

A psychological perspective on the meaning of nature and architecture

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This presentation

- Environmental psychology
- Theories preferences
- Nature and biophilic design
- Architectural uproar
 - 6 perspectives

Why do we like the environments that we like?

Why do architects often have a different taste than laypeople?

Environmental psychology

The physical environment's influence on life quality: architecture psychology/ nature psychology



How we influence the physical environment – climate psychology/ sustainability psychology



Reasons for taking care of nature

People in relation to the physical environment

Psychology and the physical environment

More
indirecte
influence

Symbolic: Environments that are read as positive signs: that you are valuable, you belong, someone cares.

Aesthetic: Positive sensory impressions, nature experiences

Functional: Environments that facilitate behaviour increasing well-being

More
directe
influence

Promenta: 5 ways to well-being



UNIVERSITETET
I OSLO

Hauge, Å. L. (2009). Housing and Identity: The meaning of housing in communicating identity and its influence on self-perception. Trondheim, NTNU.

Universal preferences

Order, coherence, totality

Moderate complexity

Nature

Good maintenance, clean

Open, bright, overview

Historical meaning

Environmental preferences

- Preferences are more similar than we think
- Nature elements dominate preferences

Nasar, J. L. (1998). The evaluative image of the city. Sage Publications.

Bourassa, S. C. (1990). A paradigm for landscape aesthetics. Environment and behavior, 22(6), 787-812.

Biologic

Phylogenesis

Universal aesthetic preferences

Cultural

Sociogenesis

Cultural and historical variations

Individual

Ontogenesis

Individual variations





The influence of nature can be measured

- Reduced blood pressure
- Lower pulse
- Muscle relaxation
- Lower cortisol concentration
- Better immune system

Reviews:

WHO, (2016). [Urban green spaces and health. A review of evidence](#). WHO Regional Office for Europe: Copenhagen.

Dikshya Devkota, Cecil Konijnendijk, Stephanie Mansourian and Christoph Wildburger (2023). [Forest and trees for human health: Pathways, impacts, challenges and response options](#), International Union of forest research organizations.



Nature as a powerful component in therapy

- We are part of a larger context - our problems become small
- Nature does not care who we are - we are not judged

Naor, L., & Mayseless, O. (2021). The art of working with nature in nature-based therapies. *Journal of Experiential Education*, 44(2), 184-202.
Ferne, C. R., Palucha, I. V., Olsen, A., & Gabrielsen, L. E. (2023). Utendørsterapi: En introduksjon. *Cappelen Damm akademisk*.

UTENDØRSTERAPI

En introduksjon

Carina Ribe Ferne, Vibeke Palucha, Iris Anette Olsen & Leiv Einar Gabrielsen



CAPPELEN DAMM AKADEMISK

Outdoor care retreat

Cabins designed by Snøhetta at Oslo University Hospital/OUS.

How do these cabins influence therapy and health care?

- The hospitalized children are more natural, free, flexible, curious, open, and safe.
- Therapeutic flow
- Stronger therapeutic alliance, comes more easily

Hauge, Å. L., Lindheim, M. Ø., Røtting, K. L., Johnsen, S. Å. K. (2023). The Meaning of the Physical Environment in Child and Adolescent Therapy-a Qualitative Study of the Outdoor Care Retreat, Ecopsychology, <https://doi.org/10.1089/eco.2022.0087>



<https://www.friluftssykehuset.no/>



SRT: Stress recovery theory. Classic study (Ulrich, 1984):

- Patients with green view had shorter hospital stay and used less pain-relieving medicine after surgery.

Ulrich, R.S. View through a window may influence recovery from surgery. *Science* 1984; 224: 420-421.



