■ Sacred Care

The societal role of vacant churches in the elderly housing crisis

Graduation Paper

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Colophon

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2. Important terms

Before reading this research plan, it is important to know which key terms reoccur in this report and what is meant by them within this paper. In this way, an attempt is made to clarify the framework within which these concepts are determined.

Symbiosis[1]: The coexistence of two disparate organisms on or in each other for mutual benefit.

Independent elderly: In this study, we see the independent elderly as an individual who is able and willing to live most of their time individually, but with the ability to get ''light care'' when needed.

Light care[2]: By light care we mean:
- *Help with daily activities. For example, washing, dressing and cleaning.*
- *Participating in activities, or eating together in a restaurant near the complex.*
- *Living independently in a flat.*

3. Abstract

This paper is aimed at investigating the design of care homes for independent elderly people within a former church building. With the growing vacancy rate of churches, the aim of this research is to see if they can complement the housing need present among the elderly. In the Netherlands, a quarter of all religious buildings have already been transformed into a new function at this moment in time, which will only increase over the years[3]. In the case of elderly housing, this percentage doesn't go above four per cent of the total transformations[4]. This article reveals the reasons why care isn't at this moment of time appealing to host in a former church, as well as the design strategies that can be followed in order to make care functions more attractive to facilitate within a church. In addition, I also believe that the social character of the church can contribute to facilitating care facilities. This is due to the church already having a social role in society which can be complemented by taking care into consideration. Therefore, I would like to explore what we as architects can do with these buildings to provide the elderly with sufficient living space where they can live the rest of their lives and where their mental well-being is stimulated.

Figure 1: New function transformated churches
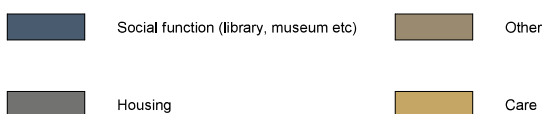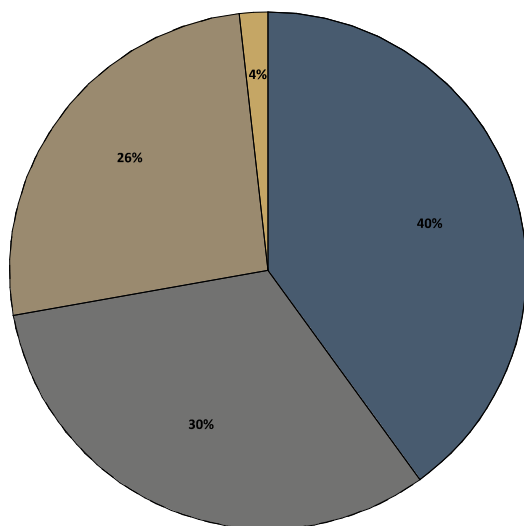
4. Introduction

The term ''church'' has several definitions. Within this research, the main focus is on the building and its architectural qualities. A church can be described as a ''building where believers gather for religious acts''[5]. Over the years, more and more churches are becoming vacant due to growing Atheism in the Netherlands. In the period between 2012 and 2019, the number of atheists increased by 17 per cent. The biggest decline in the number of believers can be seen in the Roman Catholic Church. A decline of 21.5 per cent in the same seven years[6]. The decline in church attendance has several causes. First, a major secularisation has taken place in Europe. This is mainly due to a highly individualising and socio-economic shift in society. In the process, the relationship between the church and politics is also shifting, with faith playing less of a central role in society[7].

There are also external crises that contribute to the decline in churches in the Netherlands.

For instance, the Corona crisis that made its appearance in the Netherlands in 2019 had a major impact on the number of churchgoers coming to church[8]. Apart from multiple lockdowns, alternatives to attending church services have also caused fewer people to physically attend the church.

The decline in the number of churches is likely to continue in the future. This is reflected in CBS figures (figure 2) which show that the number of atheists among youth between 15 and 35 hovers around 64 per cent, but is also a plausible future scenario with secularisation in Western Europe[9]. With one-third of the total number of churches being national monuments, it is nevertheless very important to take stock of future prospects for these buildings, as they should not be demolished[10].

