship and the simultaneous, interacting, and at times conflicting, positions of contemporaneity. These perspectives encapsulate the past's legacy and lay the groundwork for future explorations.

The conceptual framework that underlies our understanding of the space-body relationship and its paradigms of reference, profoundly influences the design thought and process; it also informs our way of bodily inhabiting space through human and social practices. Therefore, thoroughly exploring this relationship's conceptual and creative dimensions and foundational principles is crucial.

Moreover, investigating the fundamental role of the space-body relationship also means recognising the multidisciplinary contributions that the world of culture and the arts have made to our subject area, where art, dance, cinema, theatre, and literature have played a fundamental role in reshaping our perception of this relationship in redefining its paradigms.

This session welcomes contributions which include but are not limited to:

- / The body as a system of proportion, measurement, and geometry;
- / The proxemics;
- / The space as actions, movement, and experience of bodies;
- / The mind and the perception of the space;
- / The body and the memory of the space;
- / Bodily project practice and technological innovation;
- / Architecture as a space device;
- / 'Spatial Design': the space, the body and the synthesis of the arts;
- / Contemporary Art: interventions on space and human perception.

1 / CONCEIVED ENDNOTES

Alisia Tognon

Politecnico di Milano, Department of Architecture and Urban Studies

Traditionally, humanistic culture has interpreted space through bodily analogy, to define the body not only as an aspect of proportions, measurements and geometry. Indeed, the body refers to space, and through it we inhabit it. However, through the body we create an “existential” space (Merleau-Ponty), because as phenomenological thought claims the body inhabits and applies to space and time it is “a means to a world”. The body is not just an object in space but is the point of view from which we perceive space itself. Even in Foucault’s structuralism, the constant relationship between the ‘I’ and the ‘body’ — I am where my body is — refers to an indissoluble bond with the space of which the body becomes a ‘fragment’, reiterated in its power by Barthes. It is a relationship of co-presence, but also of co-construction, as in the complex interactions between humans and non-humans (Latour). So spatial practices are shaped not only by human intentions, but also by material and technological dynamics, which can translate into a post-organic body as in Gordon Matta Clark’s experiments.

But also, the performing space becomes the place through which to explore the body-space relationship in innovative and profound ways, as in theatre-dance (Pina Bausch) or Kantor’s theatre. The theoretical reflection on the body, on the relationship with the soul (St. Augustine), overcoming that soul/body dualism (Galimberti), suggests that interaction with space is crucial not only for individual identity, but also for social categorizations and institutions, reflecting wider social norms and roles.

Based on these assumptions, the ‘conceived’ session brought together a myriad of wide-ranging reflections relating the discipline of architecture with a multidisciplinary interplay of theoretical and practical interpolations. By investigating the relationship body / space, several contributions highlight how architects can design spaces that not only embrace human activity, but also enhance and engage the human experience. In the practice as well in the academia, the body becomes a crucial tool and mediator to produce architectural knowledge. Moreover, from different angles, the examination of the voice of space itself, gives a deeper understanding of the embodied existence and the dynamic interaction between us and the world we inhabit. The intrinsic connection between the body and the built environment is investigated by referring to designers and theorists as a reference such as Hollein, who invited us to reconsider the ways in which we interact with the spaces, or the exploration of human perception by Carlos Martí Arís.

2 / INTER-ACTIVE

/ On the dynamics of active interaction in the body-space and bodies in the space relationship, highlighting the role of presence, co-presence, movement, gestures, and sensory engagement in terms of embodied experience.