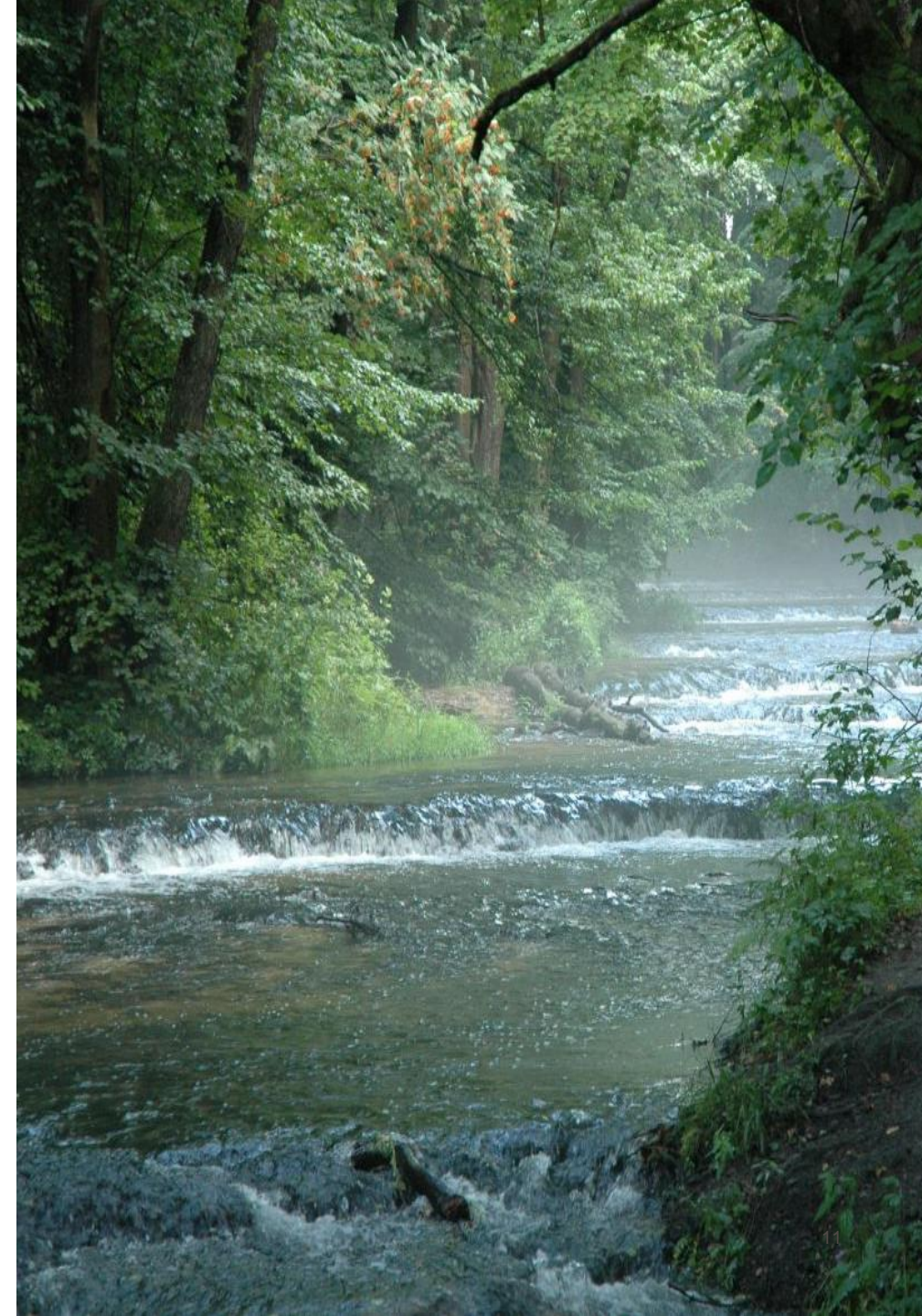
Stress recovery theory, SRT (Ulrich):
Nature gives positive emotions that
remove stress.

Nature elements/views signalize
favorable life conditions – survival.

Adaption: Evolution has made us
respond positively to nature.

ART: Attention Restoration Theory (Kaplan & Kaplan, 1989):

- We have limited capacity for directed attention, get tired, need restoration.
- Nature contributes to attention that wanders freely.
- You regain the capacity for directed attention through nature restoration.



Criticism of universal nature preference theories

- Very little challenged
- Especially fit a male perspective.
- **How does it influence nature preferences if you are**
 - Poor
 - Difficulties of getting to nature areas
 - Ethnic minority, women
 - Afraid to be alone in nature
 - Unfamiliar with maps, equipment



Criticism of universal nature preference research

- “WEIRD” science: respondents are Western, Educated, in Industrialized Rich and Democratic countries
- Historical and cultural contexts lack
- However, preferences for nature vs built environments are also found in studies in [Nigeria](#), [Taiwan](#), [Korea](#)
- Ecopsychology criticizes the ‘Western’ separation between humans and nature. We are nature.



[Nature and culture need each other - WUR](#)

80% of the study population in social and behavioral science studies are “WEIRD populations” representing 12 % of the world’s population

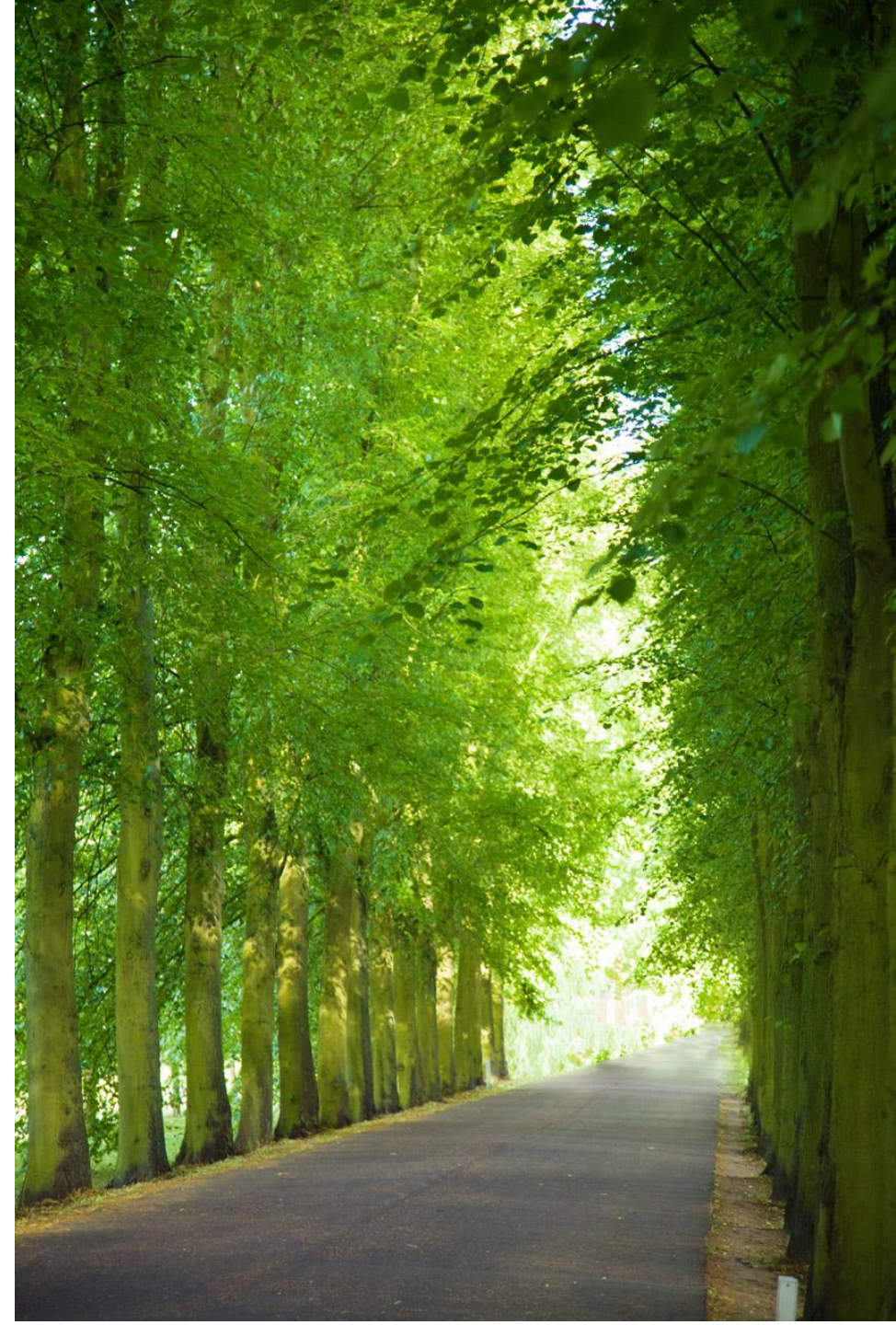
[Are your findings 'WEIRD'? \(apa.org\)](#)

