

# Digitization of the Private Domain

## Reinterpreting Amsterdam's work-life balance

### Abstract

Within history we can distinguish multiple disruptive technologies that changed the way we create. One of them is the internet, which disruptively changed the way we communicated by diminishing spatial proximity. This paper focuses on how the internet disruptively changed the private domain of Amsterdam and how this will continue to do so. It turns out that the perceived state of the private domain remains undisrupted as digital developments are not (yet) embodied in physical, spatial changes. However, digitization did change how space is conceived and lived along changing ideologies and technologies which all clustered in the private domain during the recent COVID-19 pandemic. During this time our private sphere showed little resilience towards the changing work-life balance, resulting in an increase in stress and other mental and physical health related issues. It is expected that with increasing technological developments like VR, AR or activities in a Metaverse, the private domain becomes intruded by external activities not present before which, if centralized in our current private domain, put pressure on our balanced environment. As a result of such this paper implicates creating "in-between spaces" which serve the physical state of the body and the virtual state of the mind. From within this space the work-life balance is maintained to improve living conditions and life qualities. Besides that, it is reinterpreted as a virtual-physical balance, which has the capability of serving more virtual purposes than merely work, creating a resilient and future-proof environment.

MSC3 Research Plan

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Digitization, Hyperconnectivity, Private Domain, Work-life balance, Amsterdam

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## Introduction

### Background information

Within history we can distinguish three disruptive technologies that massively changed the way we lived (Etwaru, 2017). This first was the printing press (1400s) which introduced the mass-transmittance of knowledge to ordinary citizens through written pieces. The second invention was the engine (1800s) which filled a power gap, making horses and slaves obsolete. The final disruptive technology was the internet (1900s) which immensely changed the way we communicated. This shifted from physical face-to-face contact to digital Peer-to-Peer contact via the Internet of Things (IoT), making it possible to communicate with everyone all around the globe from your own house, bridging the distance gap. The importance of the internet increased rapidly as more and more information was shared in digital clouds and open-source programs and soon information, (when digitized called *data*) became the most valuable resource on earth. With the internet and the digital environment as a disruptive power we have to understand this technology and knowing how our physical environment as space should act or react towards this phenomenon. Besides that do we not speak about the internet as a historical invention like the printing press, but from the perspective of an ongoing, still developing process therefore showing its relevance..

### Work-Life balance through digitization

Work-life balance is a concept known to balance your work side with your life/private side. However, this concept became heavily distorted during the recent COVID-19 pandemic where work and life blended in the same space and time. Also the way we socialized changed through the concept of “social distancing”. Luckily we were provided with the invention of the internet in the 80’s which had time enough to evolve into a debatable good working process that connected people through the Internet of Things (IoT) and made us able to continue working and socializing from within our homes. The internet and the pandemic strengthened each other; where the internet introduced the concept of the “death of distance” by diminishing the importance of spatial proximity (Cairncross, 1997), the COVID-19 pandemic showed us the “need for distance” and therefore the shift towards a more digital environment instead of physical. However, home was not made for this work-life

mixture as stress, loneliness and domestic violence increased (WHO, 2020), and neither was it resilient enough to bend towards the changes necessary.

The work-from-home concept was not really a success given its context, but has some characteristics are here to stay if applied as a choice rather than a top-down decision. One of them can be the metaverse, a digital universe where all physical activities can be practiced in a digital way, diminishing spatial proximity. If this digital universe will exist, it can replace activities without the need of physical presence. However, our bodies rather than our minds will always remain physical and therefore one environment can never be seen separated from the other. Besides a work-life balance we will also possibly need a future virtual-physical balance. This is mainly because the balance seems to be distorted when both concepts become unregulated intertwined like we saw during the pandemic. Moreover, the importance of raising awareness about this balance is stressed even more as digital developments evolve rapidly. If we indeed design and create towards what we imagine, then the lines between physical and virtual become vague as this is already done through VR and AR. Besides that do other digital technologies like blockchain technologies change the way we trust and therefore commerce through safety, privacy and decentralisation (Etwaru, 2017), opening up possibilities for small-scale local entrepreneurial ventures which is highly related to space (Haefner & Sternberg, 2020).