Today, we understand space neither as a Cartesian entity merely defined by coordinates nor as a passive element identified by voids that we can occupy, observe, and cross. In addition to proportions, measures, and geometry, we now incorporate as aesthetic categories but not only actions, movement, and experience to appreciate and interpret contemporary spaces. It implies that bodies are acting and active agents affecting the connotation of space. The inter-active session interprets the relationship between body and space as mutually influencing, where their interactions nurture distinctive living habitats. Beyond a subject that produces space, the body is also a medium that, moving away from the tyranny of 'oculacentrism', perceives its tangible and intangible qualities. Therefore, we can understand what stands between the body and space, a realm of filters that affect our sensing capacity. Such filters, which emphasize, mediate, or negate body-space intertwining, are often the result of an architectural choice materializing with anything that can be perceived by our senses, from sight to touch and smell.

The encounter of multiple bodies in space and their material experience converge in the construction of a space, resulting from an articulated and multifaceted, mediated and shared practice, where bodies become agents of transformation on different physical-spatial levels: bodies as actors in practices and actions, their interactive capacity; bodies active in the design of space (the eye, the hand, the sign); bodies and the construction of space (the survey, the construction site); bodies, space and didactics between presence and virtuality. With these premises, we can frame the production of space via architecture as an increasingly inter-active practice that involves a plurality of actors and actions through time.

The session welcomes contributions which include but are not limited to:

- / Bodies as modification of living space;
- / Bodies perceiving space through the senses;
- / The eye, the hand, the sign: the active bodies in the design of space;
- / Bodies and spaces as mediated relationship by filters, skins, dressings, envelopes, or other mediums and sensing tools;
- / Interaction practices between bodies and temporality, e.g., theatre performances and others;
- / Collaborative practices for the transformation of space, e.g., as co-design and others;
- / The bodies and the construction of space: the survey, the building site, the journey;
- / Bodies and didactics between real and virtual space.

2 / INTER-ACTIVE ENDNOTES

Stefano Sartorio e Francesco Airoldi
Politecnico di Milano, Department of Architecture and Urban Studies

Understanding the relationship between the body and the space implies addressing the importance of presence, movement, gestures, sensorial experiences and people's perceptions. As stated in the introduction of the session, space cannot be considered just as a set of cartesian coordinates, or an empty area ready to be filled; it is reasonably possible to perceive and describe it through actions, movement, or personal experiences, and in relation to multiple entities, making human bodies a key factor in this process. Indeed, bodies are often seen not as mere moving entities, but as media: interacting with the environment – both physical and intangible ones – they influence humans' perceptions and conditionate its description.

Authors from all over the world participate to the session "Inter-active", that invites reflection on the reciprocal and active link between body and space, contributing to the debate proposed by the EURAU Milan 2024 call with short papers that presents some similar topics, although approached with originality and observed from personal and specific research perspectives. In this sense, the key to reading of atmosphere, the possible declinations in pedagogy and education, the agent context of fragile systems, the lens of performativity, the discussion of the project-city pair, the interpretation of these relationships, and the investigations on the body experiences can be identified as recurring themes.

Specifically, in many of the contributions collected in the session it emerges how different disciplines as psychology, neuroscience, and philosophy can help in understanding the essence of spatial perception, discussing on the concept of atmosphere as a main aspect for humans' emotional responses. This suggests the efficacy of a multidisciplinary gaze at the subject, combining the physicality of space with an emotional and introspective component.

The session investigates how body's interaction can directly transform physical spaces too: it is the case of those authors who focused on the educational-formative dimension, which recently is increasingly integrated with the digital "presence" as experienced during the pandemic time. They often interpret the topic of interactivity by investigating not only the relationship between the subject and the physical sphere of the built environment, but also the additional value that space can give to pedagogy and education.

Furthermore, when multiple bodies interact in a space, they also contribute to its construction through dynamic practices, as it can happen in social groups or communities, especially in fragile contexts. Following this logical thinking, it is possible to identify a shared narrative of meanings which embodies identity factors of a place through the interactive relationship between people and space.

Other important declinations of the main theme are the temporal practices such as theatrical performances, which provide a further insight into how movement and time transform not only space itself, but also our perception of it.