Criticism of universal nature preference theories – biology or culture?

- The **restorative effect of nature** – innate or learned?
 - Being in nature - fewer tasks, less stress
 - Anticipation about relaxation and spare time
- Biologic or cultural nature preferences work in the same direction.
- Historical perspective: Today most people live in cities, the contrast has never been larger – nature deficit

Egner, L. E., Sütterlin, S., & Calogiuri, G. (2020). Proposing a Framework for the Restorative Effects of Nature through Conditioning: Conditioned Restoration Theory. *International Journal of Environmental Research and Public Health*, 17(18), 6792.

Koivisto, M., & Grassini, S. (2022). Affective responses to urban but not to natural scenes depend on inter-individual differences in childhood nature exposure. *Journal of Environmental Psychology*, 82, 101840.



Biophilic design

– design that imitates nature

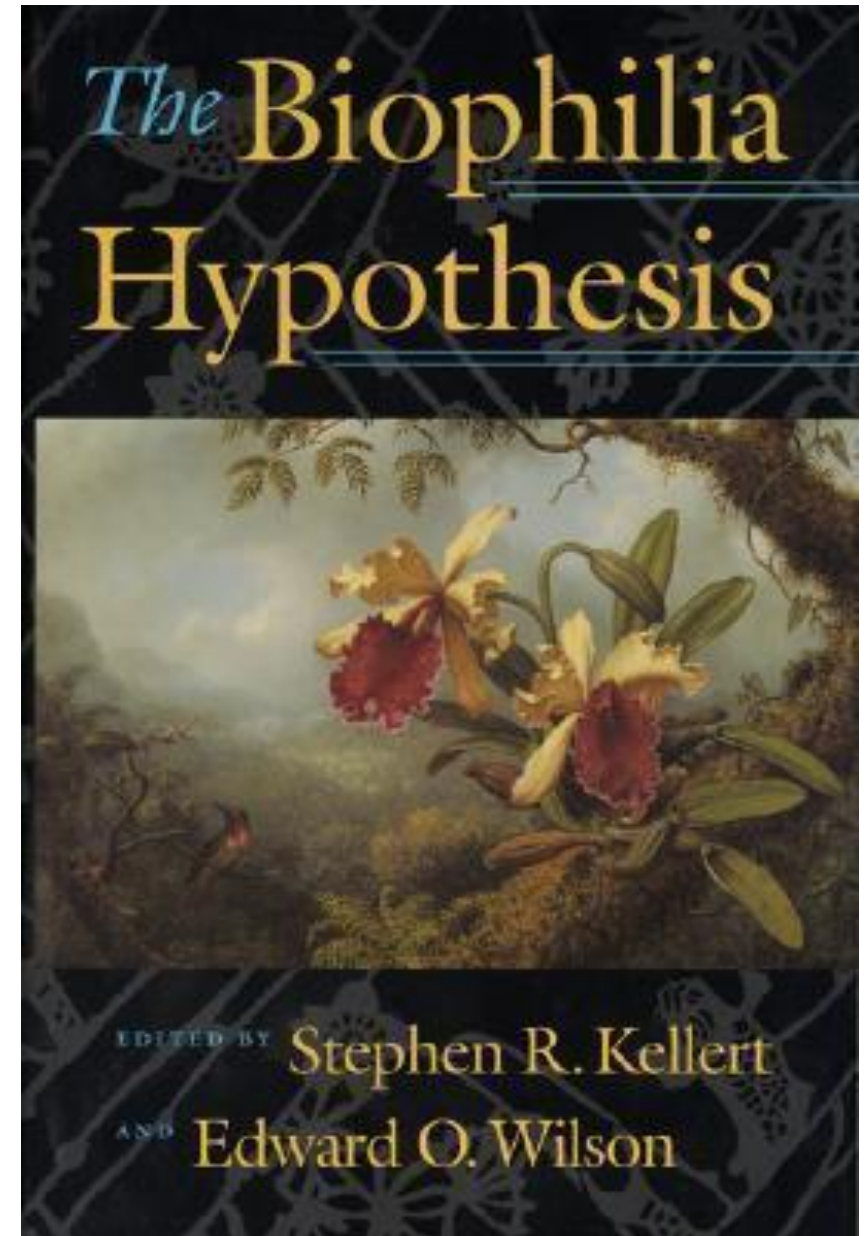
- *To implement nature in human created environments, aiming for positive nature experiences*
- Architectural trend
- Based on the biophilia hypothesis:

