

Repositório ISCTE-IUL

Deposited in *Repositório ISCTE-IUL*:

2018-12-10

Deposited version:

Post-print

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Eloy, S. & Vermaas, P. (2017). Over-the-counter housing design: the city when the gap between architects and laypersons narrows. In SPT 2017: The Grammar of Things.

Further information on publisher's website:

--

Publisher's copyright statement:

This is the peer reviewed version of the following article: Eloy, S. & Vermaas, P. (2017). Over-the-counter housing design: the city when the gap between architects and laypersons narrows. In SPT 2017: The Grammar of Things.. This article may be used for non-commercial purposes in accordance with the Publisher's Terms and Conditions for self-archiving.

Use policy

Creative Commons CC BY 4.0

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a link is made to the metadata record in the Repository
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Over-the-counter housing design: the city when the gap between architects and laypersons narrows

Sara Eloy, ISCTE-IUL

Pieter Vermaas, TU Delft

The aim of this paper is to focus on the impact that new automatic architecture design systems may have on the buildings' refurbishment dynamic in the city. We argue that this impact consists of increases in the architectural quality of housing and in the social and ecological sustainable renewal of cities.

European cities are faced with stocks of housing from the past centuries that do not respond to contemporary ways of living. For the required modernisation of these stocks three general options are available: inhabitants making small improvements to their housing, large-scale centralised refurbishment, and new construction after demolition. These options all have their disadvantages. Improvements by owners may lack architectural quality, say it may undermine structural integrity of buildings when whole walls are demolished. Centralised modernisation imposes a homogeneity on the refurbished buildings that may disrupt the social fabric in neighbourhoods by chasing away the original inhabitants. Modernisation by demolishing is increasingly recognised in architecture as ecological unsustainable by its use of energy and other resources.

We argue that new automatic design systems that are currently developed in architecture (e.g., refurbishment design systems based on shape grammars) provide ways to modernise cities without these disadvantages. The refurbishment designs that such systems make available to inhabitants contain architectural knowledge that guarantees architectural quality. These systems also provide refurbishment designs that are tailor-made to the individual wishes of inhabitants, enabling that inhabitants can stay in their neighbourhoods after refurbishment. With automatic design systems inhabitants are empowered to, so to say, order cheap and high quality housing designs over the (internet) counter, renew their individual houses and thus renovate collectively large parts of cities in a socially and ecological sustainable way.

On the down side continuous refurbishment of neighbourhoods may lead to an unwanted impediment of urban growth of large parts of cities.

References

- Eloy, S., Vermaas, P.E. & Andrade, M., The Quality of Designs by Shape Grammar Systems and Architects: A Comparative Test on Refurbishing Lisbon's Rabo-de-Bacalhau Apartments. *Journal of Architecture and Planning Research*.
- Eloy, S., 2012. *A transformation grammar-based methodology for housing rehabilitation*. Universidade Técnica de Lisboa.
- Giebeler, G. et al., 2009. *Refurbishment Manual*, Birkhauser Verlag AG.
- MacDonald, D., 2015. *Democratic Architecture*, ORO Editions.
- Weizbacher, C., 2012. New ideas for old structures. In A. Lepik & A. Schmedding, eds. *Moderators of Change. Architecture that helps*. Hatje Cantz, pp. 118–161.