Some contributors investigate how bodies modify urban spaces through their presence and action, transforming them according to their needs and daily activities, whether referring to an open space of a city or to a specific building typology. In these cases, the focus is on the role of bodies in space design (architectural, urban, landscape etc.), from surveying and construction sites to exploration pathways, analyzing how they interact with real-virtual spaces, and contributing to a broader and integrated understanding of the environments in which we live.

Another recurring aspect in the texts is the importance of the different scales in urban and territorial analysis, with exercises ranging from the study of models to the understanding of the invisible elements of the urban landscape: these can be used as lenses of inquiry for the restitution of interesting interpretations of the relationship between body and space, as

some researchers pointed out.

Finally, the section also highlights the perception of space through the senses: sight, touch, smell and other senses play a key role in the bodily experience of the surrounding environments.

The richness of contents of "Inter-active" session is due to the geographical and disciplinary plurality of the participants, who come from different parts of the globe and from various fields of research. Moreover, a variety of contexts around the world are investigated, offering an overview of the contemporary where spatial and social systems intertwine and add layers of complexity to the relationship between body and space: urban contexts, marginal territories, peripheral areas, etc. The case studies analyzed by the authors in their texts exemplify this richness, shaping up as interesting experiences from all over: from Melbourne markets to São Paulo museums, from art installations in a desert to urban studies in Indian cities.

3 / AFFECTED

/ On the possible relationships and actions of the environment on the body. Built and natural environments can be considered spatial agents acting on bodies in their various features. This corporeal view seeks innovative ways to engage people with environmental challenges, tracing the relationship between the environment and bodies in guiding a spatial transformation and cultivating a shared understanding of this perspective on 'affected' bodies.

Rather than relying on ideological stances, we draw inspiration from the experiential and corporeal aspects of the human body, how they are affected by architectural and urban spatial configurations, as well as by thermal comfort and – in general – the impact of the natural/artificial environment on it. This theme encourages disciplines to interact with frontier knowledge, investigating the relationship between the body/space and other entities and organisms.

Light, energy, temperature, fluids, and microorganisms generate/inform/form the experience of body/space, mutually modifying each other. Moreover, considering the physical and social body as a perceiving element, comprehending and interacting with the environment, and creating opportunities for environmental transformation also means investigating the role of corporeity concerning commons in their action on territories and urban spaces.

To delve into the theme of affected bodies and expand the gaze towards the condition of the climate crisis means to question the current resilient practices and post-disaster modification from a body-centred perspective. Accordingly, it means observing emergencies but also temporally broadening the view towards the future to understand and interpret risk phenomena, environmental but not only, which affect daily life, the possibilities for transformation, and the relationship between body and space. By assuming this perspective, the session could touch on the contemporary definition of this relation and the historical transformation of the issue, looking at moments of shifting conditions or significant understanding of the topic.

The session welcomes contributions which include but are not limited to:

- / The built and natural environment/body relationship;
- / The body/environment relationship in defining relationships with climate and comfort issues;
- / The body/space relation as an organism, where light, energy, temperature, fluids, and microorganisms generate/inform/shape the experience of the body-space, modifying each other;
- / The city as a place of bodies: the relationship between body, city, and commons;
- / The body affected by climate change: resilient transformation practices, and post-disaster transformations;
- / The relationship between body/climate/environmental risk.

3 / AFFECTED ENDNOTE

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The “Affected” perspective, as anticipated in the introduction, aims to trace the relationship between the environment and the body from the point of view of the possible actions of the environment on the body. Considering how architectural and urban configurations impact bodies, we delve into the experiential aspects defined by the environment.

The conference collected contributions from which four macro subtracks emerge, with flexible and intertwined limits, oriented towards the social and the community, particular relationships between the body and a defined spatial typology, the sphere of ecology, performative nature, and the relationship between the built environment and the environmental phenomena.