“Biophilic tendencies were adaptive because an organism had clear evolutionary benefits when it was hardwired to focus on and respond emotionally to certain survival-relevant living elements.”

- However: May also be explained by learned responses to nature

Kellert, S. 1993. 'The biological basis for human values of nature', in S.R. Kellert and E.O. Wilson (eds.), *The Biophilia Hypothesis* (Washington: Island Press), pp. 42–69.

Joye, Y., & De Block, A. (2011). 'Nature and i are two!': A critical examination of the biophilia hypothesis. *Environmental Values*, 20(2), 189-215. <https://doi.org/10.3197/096327111X129975743917>



Biophilic design, characteristics

- **Direct experience of nature**
 - Plants, water, weather
- **Indirect experience of nature**
 - Biomorphic forms and patterns, fractals
 - Natural materials
- **Space and place experiences**
 - Prospect (view)
 - Refuge (protection)
 - Mystery (explore)



[Six Principles of Biophilic Design - Biophilic Design Elements \(shepleybulfinch.com\)](https://www.shepleybulfinch.com)



Biophilic design, criticism and paradoxes

- Evolutionary explanations are circular
- Young research field, not very concrete
- Heavy demand for maintenance
- Paradoxes – inside and outside: different experiences

Joye, Y., & De Block, A. (2011). 'Nature and i are two': A critical examination of the biophilia hypothesis. *Environmental Values*, 20(2), 189-215. <https://doi.org/10.3197/096327111X129975743917>



[Konsept Fasade - Glassfaser](#)



[Glassfasade Arkitektur Moderne - Pixabay](#)

Architectural uproar (controversy)

- Started in Sweden in 2014
- In Norway since 2016
- Groups in other European countries, and the US

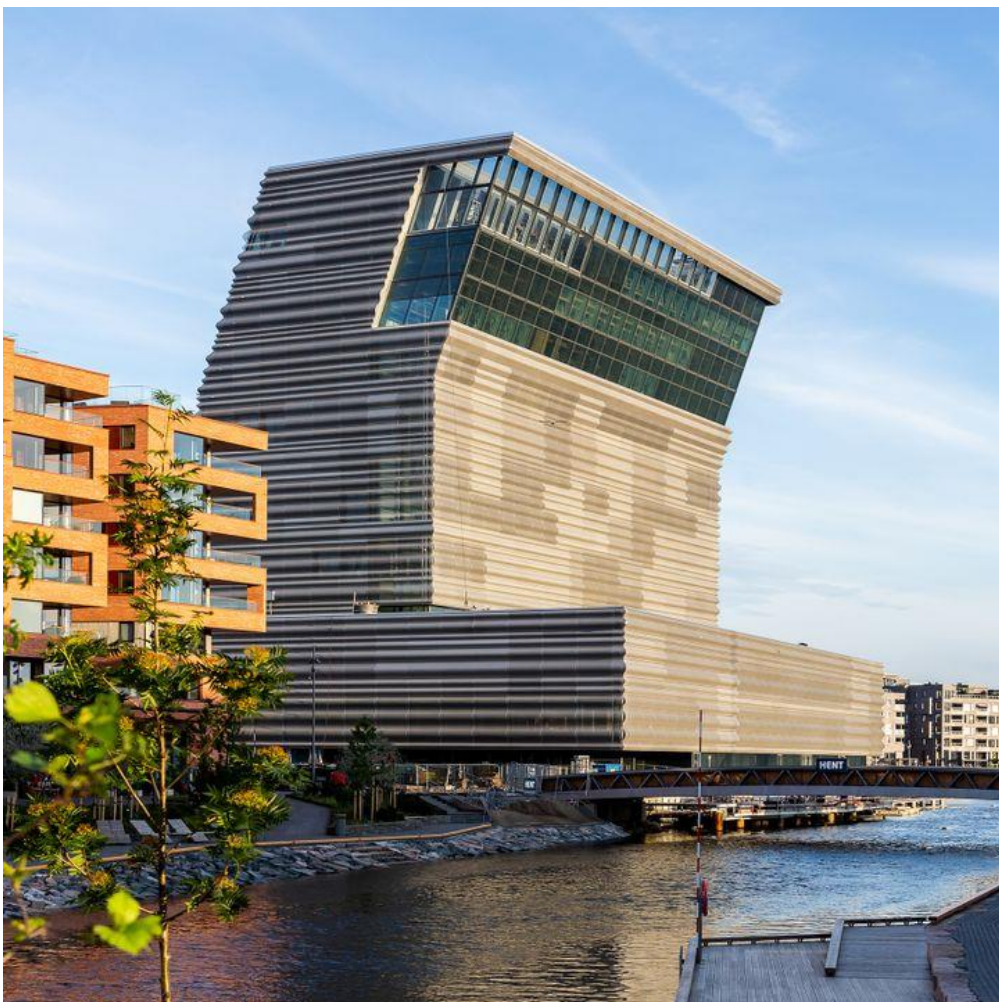
Wants

- Buildings with traditional architecture
- Traditional sizes, materials and forms
- Beauty, harmony, variation, ornaments
- User participation