	15 till 25	25 till 35	35 till 45	45 till 55	55 till 65	65 till 75	75 and higher
Atheism	64,3	64,5	60,2	58,9	47,3	42,6	31,7
Roman Catholic	11,5	11,1	13,1	17,8	26,8	30,2	37,6
Protestant	11,2	11,3	11,2	11,8	16,6	21,0	25,2
Islam	8,6	7,7	8,1	4,7	2,4	2,1	0,4
Other	4,5	5,4	7,4	6,8	6,8	4,8	5,1

Figure 2: Percentage by faith ordered by age

At the same time, ageing in the Netherlands is accelerating since 2011. The number of elderly people is only expected to rise further until it peaks in 2040. The large peak in the number of elderly comes from the large number of children born during the baby boom period combined with a growing number of emigrants. While these are currently under 65, in the next 20 years they will also belong to this group[11]. The grey pressure is lowest within large cities such as the Randstad, as that is where most young professionals go to look for work[12].

Older people are generally getting older due to better quality in healthcare with better medication, which means cardiovascular diseases are no longer the number one cause of death. With increasing age, the strain on nursing homes should also increase. However, we see that this is not the case in practice. Whereas people used to prefer to live in a care home as soon as possible, we now see that people prefer to live independently on their own. This trend has come about through the combination of individualisation and an adapted housing policy regarding care homes that tried to let as many elderly people to live in their own homes for as long as possible[13]. According to HEVO (a housing corporation), 92% of elderly people can and want to live on their own at the age of 75. They often live in adapted or independent senior housing which is made suitable for the elderly to receive care when needed[14].

Elderly people who live independently are also generally healthier. For instance, they deteriorate less mentally if they can keep in touch with acquaintances and friends from their own environment. In addition, people are also more encouraged to exercise if they live independently. In a care facility, everything is arranged for you, so there is a quicker chance of the resident becoming passive over time. This is less the case when living independently[15]. Nevertheless, it is still expected that in the next 20 years, 700,00 personnel will be needed to take care of all these elderly people[16].

5. Theoretical framework

During this study, the future contribution of vacant churches for the purpose of developing more independent elderly housing will be investigated. Since the relationship between the elderly and the church is already stronger than the relationship young people have with the church today, it would theoretically seem logical that the mix between elderly care and religion centred on caring for one another could be combined. To survey this, the Sint Dominicus is examined as a case study for its potential for transformation into independent elderly housing. To find out what an elderly person needs regarding facilities and help, information is mainly gathered from books and articles. Apart from that, people living in care homes and informal carers can be interviewed for extra information. The aim is to respond to the growing demand for independent senior housing, trying to combine the phenomenon of vacancy and ageing into an improvement in housing demand. The main emphasis here is on the independent living trajectory. Elderly people live independently at home for longer and also want to continue living independently for as long as possible. This makes it one of the largest target groups among the elderly who want to qualify for so-called "senior housing". With this, I think I can tackle the largest target group. The outcome of this study can contribute to the growing housing problem of the elderly and reduce the number of empty places of worship. In addition, the research also combines social professions (like healthcare, psychology, and sociology) in combination with the field of architecture.

6. Research question

Main question:

Within this research, I want to find out what the reason is for the paltry interest in making care housing within a church and how we can encourage this better. The result will be tested through a case study which outlines a future scenario on how to give these monuments a new life. Since the trend of an ageing population and the emptying of churches is not predicted to diminish, it would be better to focus on a symbiosis between the two to reinforce each other. In addition, churches are also often centrally located, which could have a positive impact on avoiding feelings such as loneliness. Therefore the following research question is formulated:

How can the growing vacancy of religious buildings help create a housing provision for independent elderly people?