Connected to the community, the space is investigated both in its experiential pedagogical role, in the construction of awareness also towards natural risk, and in its ability to trigger situations of sociality and sharing. At the same time, relating the theme “affected” with the community, looked at as a collectivity of bodies, frames the theme of temporary emergency conditions for refugees, as well as the concept of reuse of existing buildings as a possibility of new corporeal interactions. In these conceptions, the contributions treat the body both as an individual and a community. As “individuals” highlighting the relationships triggered by the movement in space, the observation and exploration, and as a community, approaching the idea of the corporeity of the crowd as a single body that conditions the space and the urban environment.

In this term, affected stresses the idea of the body as a physical presence, which becomes fundamental in investigating how space informs and stimulates its spontaneous occupation. On the one hand, high density in cities raises the issues of over-tourism, slow mobility, and the search for individuality through re-appropriation; on the other hand, the theme of underuse in fragile contexts recalls the need for regeneration and re-appropriation starting from the links with the environment.

From an ecological point of view, an interest emerges concerning the influence of nature – framed as a space of vegetation and non-human life – and climate on the body. In this regard, contributions include theoretical considerations toward coexistence with nature and the perceptual resonances between body and matter. The link with the natural environment is deepened both in living and in the possible urban impacts, in the practices of integrating vegetation in the city, or in the influence they can have in encouraging the stratification of uses in the existing space. Finally, well-being, atmosphere, and corporeal conditions are further investigated, specifically in the bond between body and environment, which entangles the human perception of space with the immaterial sphere of the environment.

This opens the space to a series of reflections on the performative idea of nature, where the influence of specific climatic conditions could shape and affect the corporeal experience. Ventilation and temperatures are framed in their direct impact on environmental comfort, both at the architectural and urban scale. Hence, performance and impact are understood as investigative tools to identify the places of the project where well-being could guide the redesign of public spaces and personal care, especially regarding the perceptive aspects connected to spatial devices. Moreover, the interaction of the body is not only related to the external climate condition but also to the contact with a broader sphere of living species, reflecting on the impact of morphology on biodiversity.

Then "Affected" could be synthesized as the various potential interactions between environment and body, presenting a plurality of themes able to frame the topic both within a historical perspective and within a contemporary discussion of projects and spatial dynamics. Thus, addressing these themes stresses the importance of looking at external factors' influence on the body(s) and the way these could be a foundational character of the design choices, and not a consequence of them, delving into design approaches and theories

4 / VULNERABLE

/ On the potential role of a design approach that investigates the relationship between vulnerable bodies and space.

We live in a time of interconnected crises that have manifested a stratification of different forms of vulnerabilities. To disentangle the complexity of this crisis the design disciplines and practices have recentered the attention towards living bodies as a medium to refocus our disciplines. The intertwining of vulnerable bodies and vulnerable places challenges the preconception of 'normality', where the diversity of bodies calls for deconstructing fixed interpretations. Addressing various forms of vulnerability related to gender, ethnicity, class, religion, age, impairments and fragilities of bodies places the design exploration at the forefront of care, inclusion, safety, and accessibility.

Historically, our cities have been built according to a 'universal and neutral user', flattening the everyday experience with the idea of 'one size fits all'. However, space is not neutral: it becomes a place of constraint and a chance for practices to get formed in space, but it is also a place of conflicts, encounters and expulsions. In this sense, vulnerability is intended as a temporary or permanent condition of living bodies, which, because of how our cities, territories and buildings are designed and perceived through their visible and invisible barriers, struggle to access, use and inhabit spaces as well as be welcomed and recognised.

The discourse about vulnerable bodies and their agency in the built environment calls for an interdisciplinary exploration where the different domains that converge in observing, interpreting, and modifying the cityscape raise the issues of unveiling the unseen bodies and the unheard voices, identifying the proper tools and methodologies.