Grøss-medaljen & Arkitekturopprørets hederspris



'Grøssmedaljen' 2022: The Munch Museum (photo: Tove Lauluten) Honorary award 2022: Nygaardsplassen, Fredrikstad (photo: MAD arkitekter)

6 perspectives on why people are not satisfied with what is built today



1 Economy and demands

- Architects have too little artistic freedom
 - **Economic pressure** from building owners
 - **Legal demands**
- Are the architectural frames too tight?



Kronikk | Byutvikling

Arkitekturdiktaturet

 **Are Meinich**
Meinich Arkitekter AS

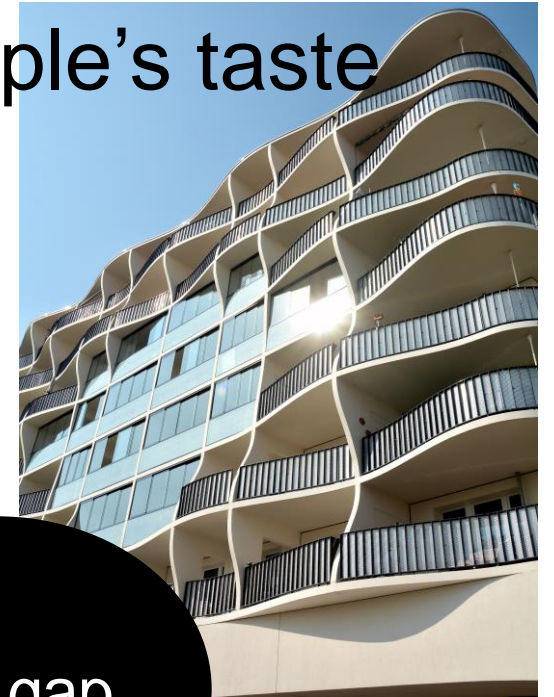
er illustrerer hvor vanskelig det er å få det bra i adkomstområdet til en bolig. For mange er det avfalls
t, skriver kronikkforfatteren. Foto: Privat

Arkitekturopprørets raljering viser hvor lite man vet om
hvor komplisert det er blitt å bygge nytt.

[Arkitekturdiktaturet \(aftenposten.no\)](https://aftenposten.no/arkitekturdiktaturet) 26.03.2024

2 Architects preferences are different from laypeople's taste

- Architects have different preferences than laypeople
- Architects have difficulties predicting laypeople's preferences
- Fresh architect students' preferences more similar to laypeople's preferences in the beginning of the education than at the end



The gap

Šafárová, K., Pírko, M., Juřík, V., Pavlica, T., & Németh, O. (2019). Differences between young architects' and non-architects' aesthetic evaluation of buildings. *Frontiers of Architectural Research*, 8(2), 229-237.

Brown, G., & Gifford, R. (2001). Architects predict lay evaluations of large contemporary buildings: whose conceptual properties?. *Journal of Environmental Psychology*, 21(1), 93-99.

Horn, Gillian (2019) Unpopular Taste: Formulating a Framework for Discussing Taste with Reference to English Volume-Built Housing and the Schism in Taste Between the Lay Public and the Architectural Elite. PhD thesis, University of Sheffield.



The gap between architects' and laypeople's preferences

- Laypeople like
 - traditional buildings
 - with details and decorations
 - historical references
 - variations
- Architects
 - looks down on the small-town style,
 - prefers simple and bare architecture
- A study from NMBU (Mouratidis, 2020) [shows that laypeople like it better in urban spaces with traditional architecture than modern architecture.](#)



Sternudd, C. (2007). [Bilder av småstaden-om estetisk värdering av en stadstyp; Images of the Small Town-on Aesthetic Evaluation of a Townscape.](#)

Kostas Mouratidis og Ramzi Hassan: Contemporary versus traditional styles in architecture and public space: A virtual reality study with 360-degree videos. *Cities*, 2020. ([Sammendrag](#)). Doi.org/10.1016/j.cities.2019.102499

Kostas Mouratidis: Compact city, urban sprawl, and subjective well-being. *Cities*, 2019. ([Sammendrag](#)).