### The spatial form of work-life balance

*“Urban society is currently in an unprecedented process of change”* as a result of digitization (Calvo, 2020) and this is only expected to grow. The internet changed the way we socialize and work, and now these digitized forms move to our previously preserved private domain, strengthened by ongoing disruptive technologies like blockchain technologies (Etwaru, 2017). Therefore, as digitization seems to grow continuously, and space as such and its activities become digitized to a point work-life becomes imbalanced, and its decentralised qualities result in mobile work forms mostly practiced from home, space should be able to act towards these changes and stimulate technological, social and economic growth through its architecture. However, our private domain did not change along past disruptive technologies as

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these mainly stayed outside our private domain. But now our work-life imbalance threatens our private domain, it is possibly holding back future progress.

## Problem Statement

*Digitization and technological developments open the possibility of more mobile and flexible work variants, but also new entrepreneurship and a higher level of efficiency. However, our private domain is not designed towards these changes, resulting in previous work-life imbalances and eventually often (mental) health issues.*

Our contemporary urban housing concept does not allow for work-from-home related activities after our urban structure went through the changes of economic centralization and the possibility of quick individual displacement. But after the introduction of the internet and its concept the “death of distance”, followed by a global pandemic, working from home has shown its potential upsides and it gets applied more often. However, our contemporary residential floorplan did not show resilience to the reinterpretation of the work-life balance with health related problems as consequence.

## Research Questions

**RQ:** How can the private domain of Amsterdam act towards a more digital inclusive future?

**SQ1:** What is digitization and what are its spatial consequences?

**SQ2:** What are important ongoing digital technological developments that will possibly shape the future?

**SQ3:** What is Amsterdam’s private domain?

**SQ4:** How will Amsterdam’s private domain look like in the future?

**SQ5:** How can contemporary design act towards Amsterdam’s future private domain?

## Theoretical framework

Calvo presents in his work “The ethics of Smart City.....” (2019) that urban society is in a process of change. He explains that all areas of human activity are exposed to hyperconnectivity, algorithmization and datafication through the IoT. However, study shows that the merging of work and life (i.e. work related practices and private/leisure related practices) can result in an imbalance, which most of the time

evolves into mental issues (Hyman, et al., 2003). During the recent COVID-19 pandemic a lot of individuals were forced into this process of change in which all social, professional or educational practices had to be practiced from home, thus digitally. The work-from-home mindset through the online environments opened a lot of opportunities that diminished the importance of spatial proximity and increased productivity. Cairncross (1997) poses that digitization is here to replace spatial proximity and he introduced the concept of “death of distance”. However in 2018 he, and some other professionals, came back to the notion by doubting the internet-led decentralisation qualities (Camagni & Capello, 2005) (Morgan, 2004) (Cairncross, 2018). According to Bertschek et al. (2015) and Vu et al. (2020) the internet should be seen as the technology that has the potential to diminish spatial proximity by its high quality of efficiency which increases productivity. Furthermore, Malecki (2017) adds to this statement that diminishing spatial proximity results in the cocreation of knowledge globally, resulting in a novel distribution of remote work opportunities (Haefner & Sternberg, 2020).

Virtual space seems to coexist with physical space and the literature shows both move parallel to, but do influence, each other. However, analysis of Levebvre’s conception of the production of space, being subdivided into perceived, conceived and lived space (1991), shows that virtual space, is not a space as such. Virtual space does tick the boxes of conceived and lived space but cannot be seen as perceived space as it is not physical, materialized or spatial. Therefore digital space needs real-world physical space to coexist along and the virtual world is more a state of mind while the physical serves the body.