We encourage a cross-disciplinary reflection on how vulnerable bodies can generate a sense of agency and purpose in making visible their rights, their knowledge, and their identities in space, welcoming contributions that include but are not limited to:

- / The Vulnerable Body in Vulnerable Places;
- / The body threatened: migrations and wars;
- / The segregated/decolonized body, new geographies of body-space justice;
- / The queer and gendered space, the space of minorities;
- / Vulnerabilities Contextualized in space and time;
- / From Awareness to Design: multidisciplinary practices and methods on body-space-centered justice;
- / Changing the Rules: Regulations and Guidelines beyond the standard and the quantitative parameters.

4 / VULNERABLE ENDNOTES

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By tracing a reflection starting from the preparatory text, and building an open platform for discussion, this ex-post text engages with the several contributions declining the concept of vulnerability. As mentioned in the introductory text, within the contemporary discourse, vulnerability emerges as a crucial concept, especially within the context of interconnected crises that reveal various forms of stratified vulnerabilities. To disentangle the complexity of the current crises, design disciplines and practices have re-centred the attention towards living bodies as a medium to refocus our disciplines. The EURAU Milan 2024 conference delves into this theme, organizing it into four panels: Habitat, Gender, Borders, and Care. This structured approach investigates the intricate relationships between vulnerable bodies and the spaces they inhabit, challenging and deconstructing preconceived notions of 'normality' and universal design. Addressing various forms of vulnerability related to gender, ethnicity, class, religion, age, impairments and difficulties of bodies places the design exploration at the forefront of care, inclusion, safety and accessibility. Therefore, we have encouraged a cross-disciplinary reflection on how vulnerable bodies can generate a sense of agency and purpose in making their rights, knowledge and identities visible in space.

Within the panel, Habitat, the papers have focused on the vulnerabilities inherent in urban and rural environments and the communities within them. It emphasizes participatory design processes and the integration of local knowledge to create resilient spaces. The various research in this section highlight the importance of community involvement in urban planning and architectural design. They explore the regeneration of fragile buildings, improving informal settlements, and creating inclusive urban spaces. These efforts aim to enhance resilience by incorporating traditional building techniques and fostering social relationships, addressing material and immaterial challenges.

The Care panel delves into the intersection of care practices and architectural design, highlighting the creation of environments that promote well-being and inclusivity. This section emphasizes the importance of designing spaces that cater to the needs of vulnerable individuals, such as patients, caregivers, and disabled persons. The studies discuss the role of architecture in promoting well-being, the challenges of balancing work and care responsibilities, and the importance of sensory and multisensory experiences in inclusive design. These approaches aim to create environments that support everyone's well-being by integrating care practices into architectural design.

The Gender panel examines the intersection of gender and spatial design, advocating for urban environments that are inclusive and equitable. This section emphasizes the need for incorporating diverse perspectives, particularly those of women and LGBTQ+ communities, in urban design and planning. The studies explore how gender-sensitive design can challenge hegemonic norms and promote inclusivity. They discuss architecture's adaptability in response to social instability, the reduction of stigma through inclusive design, and the rethinking of institutional spaces like prisons to better accommodate vulnerable populations. This approach aims to create more balanced and inclusive urban spaces that reflect the diverse needs of all inhabitants.

The Borders panel investigates border areas' spatial and social dynamics, focusing on creating inclusive and resilient environments. This section highlights the potential of architecture to foster new territorial identities and social cohesion in cross-border cities and marginalized areas. The studies explore the transformation of public spaces to promote

interculturality and integration, the conflicts related to urban interventions, and the redevelopment of marginal areas into vibrant community hubs. These efforts aim to address the unique challenges of border areas by emphasizing community involvement and historical understanding, ultimately fostering inclusive and resilient spaces.

In conclusion, the various contributions build a semantic landscape centered around the concept of vulnerable bodies in space and time, and their significance within a spatial and design reflection. By observing the variety of experiences and how they contribute to modifying both the design approach and the outcome, the session becomes an enriching platform for rethinking our tools and methodologies when confronted with the issue of designing for vulnerable, unheard marginalized bodies.

5 / AUGMENTED

/ On modified and enhanced bodies and the interaction between the physical body and virtual space or artificial intelligence.

