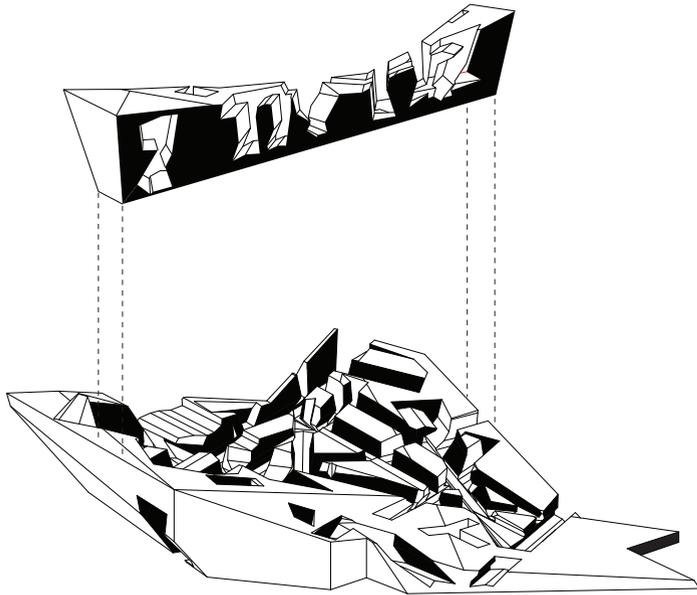


**THE END
OF
SITTING
CUT OUT**

RAAAF

RAAAF
Rietveld Architecture-Art-Affordances



The End of Sitting Cut-Out

Chicago Architecture Biennial 2015

The End of Sitting

The End of Sitting is an installation at the crossroads of architecture, visual art and philosophy. In our society almost the entirety of our surroundings have been designed for sitting, while evidence from medical research suggests that sitting too much is unhealthy. RAAAF has developed a concept wherein the chair and desk are no longer unquestionable starting points. Instead, the installation's various 'affordances' (action possibilities) solicit visitors to explore different positions and alternate dynamically in an experimental work landscape.

The End of Sitting - Cut Out marks the beginning of an experimental trial phase, exploring the possibilities for a radical change in the way we work in offices in 2025. This project is a follow-up of the architectural art installation made in Looiersgracht 60, Amsterdam by RAAAF | Barbara Visser. It is cut out of the landscape of standing affordances and includes the most successful positions for supported standing. It allows visitors to stand, lean, hang or lay down while interacting, reading or working. The visitor is both participant and spectator. This travelling exhibition allows everyone to experience the future of the standing office.

Photography: Jan Kempenaers (color), Frederica Rijkenberg (black&white)











Cut-out of best position tested and optimized from The End of Sitting in Looiersgracht.

The End of Sitting (RAAAF, Harvard Design Magazine – 2015)

Humans are addicted to sitting. Chairs seem to suck us in. When we enter a room with a chair in it, we feel the irresistible urge to sit down. Despite a growing body of scientific evidence that asserts that prolonged sitting has adverse health effects designers are still trying to reinvent the chair. But why this fixation on chairs? What if, rather than thinking through design archetypes, we focus on activity?

History of Sitting

Only 100 years ago, even what we now know as sedentary office work was active work; people shifted positions regularly. In Roman times, officium—from which “office” derives—meant “service,” a title given to those who produced official documents in the space of the industrious agora. In the Middle Ages, similar activities were carried out by the chancellors of the king, who wrote charters and other documents for governmental institutions in court. In both scenarios, writing at a desk did not necessarily imply sitting on a chair. Later, Renaissance printing houses combined deskwork with the physical activities of early printing techniques, resulting in a dynamic space with a regular alternation between standing, sitting, leaning, and roaming.

Industrialization ushered in the unhealthy passivity of the workplace. The century of sitting began with the popularization of the typewriter and Taylorism: the drive for efficiency and productivity led to a segmented office. The standardized chair and desk became the symbol of job security, and simultaneously the instrument of control and

hierarchy. Although many designers tried to loosen these divisions, the chair and desk remained the starting point of contemporary office design in the 20th century. The widespread use of desktop computers from the 1980s onward further decreased physical activity in the workplace.

Affordances for the Embodied Mind

Can we imagine a new kind of office environment that breaks the passivity of sitting, and encourages people to alternate physical positions? Superficial adjustments to standardized furniture elements are not the answer. Rather than updating the chair, the entire office landscape needs to be reconsidered. An explicit awareness of the health risks of sitting is not enough to surmount the irresistible comfort of the chair. As Sean Kelly, Harvard professor of philosophy, explains, the typical relation between behavior and our surroundings in everyday life is a “direct bodily inclination to act in a situated, environmental context.” These unreflective inclinations, or states of bodily readiness, are facilitated by relevant affordances—that is, the possibilities for action provided to us by the environment.²

Recent work on affordances in the philosophy of embodied cognitive science has defined them more precisely. Dr. Erik Rietveld and Dr. Julian Kiverstein state: “Affordances are relations between aspects of a material environment and abilities available in a form of life,” which includes sociocultural practices.³ It should, then, be possible to piggyback on peoples’ existing abilities for standing, leaning, and hanging to create new affordances for working in all sorts of supported positions. From studies on affor-



dances in dynamical systems theory we know that offering a large variety of affordances can help create an environment that invites roaming within a certain area.⁴

Landscape of Affordances

Thinking in terms of afforded activity means approaching office design from an unexplored angle. By conceiving an entire “standing office” rather than a “standing desk,” a range of other postures can be invited into our workspaces. With this new spectrum of supported standing affordances, we can uncover possibilities for radical change in the office environment.