To answer this question, my research is divided into two parts. The first part gives insight into the reason why not many churches are repurposed into care facilities. During this part, case studies will be explored to gain knowledge of the necessities needed to accommodate elderly people in a church. The second part looks at how architecture can respond to the life and mind span of elderly people. Combining this with the other chapters, a list of design principles is formulated that can be implied for the Sint Dominicus church to repurpose into a healthcare building.

Sub questions:

• *Question 1: Why aren't very many churches being transformed into healthcare buildings?*

• *Question 2: What kind of architectural elements does an independent elderly person needs to live in a home in which ''light care''² can be provided?*

• *Question 3: How have existing churches been transformed into care buildings?*

• *Question 4: What can we learn from existing care buildings in redesigning churches?*

• *Question 5: How can architecture influence an individual's life and mind span?*

7. Methodology

The St Dominic's Church, as well as the other case studies, are studied on the basis of existing drawings obtained through the archive. With the help of these drawings, analyses are made that go into the spatial arrangement and qualities of the case studies. Examples include the figures 3 and 4.
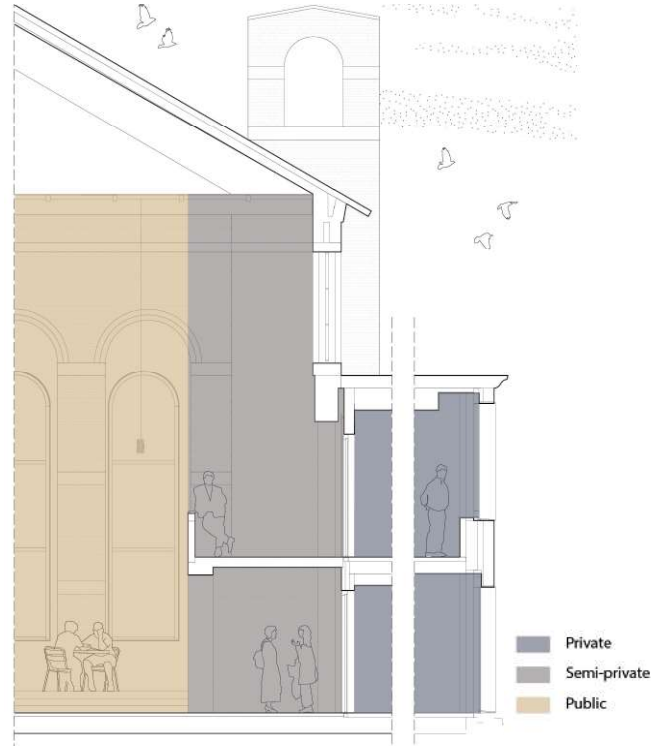

Figure 3: Analyses Vredeskerk on relation between public and private
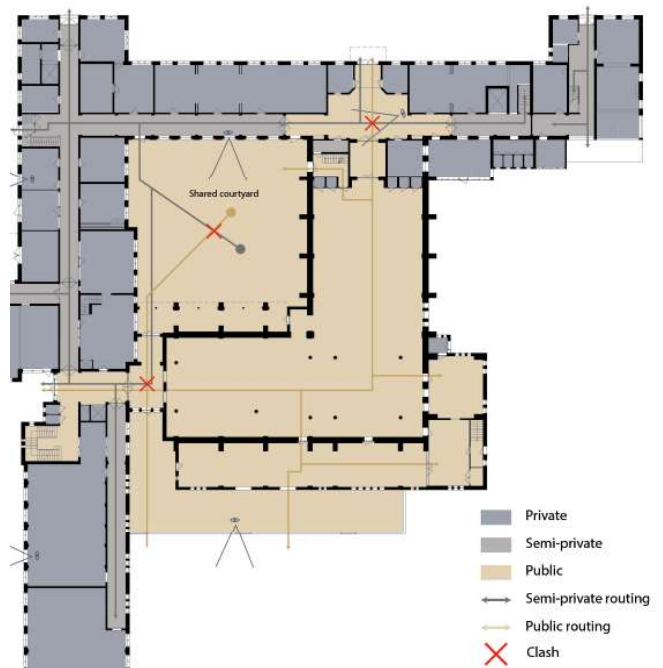