The convergence of physical space and the augmented body is a rapidly evolving field with the potential to dramatically transform our interaction between the physical world and the digital realm. We could define the augmented body as a physical human body that has been technologically extended (XR) using augmented reality, virtual reality, wearable devices, or other digital technologies to enhance perception and physical or cognitive capabilities.

Inquiring about the body-space relationships mediated by new systems of digitization can mean: discussing human-computer interactions in their different spatializations, assessing the impacts on the perception of space, exploring the possible effects on the design of physical space at different scales, questioning the educational and interaction capabilities of new technologies that hybridize body, space, and artificial intelligence, reflecting on the role of the digital to foster interaction, co-design and decision-making in the perspective of inclusive and open processes, to foster a growing awareness about the ethical and social implications of relating physical space and the augmented body.

This session welcomes contributions which include but are not limited to:

/ How XR technologies influence architectural and urban design, urban planning, and the creation of physical spaces;

/ Perceptual and cognitive shifts: exploring the space-based impact of XR on bodily perception, movement, and interaction;

/ How can XR technologies be used to facilitate social interaction and collaboration, also through the new possibilities given by AR-based tools in BIM and GIS platforms;

/ How can XR technologies be used to create more effective and engaging learning, educational, and training experiences in physical spaces?

/ Research on user-centred design, usability, and user satisfaction in augmented environments;

/ Wearable Technology and Its Impact on Daily Life;

/ Human-Computer Interaction and user-experience in Augmented Environments;

/ Interaction, co-design, deliberative and participation tools based on new technologies;

/ Security Privacy and Identity Concerns in Augmented Spaces: how XR reshapes our understanding of the body, identity, privacy and self-expression;

/ Historical perspectives: the evolution of mixed reality and its interaction with the physical self.

```
const objloader = new OBJLoader();
var index = 0;
var modelsFolder = "<?=$kirby->url('assets') ?>/models/"
var modelFiles = [
  modelsFolder + "2.obj",
  modelsFolder + "4.obj",
  modelsFolder + "6.obj",
  modelsFolder + "10.obj",
  modelsFolder + "13.obj",
];

function loadNextFile() {
  if (index > modelFiles.length - 1) {
    meshes.forEach(mesh => {
      mesh.visible = false
    })
    state.prevMesh = meshes[meshes.length - 2];
    state.currMesh = meshes[meshes.length - 1];
    state.currMesh.visible = true;
    scene.scale.set(0.6, 0.6, 0.6);
    animate();
    return;
  }
  var url = modelFiles[index];
  objloader.load(url, (object) => {
    var geometry = object.children[0].geometry;
    geometry.center();
    var baseMaterial = new THREE.MeshPhongMaterial( {
      color: 0x00ffff,
      polygonOffset: true,
      polygonOffsetFactor: 1,
      polygonOffsetUnits: 1
    } );
    var mesh = new THREE.Mesh( geometry, baseMaterial );
    var geo = new THREE.EdgesGeometry( mesh.geometry );
    var mat = new THREE.LineBasicMaterial( { color: 0xffffff } );
    var wireframe = new THREE.LineSegments( geo, mat );
    mesh.add( wireframe );
    scene.add(mesh)
    meshes.push(mesh)
    index++;
    loadNextFile();
  } ),
  loadNextFile();
}
```

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Virtualizing bodies in transformative platforms of corporeality: Embodied visualisation over flesh boundaries

Key Words

Embodiment, Transformative, Platform, Flesh, Installation

When conceiving of the virtuality of a body, we are often confronted with the complexity of ascribing to it the material and distinctive characteristics that we recognise to the present flesh. Yet, in the contemporary context, there exists a field of experimentation that retains a corporeality even in the virtual realm. This is not the corporeality of a lacerated or impaired body, but rather the digital incarnation of a vital organism.