Our installation, *The End of Sitting*, is a sculptural investigation of this philosophy of affordances. A silver-gray rock landscape with excavated spaces accommodates bodies of varying heights and sizes in a range of positions. Most pathways are sloped, for optimal foot support while leaning. The installation offers a large variety of spots for workers to stand, lean, hang, and even recline. The structure of the work landscape provides niches for concentration, areas for collaborative work, and settings that invite informal interaction.

To motivate people to switch postures and move through the landscape during the course of the day, the uncompromising materiality of the rock provides only temporary comfort. Paradoxically, it is this discomfort that ensures an optimum of activity over time. A study by ecological psychologist Dr. Rob Withagen of the University of Groningen suggests that this strategy is beneficial: after working in the rock landscape, people reported that even

though their legs felt more tired, they were more energetic and felt a greater sense of well-being, as compared to working in a conventional office setting.

Spatial-Thinking Models

Affordance-based thinking is important because material context largely determines people’s physical behavior. For this reason it is also important to develop a better understanding of the concept of affordances within architecture and philosophy. As an artistic component of our philosophical research, *The End of Sitting* investigated inviting affordances, or what Kelly calls “solicitations.” The installation is an office landscape that solicits movement. “Without this distinction between affordances and solicitations, architects and human movement scientists interested in designing healthier living environments will not be able to understand why some affordances invite movement and others do not solicit that,” says Dr. Kiverstein, coauthor of “A Rich Landscape of Affordances.” This provides a philosophical framework for investigating how solicitations are not just dependent on the material environment, but also on the dynamically changing personal needs, concerns, and abilities of individuals.

What would the world be like if we were free of this habit of sitting, if we lived by a different set of rules? What could be a new thinking model? And how would *The End of Sitting* function in a more traditional office environment, a university building, a library, or a public space? In order to address the conditions for the world’s increasing numbers of sedentary laborers—assembly-line laborers, call-

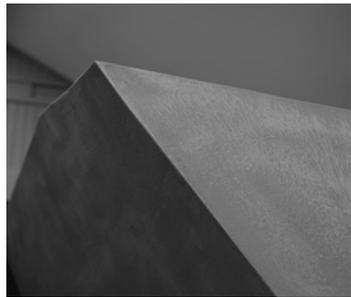
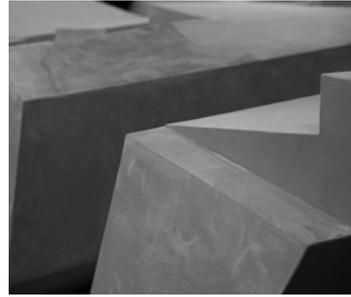
center employees, information-technology workers — we also have to explore new ways of thinking about working. *The End of Sitting* shows the power of real life spatial thinking models that evoke experiment and new perspectives for the future.

Erik Rietveld gratefully acknowledges the support of the Netherlands Organisation for Scientific Research (NWO) in the form of a VIDI grant.

- ¹ Sean Kelly, "Seeing Things in Merleau-Ponty" in *The Cambridge Companion to Merleau-Ponty*, eds. Taylor Carman and Mark B. N. Hansen (Cambridge: Cambridge University Press, 2005), 106.
- ² See Erik Rietveld, "Situated Normativity: The Normative Aspect of Embodied Cognition in Unreflective Action," *Mind* 117, no. 468 (2008): 973–1001; James J. Gibson, *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979).
- ³ Erik Rietveld and Julian Kiverstein, "A Rich Landscape of Affordances," *Ecological Psychology* 26, no. 4 (2014): 335.
- ⁴ Jelle Bruineberg and Erik Rietveld, "Self-Organization, Free Energy Minimization, and Optimal Grip on a Field of Affordances," *Frontiers in Human Neuroscience* 8, no. 599 (2014): 1–14.
- ⁵ See Ronald Rietveld et al., eds. *Vacancy Studies: Experiments & Strategic Interventions in Architecture* (Rotterdam: nai010, 2014).

RAAAF operates at the crossroads of architecture, art and science. The studio makes location- and context specific work and has developed the design approach of 'strategic interventions', which derives from the respective backgrounds of the founding partners: Prix de Rome Architecture laureate Ronald Rietveld and philosopher Erik Rietveld. Together with architect Arna Mackic they form the core design team. Through a working method based on multi-disciplinary research with scientists and other specialists, RAAAF's real-life thinking models link local qualities with long-term strategies.

For RAAAF every project is a manifesto in itself. Our interventions are the result of an independent attitude and research agenda, starting from our own fascinations while confronting them with urgent societal issues. What interests us is what the world would be like if we were free of conventional limits. What could be new thinking models if we lived by a different set of rules? Showing these visions is the aim of each project.





Team

Client: Chicago Architecture Biennial

Installation: Ronald Rietveld, Erik Rietveld, Arna Mackic

RAAAF studio support: Clemens Carlhuber, David Habets,
Bastiaan Bervoets, Denis Bacal, Martijn de Heer

Production: Schaart Adventures

Team production: Koos Schaart, Koen van Oort, Jerzy
Planting

Status: completion 2015

Photography: Tom Harris

Credits/Acknowledgements

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