Figure 4: Analyses Mariadal on relation public and private - collective courtyard and entrance creates clashes between visitors and dementing elderly

The information obtained from the archive drawings is further elucidated through interviews with architects of the case studies in question, as well as through visits to various care homes. The aim of these analyses is to identify possible obstacles in transforming a church into a care home and how an architect can respond to them to make a project feasible. Research is also conducted in the sociological field on the mental and physical well-being of the elderly. This theoretical material is mainly supported by books and articles related to care or the psychology of human beings. All the information is then formulated into ten design principles that form the basis for the design process. These design strategies can be found in the next chapter.

Case studies

Case studies are used for subquestions three and four. These case studies are of transformed church buildings and existing care centres. Except for the Vredeskerk, all the churches were chosen based on the care function where the elderly can live independently. For the care buildings, the main criteria were that they should offer care to elderly people who want to live independently, with the possibility of light care being offered to whoever needs it. Based on this, the following case studies have been selected:

Figure 5: Oosterkerk Aalten

Figure 8: De Ingelanden Utrecht

Figure 6: Vredeskerk Tilburg

Figure 9: Bartholomeus Gasthuis Utrecht

Figure 7: Mariadal Roosendaal

Figure 10: Haarendael Haaren

8. Results

Care is not appealing

During the research, I found out that care isn't attractive to facilitate in a church for several reasons. First of all, the relationship with the church is a sensitive subject, holding on to traditions and memories. This makes it difficult during the design process to integrate the different perceptions into a single design, often causing the project to fail during the initiative phase[17]. In particular, the difference between a Protestant and a Catholic church has a great influence on the transformative possibilities of the church. With a Catholic church, a new function is only possible if the church is desecrated, so that it is no longer seen as the house of God[18]. In addition, local residents and churchgoers still want to be able to access the church in the future (for example to visit the Mary Chapel), despite the fact that in practice they usually do not use it. They would like to have the opportunity to experience the church to relive precious memories here[19].

Besides the relationship with churchgoers and local residents, the building use of the church is also not ideal for the elderly. Many churches are not insulated, which results in heat loss through the solid walls. In addition, the large room takes a long time to warm up due to its large volume. The warm air rises mainly upwards, resulting in a relatively cold room at the bottom. Thereby is it in general more difficult to make a room thermally comfortable for elderly people who already have more difficulty regulating their own temperature (compared to younger people)[20].

Apart from the energy prices that go up with these poorly insulated buildings, things like maintenance and management of these (often) monumental buildings are also major cost items. As a result, alternative buildings that have less monumental value, but are better insulated and spatially arranged are more attractive for housing the elderly. In addition, care institutions often want to own large buildings, as this allows them to provide care more efficiently with fewer staff. This makes smaller churches quickly uninteresting for care institutions to establish themselves[21].

In terms of use, too, a church is not always suitable for the elderly. There are laws that must be followed in order to make a building accessible. Elderly people often suffer from minor ailments, so the houses have to be made ''elderly-proof''.

This is not always possible within the current structure of the church and can also be costly.

The cultural value is often lost when making a care facility in a church. This is due to such things as system ceilings, pre-walls that are used to insulate the existing structure and colour palettes of care facilities that effects the architectural expression of the church. As a result, many projects fail when they have to be approved by the building committee. In particular, the proportions of the human scale often change in similar transformation projects, as several floors are often added in the high space of the church which erases the transcending of the human scale in the church[22].

Lastly, it is not always ethically justified to locate care in a church. Particularly when a building is multifunctional, people want to have a clear separation between care and the other functions. Declining elderly people are perceived as confrontational by the vast majority of visitors, which makes them reluctant to visit the venue in the future[23].