Interestingly, when speculating along the model of Levebvre, the perceived space is also the form of space that didn’t change much over time. The conceived space (space of designers and political influences) changed reasonable along digital developments, ethical questions and changing ideologies (Calvo, 2019). And the lived space (the space that speaks to individual experience and where social relations take place) changed drastically along the line of digitization related to social interactions and work. But the perceived spatial layout changed little...

## Methodology

Within this research I work towards final spatial implications as to how our private domain should act together with digitization and resilience. To gain a general understanding I will first give insight into the theoretical implications of digitization in space related to the private domain through a literature review. To understand What the private domain is and how this changed over time I will continue with an empirical analysis about Amsterdam's traditional private domain. This will be done by analysing architectural case-studies within the centre of Amsterdam (possibly Oud West or Oud Zuid) along its work-life ideologies. Later in the research I will analyse the modernistic case studies of the AUP (Figure 1 & 2) according to the ideologies of light, air and space, and its segregation of duties and how this changed the private domain. Lastly within the empirical research I will analyse contemporary case studies (Figure 3 & 4) that are just finished to see how they react to contemporary, and possibly act towards future, ideologies. All analysis will focus on the private domain which's concept will be framed in the literature review prior to the analysis. Because our contemporary mindset has to shape future preferences I will lastly give some spatial implications on how design can or should act towards digital developments. After discussing, reflecting and concluding, I will base my final design concept towards "Where physical and virtual meet - the in-between space".

## Diagram

The diagram on the last page shows the methodology in relation to time (read from top-down). From left to right the cohesive structure of the sub questions, the literature, the epistemes and the products can be seen. It is clear which questions are answered where in the process and what literature is used to finally answer the main question by doing spatial implications. This diagram illustrates the possible process but this is open for future changes.

## Relevance

The literature describes space as something physical, however the lines between physical and virtual get distorted and there is no more clear distinction. Therefore it is important to reinterpret space according to changing ideologies and future developments. If not,

some balances like the work-life balance become distorted and stress related issues resulting in a decrease in mental health is more likely to happen in the future.

## Reflection

Although the research setup is well structured (literature research, empirical analysis and bringing both into context), the literature can be more evaluated. Besides that, does space have to be resilient to also adapt for future unexpected changes within the technological context or towards changing ideologies. This is especially stressed within the private domain as no specific definition is given yet. The research will benefit from a more framed definition of 'private domain' to narrow down the literature review. Furthermore, the research does not explicitly mention how the literature and the empirical research will progress as unexpected sources have to be included.

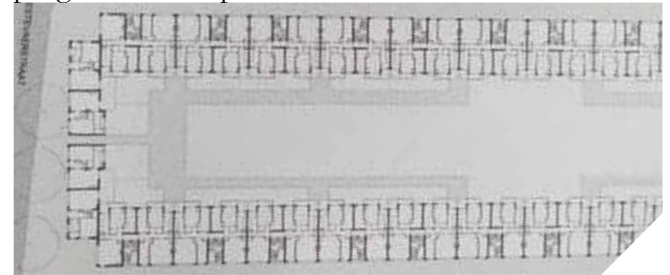


Figure 1: Ground Floor Bos & Lommer, Amsterdam (1938)