The present contribution aims to explore the possibilities of such declinations in the field of visual arts and design practices in order to thematise the potential of bodily extensions that take on the status of propagation of flesh in the virtual sphere.

Furthermore, the research intends to analyse the forms in which the discourse around the corporeal is handled in its visual representations, where its status of presence is manipulated, where it is made accessible.

The research is framed within an embodied perspective of mutual co-formation of space, mind and body, within a transdisciplinary approach that incorporates transformative practices and image representation profiles. The hypothesis is that, accepting the premises of an embodied approach, it is possible to address the subject corporeality and transpose it into virtual and/or digital spaces with an awareness that does not contradict its essence. At the same time, such proposals must present themselves with the awareness that they provide a cross-section in extending complex and in-relation entities.

In the first section, we intend to analyse experiences that arise as virtual organisms online and, from various perspectives, investigate the forms of materialisation and dissolution of the body. To do so, we aim to present works that, starting from the body, emerge to work on the body itself in a virtual space, firstly through online events.

This is the case with *Lilies in the Headlights* (29.10.2021-29.12.2021), an online exhibition curated by Giulia Menegale during the pandemic, and supported by the Arts Council England,

with commissioned works by Romeo Roxman Gatt, Loreum, and Costas Kazantzis. Secondly, the contribution aims to frame some of the platforms related to the theme of presence and corporeality to assess the responses and forms of deployment that the theme of the body is experiencing in the contemporary context. In this regard, we will mention the experiences of the Transmedia Research Institute, the dis.art platform, and the recent CThirteen community, a space for education and discussion among knowledge about the body through practices that place the variations of the virtual as access and screen to corporeality at the centre.

In this regard, experiences from the Transmedia Research Institute, the dis.art platform, and the recent community CThirteen will be mentioned. CThirteen is a space for education and discussion among knowledge of the body through practices that place the variations of the virtual as access and screen to corporeality at the centre.

These examples reveal, albeit with different origins, a common drive to experiment with corporeal re-materialisation in the digital that considers the body in its density over the mere flesh aspects. The breakthrough granted by the pandemic was not merely a parenthesis, but an opportunity to catalyse energies on an already active transformative process associated with the virtual which is not a fallback, but an operational choice in offering a representation of bodies that is conscious of its limits and uses the digital to reason upon the shifts of a relationship that must be considered in the contemporary era.

In the second section, the intention is to analyse the connection between the body and the virtual through installative displays. There are several ways in which physical reality and the virtual realm collide. Historically, it all relied on the audience's ability to imagine and speculate. Nowadays, however, digital technology has brought new ways of experiencing space. New spatialities that incorporate both the physical and the virtual. There are at least four major strategies used by artists to connect the physical body to this enhanced spatiality: visual, immersive, interactive and interconnective strategies. In each of these, the relationships between the audience, their bodies and the spatiality are entirely different.

The most essential way of achieving this desire is, of course, through the visualisation of any virtual dimension. By projecting images, many artists are able to add new layers of conceptual value to their works. They incorporate immaterial elements -such as time, memory, data, light, or essence/presence- into the physical dimension. This is evident in some very interesting sculptures by Daniel Canogar and also of the scenographic spaces designed by the artist -architect by training- Chris Ziegler.

Other artists, such as David Rokeby, a pioneer in the field of Media Art, pursue the immersion of the spectator in an alternative spatiality that offers a broader range of sensory experiences. Of particular interest in Rokeby's career is his artistic research on sound-driven spaces that react to the movement of the audience.

The real-time dialogue between a moving body and an enhanced space may be one of today's most spectacular features. Such is the case that there are artists who have become obsessed with exploring this design strategy. Interaction is the leitmotif of the entire artistic production of the French theatre company Adrien M & Claire B, both in their scenographic performances and in their art installations.

Finally, equally intriguing is the artistic research of the performance group Blast Theory on the social human condition and the consequences of living in a digital and socially networked environment. The interconnection between humans made possible by digital technology is historically unparalleled and therefore provokes new situations. Blast Theory's artistic praxis revolves around new social realities that, like in the virtual realm, are complex and not confined to a fixed context.