Accessibility

Accessibility in the Netherlands is defined by NEN 1814. This law is defined in the handbook as the Accessibility of outdoor spaces, buildings and dwellings. The aim of this law is to enable spaces and buildings to be used ergonomically, focusing on the four themes: effective, comfortable, healthy and safe[24]. To achieve this, architects mainly engage the senses. For the elderly in particular, it is very important to use these senses in order to stimulate them mentally, which has the effect of keeping them healthy for longer[25]. However, within architecture, it is difficult to respond to every sense. Smell and taste in particular are senses that are still little used in the world of architecture. However, architects do apply the senses of hearing, seeing and feeling more often when creating an experience of a space. For instance, the hearing of most elderly people deteriorates as they get older, which can result in social, mental and emotional problems. Although architecture cannot solve hearing loss, sound can be used for interaction between people. For example, sounds make people curious about what is happening in other rooms in order to stimulate interest and exploration.

In addition, it is especially important to address the acoustics in a church building with the resonance between the walls and ceilings. This can lead to over-stimulation which brings restlessness and fatigue. In general, elderly people are more prone to overstimulation from noise, which is why quiet rooms to retreat into are also desirable.

Our eyes are constantly sending signals to the brain that stimulate us. When we see, we experience this mainly in colours and textures that appear quiet or busy. Within colour psychology, a number of studies have been conducted into this, which have shown that light colours in particular have a calming effect on the mood of older people. The colour green in particular has a positive effect as it stands for healing, fertility, renewal and liveliness[26]. However, a remark should be made here. Although various studies have shown that the presence of green has a positive effect on the elderly, in practice, there is still not enough research to make a definitive statement on this[27].

Within architecture, the feeling is mainly used to promote wayfinding for the elderly. By using different textures, attempts are made to encourage the elderly to walk a certain route, so that they are actually ''gui-ded'' by the material[28]. Besides the physical feel, the emotional feel of a space is the main focus. Within this, colour contrast, clear routing, good lighting, acoustics and clarification of the function of the space are essential aspects of a suitable building for older people. This shows that responding to a specific sense almost fails, rather it becomes a collaboration between the three.

There are also desires that promote the mental state of the elderly. For instance, the elderly should be able to have the disposition to furnish their own homes according to their own taste. Today, we see that nursing homes are mainly set up on the basis of small cells where your living room is also your bedroom (see figure 11). These rooms are standardised and offer little space to give them a personal touch. Besides, it usually doesn't even have the ability to cook independently or host guests so you always become dependent to go out to eat with the rest. This should not be an obligation but a desire when we long for independence.

Figure 11: Small cell with bedroom and living room in one room (De Ingelanden)

In theory, you would want a floor plan that is completely flexible, allowing the user to create their own layout. Duinker & Van der Torre were ahead of the curve in this, developing a floor plan in Amsterdam's Dapperbuurt in 1989. These houses were intended for the social sector, which intended to let the inhabitants add as much quality as they want to their homes by using furniture and sliding doors[29].
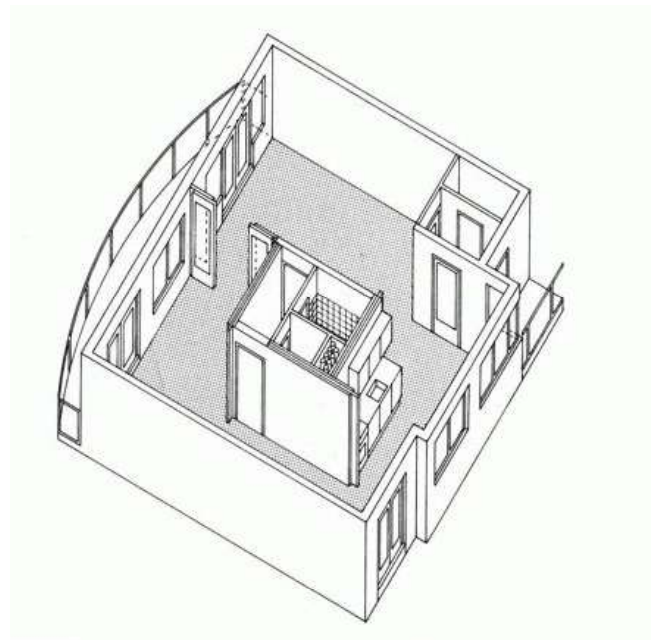

Figure 12: Axonometry of the floor plan by Duinker & Van der Torre

The bathroom is the central point of the house, surrounded by spaces that can be created by the user. By means of sliding doors, various rooms could be created with minimal interventions, which ensured that the floor plan could be arranged freely at all times .