Doi.org/10.1016/j.cities.2019.04.013

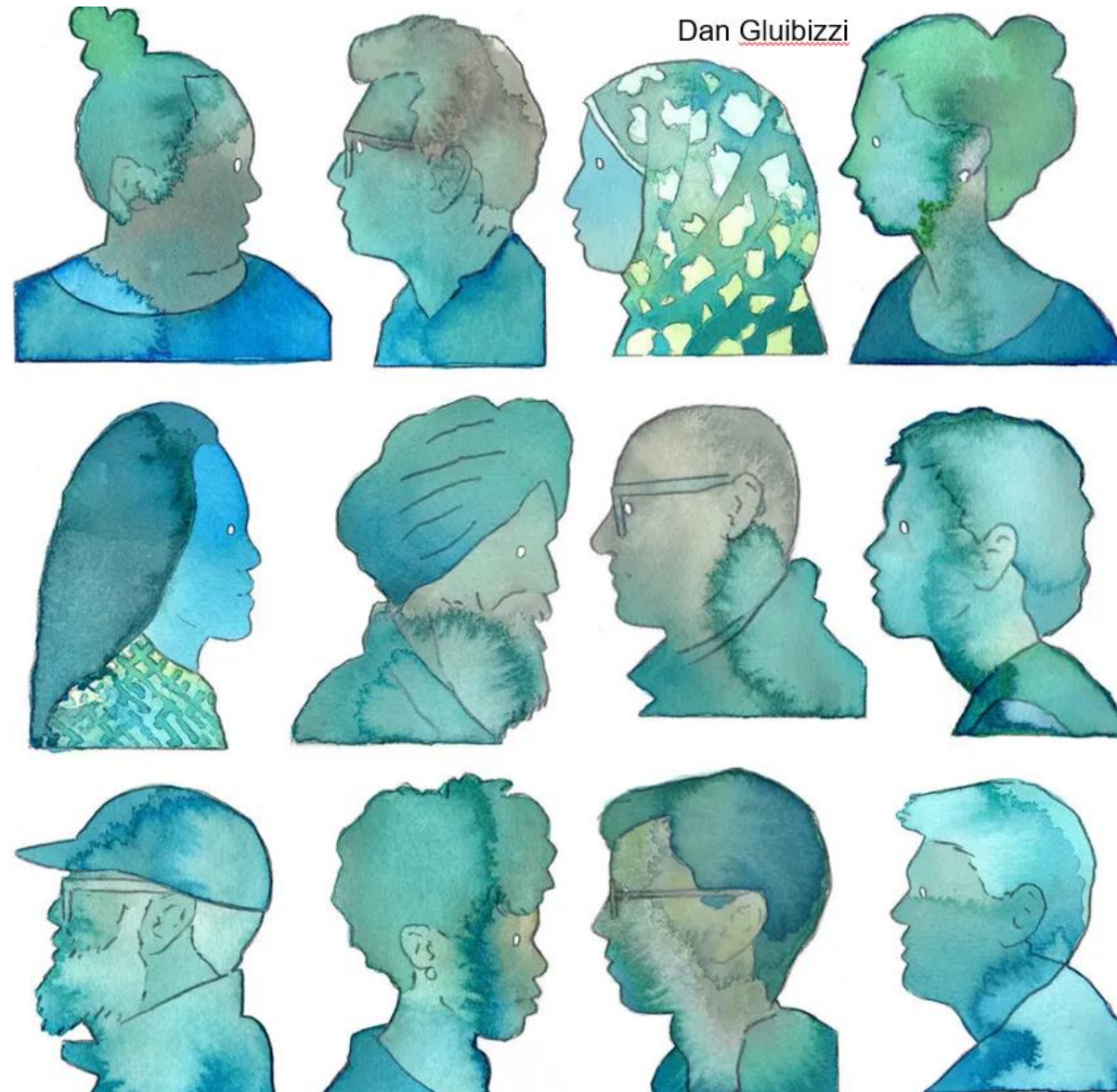
[Folk flest trives ikke med moderne arkitektur \(forskning.no\)](#)

Social identity

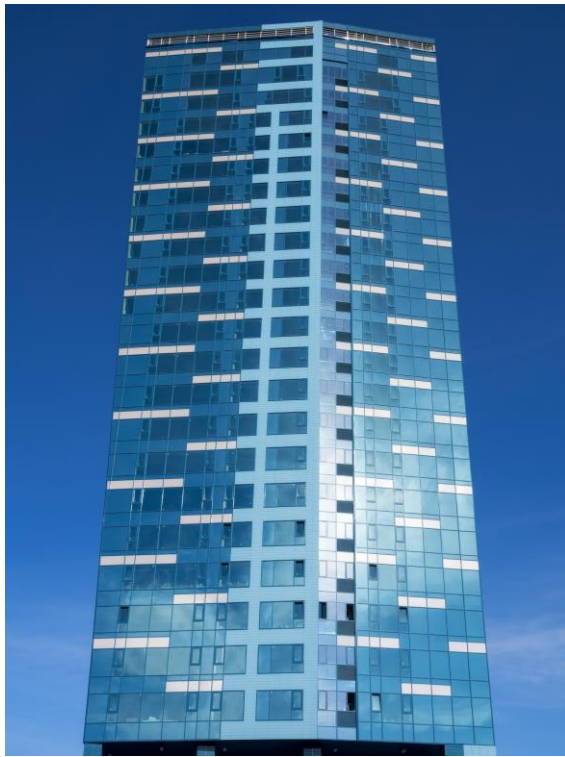
- Social identity: What groups you identify with
- You show identity and group belonging through things and environments
- Follow the style of people you look up to
- Not always aware of this

Fingerhut, J., Gomez-Lavin, J., Winklmayr, C., & Prinz, J. J. (2021). The aesthetic self. the importance of aesthetic taste in music and art for our perceived identity. *Frontiers in psychology*, 11, 577703.

Wilson, M. A. (1996). The socialization of architectural preference. *Journal of Environmental Psychology*, 16(1), 33-44.



