Abstract: Energy scripts and spaces

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Technology is infused with scripts that indicate how we as users should behave around, live in or use an artefact. Drawing inspiration from literature discussing user scripts and gender scripts, we develop the notion of energy scripts. We tentatively define the concept of energy scripts as the way the distribution of light, heat and power within a building choreographs its functional use and stimulates or discourages energy use. We apply this concept to buildings, to analyse if and how the energy demand of buildings is choreographed by architectural design.

In the literature, scripts are also investigated in a normative setting. Designers, such as engineers or architects, embed their worldviews into artefacts thus providing an opportunity where scripts ‘materialize morality’. However, users are not necessarily the passive receptacles of these embedded scripts; they have opportunities to ignore, resist or even redesign built artefacts.

In European architectural design, it can be seen in the middle ages that the situation of rooms was such that important functions –such as writing manuscripts - could profit from heat produced in the kitchen. Moreover, the distribution of warmth followed the division of labour and class lines, as servant’s quarters were unheated. Modern houses also have energy-scripts, for example kitchens are designed for housing separate appliances, instead of using cool storage. The use of technology for heating and lighting is ubiquitous in modern buildings, while the need to reduce energy demand often leads to the installation of even more technology, smart or otherwise. On the other hand, ‘passive design’ demonstrates that it is
quite possible to design buildings that need almost no energy for heating. Furthermore, new ‘daylighting’ technologies bring natural light to the darkest spaces. Historically, there have been ‘paths not taken’, which could have led to a less energy demanding built environment. Retracing these paths can lead to new perspectives on building design and retrofit.

Researching the concept of energy-scripts we contribute to our understanding of the constraints and flexibilities for reduced energy demand in buildings. Our approach also sheds light on the social construction of the ‘resident’ or ’house consumer’ as an end-user. Investigating implicit expectations regarding energy use, which could ultimately assist in designing building scripts that specifically invite energy efficient use of a building.