The contribution thus aims, through the analysis of selected case studies, to interrogate the possibility of a corporeal thought [Caleo 2021] arising from virtualised corporeality, subject to thermodynamic transformation processes driven by data, by the screen, by the online. The provision of resources derived from the body in the virtual realm offers a space to play and contest, to extend and reshuffle the boundaries of the material in terms of space and meaning.

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FIGURES

Fig. 1 - Source: https://www.instagram.com/p/CwSP0ayloYj/?img_index=1

5 / AUGMENTED ENDNOTES

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The daily reality we experience manifests as a blend of physical and virtual domains. The capacity to assimilate, process, and take action on data is no longer a prerogative of human sensory capacity and intelligence but a combination of information partially elaborated by machines and partially by people.

The so-called smart city is just one of the multiple examples of such a fast-evolving alliance between the physical and the virtual, which, nonetheless, opens a series of dilemmas in terms of ideological, pragmatic, and ethical issues on urban governance. For instance, while the delivery of public services can surely benefit from the implementation of real-time remote sensing, digital processuality, and simultaneous actions to be taken, the chain of decisions tends to inevitably escape the control of humans, the entrusting of responsibilities, and the invaluable exercise of critical thinking.

In a broader context, the call “Augmented” suggested that the convergence of physical space and the augmented body represents a rapidly evolving frontier with the potential to dramatically transform our interaction between the physical and digital realms. The augmented body has been framed as a physical human body technologically extended through augmented reality (AR), virtual reality (VR), wearable devices, or other digital technologies that enhance both perception and physical or cognitive capabilities.

This intersection of body and space through digitization systems called for an exploration of how new technologies mediate our experiences and perceptions. Investigating these body-space relationships involved discussing human-computer interactions in various spatial contexts, assessing the impacts on spatial perception, and exploring the effects on the design of physical spaces at different scales. It also involved questioning these technologies’ educational and interaction capabilities, considering the role of artificial intelligence in fostering interaction and co-design and reflecting on the ethical and social implications of these hybridized interactions.

The “Augmented” session selected contributions that span a wide array of topics. These encompassed the influence of XR technologies on architectural and urban design, the perceptual and cognitive shifts resulting from XR on bodily perception and movement, and the facilitation of social interaction and collaboration through AR-based tools in platforms like BIM and GIS. Other areas of interest include the creation of effective and engaging learning experiences in physical spaces, user-centered design and usability in augmented environments, the impact of wearable technology on daily life, and the reshaping of our understanding of body, identity, privacy, and self-expression in augmented spaces. Historical perspectives on the evolution of mixed reality and its interaction with the physical self are also of great interest.

Some contributions have converged on social conundrums, how inherited participatory practices are still irreplaceable in transient societies, and how emerging issues are reshaping commons’ engagements in the framework of an increasingly fluid and hybrid environment. Some authors emphasized how augmented bodies facilitate displacement situations and proposed new types of spatiotemporal coordinates, affecting social ties and shared routines. In some cases, nature has been addressed as the obvious counter-domain of social space, while in others, it has been framed as an inherent part of spreading posthuman environments. Learning processes have also been addressed as a key innovation point in extended realms. An emerging transversal aspect is, nonetheless, the critical attitude towards the potential of digital technologies. While some directions have already been clearly traced, the fourth industrial revolution appears still in its infancy stage, leaving ample room for exploring practical applications and ideological reflections, which these papers have addressed, detected, and questioned in different ways. The augmented domain of physical bodies is clearly not only a matter of how new tools change people’s

lives but, most importantly, forces everyone to reconsider (self) identities in an ever-blurred context between the physical and the virtual. By addressing these topics, the papers fostered a growing awareness of the profound changes and ethical considerations brought about by the integration of physical space and the augmented body, emphasizing its implication for design thinking and application.

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