3 Artistic education: aesthetic expertise

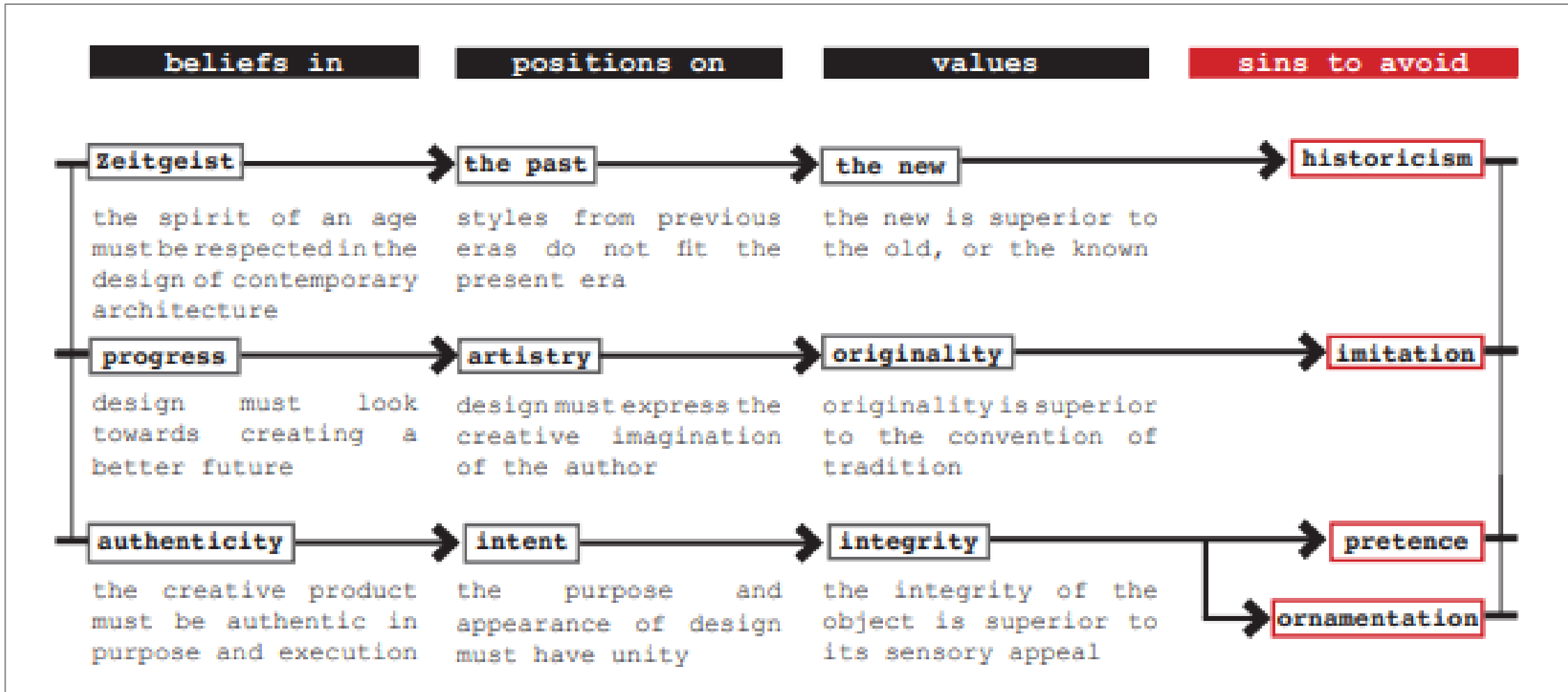


- Comparison between architects' taste and artists' taste.
- City architecture is an art form people cannot avoid being exposed to – it cannot be opted out.
- What responsibility do architects then have for the visual public space?