From: *Hollands bouwblok en publiek domein Model regel ideaal*, Susanne Komossa

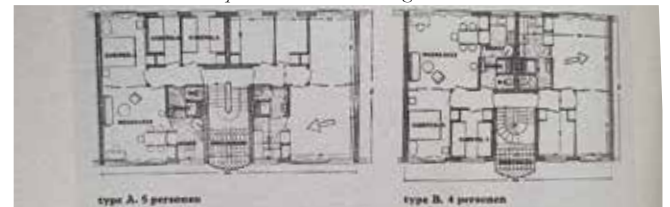


Figure 2: Blueprint for project Landlust, Bos & Lommer, Amsterdam

From: *Hollands bouwblok en publiek domein Model regel ideaal*, Susanne Komossa



Figure 3: Rebuild buildingblock Overtroomse Veld, Amsterdam (

From: *Formbet architectuur* - <https://www.form.nl/>

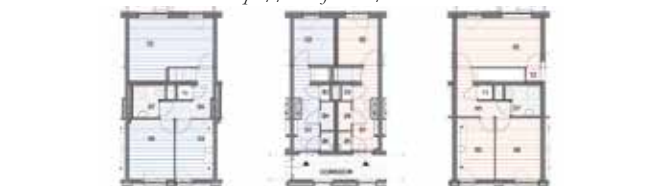


Figure 4: Maisonettes of Buildingblock. Level 0, 1 (entrance), 2

From: *Formbet architectuur* - <https://www.form.nl/>

\*Figures only for illustration, research will possibly use different figures

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**Subquestions:**

1. What is digitization and what are its spatial consequences?
2. What are important ongoing digital developments that will shape the future?
3. What is Amsterdam's private domain and how did it evolve over time?
4. How will Amsterdam's private domain look like in the future?
5. How can contemporary design act towards Amsterdam's future private domain?

How can the private domain of Amsterdam act towards a digital inclusive future?

**What**  
**When**  
**How**  
**Where**  
**With Whom**  
**Why**

**Keywords:**  
Digitization and future technologies  
In the Future (2050)  
Because of Technological developments  
In Amsterdam's private domain  
Residents of Amsterdam  
Because of the rapid Technological Adoption

**RESEARCH**

*New digital developments will stimulate local entrepreneurship and diminish the importance of spatial proximity in relation to work, social contact and leisure. These activities will, within our current environment, result in a distorted life balance. Therefore should the private domain show resilience towards future changes by architecturally including centralized spaces to practice digital activities and to serve the physical body and the digital mind.*

**LITERATURE    EPISTEMS    SUBJECT    SUBJECT    PRODUCT**

1. **Bayat & Kawalek** *Digitization*
- Frissen** *Trapped in Electronic Cages?*
- Van Winden & de Carvalho** *Digitization and cities*
- Cairncross** *Death of distance*
- Calvo** *Ehtics of SmartCities*
- Finger & Razaghi** *Conceptualizing SmartCities*
2. **Gloerich et al.** *City as a License*
- Shaw & Graham** *An informational right to the city.*
- Haefner & Sternberg** *Spatial implications*
- Moriset & Malecki** *Geographies of the digital economy*
3. **Marsal-Llucana** *Cryptourbanomics*
- Gijan et al.** *Digitization & workplace*
- Komossa** *Hollands bouwblok*
- Smith** *Work in a new economy*
4. **Van Ardenne** *Towards a digitized era*
- Carmichael** *Future Proofing*

- Historical
- Digital
- Technological
- Governance
- Economical
- Entrepreneurial
- Work-life
- Urban
- Spatial
- Practical
- Adaptable
- Analytical
- Discovery
- Perspective
- Reflective
- Episteme(s)
- Personal

**Digital**

**Spatial**

**Theory**

**Future consequences**

**LITERATURE STUDY**

**EMPIRICAL RESEARCH**

**Analysis**

**Future spaces**

**Narrative**

*What?*  
*Why?*  
*When?*

**Narrative**

*Where?*  
*With Whom?*  
*How?*

**Analysis**

*Floorplan*  
*Section*

**Narrative**

*Clashes*  
*Similarities*

**Narrative**

*Implications*

**Visuals**

*Analysis*

**Narrative**

*Why?*  
*Why not?*

**Narrative**

*What*  
*How*

**Visuals**

*Proposition*

**Narrative**

*Vision*

**Visuals**

*Concept*  
*Floorplan*  
*Section*  
*3D*

**SPATIAL IMPLICATIONS**

**Discussion**

**Reflection**

**Conclusion**

**DESIGN**

**?CLASH?**  
*Future space vs future digital consequences?*

5.