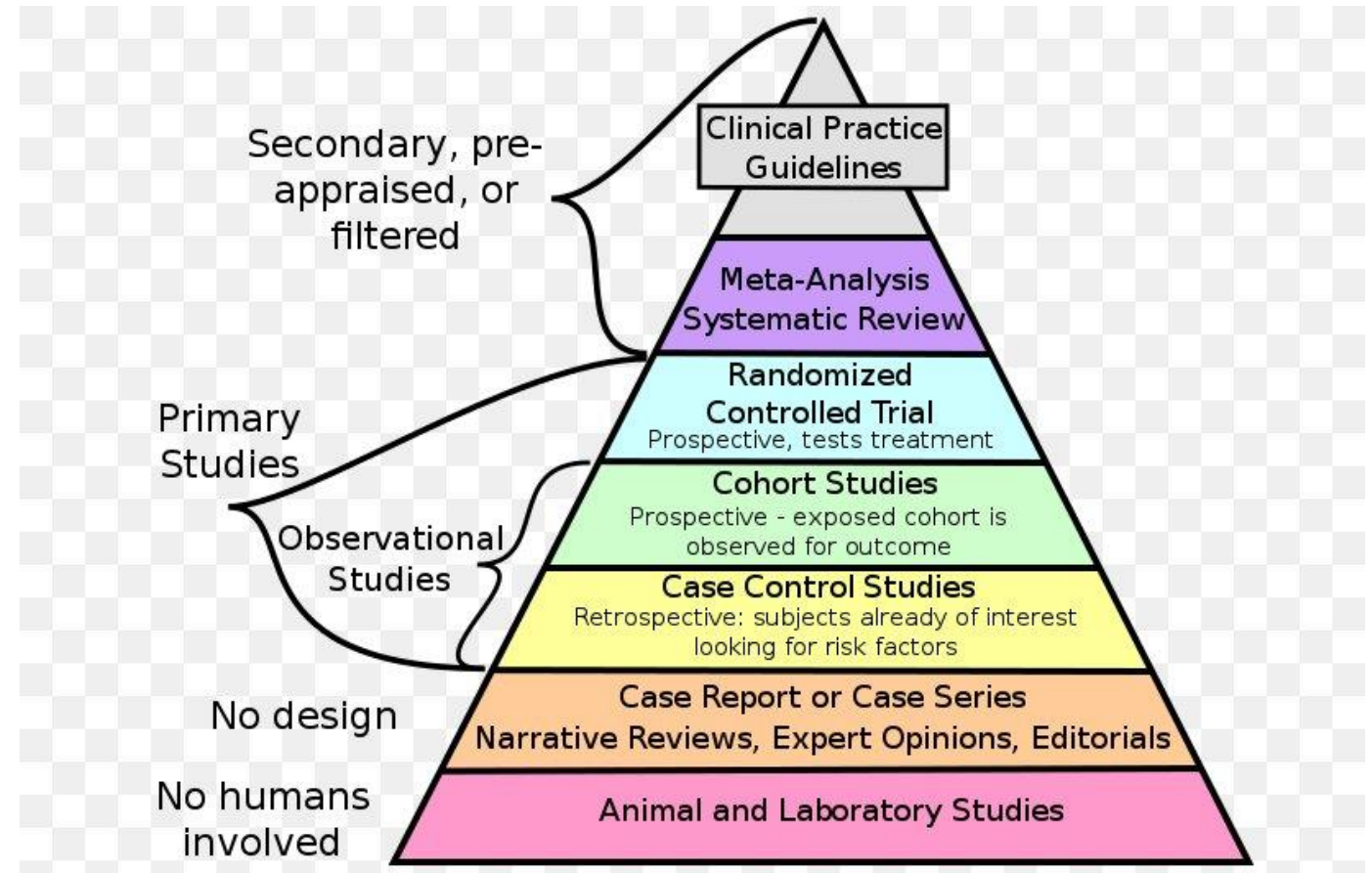
Why are laypeople and architects preferences different?

Discourses in modern architecture



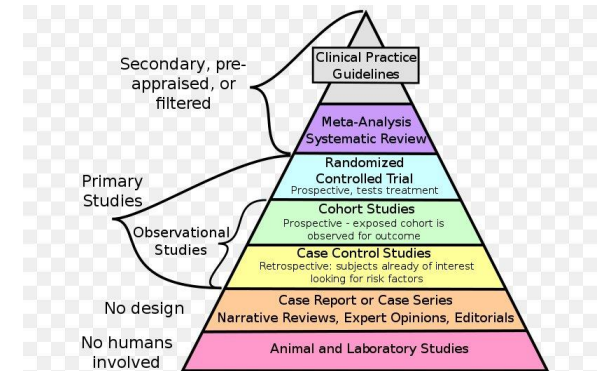
4 Evidence based design, EBD

- «Loop» where research is continually integrated into practice – evidence based medicine is the ideal.
- What attitudes do architects have to evidence based design?



4 Criticism of Evidence-based design

- Not a one-to-one relationship between one type of design and one reaction
- Details versus context – the environment is in the background
- Architecture is also art
- Positivistic understanding of science
- Culture, history and situation shape people’s experience of environments.



EBD: «Instead of using evidence as a base for design, it should be regarded as an increased amount of information that enriches the design”(Lundin, 2020)

van der Zwart, J. (2021). Building for Better Health: Reflections on Architecture Research for Care and Health. *HERD: Health Environments Research & Design Journal*, 14(1), 12-18.

<https://doi.org/10.1177/1937586720971396>

Lundin, S. (2020). A consciously applied, design-driven dialogue can improve healing architecture. *Health Environments Research & Design Journal*. <https://doi.org/10.1177/1937586720954931>

5 User participation

- Health disciplines: user participation revolution – where is this trend in architecture?
- Does the view of architecture as art dominate architecture as service design?
- What can be done to make user participation in city development easier?



Grønlika er den siste delen av havnen øst i Oslo som skal bygges ut. Nå vil utbyggerne justere planene etter innspill fra en rekke Oslo-folk. *Illustrasjon: Rodeo arkitekter*

5 User participation

The Eiffel tower – hated when it was built, loved later.

Argument for promoting architecture that laypeople do not understand and like?



Munch Museum (photo: Tove Lailuten)

User needs are central when aiming for improving the inhabitants quality of life.

Environmental psychology provides tools to understand and evaluate physical environments.

6 Historical perspective

- Symbol aesthetics – dynamic and context-dependent. *Associations to different architectural styles – it changes*
- *Modernism* – a reaction to upper-class' architecture – other associations to these styles today.
- Do laypeople associate modernistic architecture with the upper class or the elite today?



<https://www.aftenposten.no/oslo/i/4obgKE/heller-klassisk-enn-moderne>



Munch Museum (photo: Tove Lauluten)

What can be done?

- More user participation in 'visual public space'
- More focus on biophilic design
- More about the psychology of taste and social identity in design education programs.
- More use of environmental psychology research in design:

Not directly transferring results from one situation to another, but as results that must be interpreted in new settings.

Photo: MAD arkitekter

Thank you!
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