Figure 13: Flexible floor plan configurations by Duinker & Van der Torre

The presence of vegetation is advised to promote feelings such as happiness and less stress, and a clear structure with an orderly main entrance where preferably the corridors are closed together in a closed loop is recommended[30]. What emerges in most case studies is the use of an enclosed courtyard. This always gives the elderly a sense of security in their own environment.

The research led to the following 10 design principles that are advised to use during the repurposing of a church into an elderly care centre:

1. *Clear structure with preferably closed routing*
2. *Use light materials and colours for wayfinding*
3. *Vegetation for mental well-being and vitality*
4. *Using enclosed courtyards (monastery typology) for safety and vitality*
5. *Use the following four R's: Reduce, re-use, repurpose, and recycle (in this order) to keep the existing structure in its formal state as much as possible.*
6. *Giving inhabitants the opportunity to decorate their own homes*
7. *Preservation of religious elements (such as the Mary Chapel)*
8. *Efficient use of energy through compartmentalised heating.*
9. *Preserving the transcending of the human scale in the church*
10. *Clear separation between residential and public functions*

9. Discussion

The results are based on a number of interviews and the information gathered from various sources. This paper has provided a concise summary of all the information found regarding renovation projects of existing church buildings as well as care buildings. This resulted in a selective list of design principles that have emerged within the time spectrum of the research to create a redevelopment design for the St Dominic's Church in Utrecht. Besides these 10 design principles, many other preconditions have to be met (e.g. laws according to the NEN), which are not emphasised much in this report as they are predefined regulations that must be adhered to. In addition, the design remains very much site-specific. The St. Dominic's Church has unique characteristics (such as the monastery typology) that other churches do not have, so there are multiple design strategies that can be chosen. However, the ten design principles are meant to give guidance to the architect during the design process with the existing church structure, where extra preconditions should always be added according to the users.

10. Conclusion

Figure 14: Axonometry of the new design for the St Dominicus church

For the transformation of St Dominic's Church, the choice was made to mirror the monastery typology that the existing church already has on the park side to increase the housing supply for the elderly. This also emerged from interviews with Vincenth Schreurs and Thom Hoevenaar, where it quickly became clear that preferably as many housing units as possible should be realised to make a project financially feasible. In addition, the monastery typology offers a closed routing which for the elderly promotes wayfinding to their own front door. Light colours in combination with sufficient greenery offering space for various activities stimulate the elderly to actively use their senses, without becoming overstimulating. By using the existing structure for public functions in the nave, the church is also used commercially to pay for part of the new/renovation work. It also serves as the main entrance to the apartments as well as the communal living room where the residents of the complex mingle with the residents of the neighbourhood. Nevertheless, the residences and the communal living room are separated, allowing the mutual functions to also function individually from each other.

It was decided to change as little as possible to the existing church structure, as the function should match the characteristics of the space rather than vice versa. This leads to small-scale interventions in the existing building structure, preserving the monumental character of the church's austere appearance. The nave is also divided into two parts by means of a bar, which maintain the sightlines from the altar to the entrance, but still divides the existing space. This also retains the imposing scale of the church in its character. The side aisles will be provided with small spaces that can be used for flexible work areas, but can also be used for quiet rooms. This, too, is for commercial purposes in order to finance future maintenance costs. In terms of energy, the choice is made to heat locally. The side aisles of the ship will become their own thermal insulation compartment and the nave will be heated by preheated air.

The corridor areas will be heated at a lower tempera-ture, saving energy costs. The existing cavity wall will be insulated on both the inside and outside, to keep out as much heat and moisture as possible. The complex accommodates 47 dwellings with the ground floor mainly reserved for wheelchair users. The existing wing mainly offers larger apartments where couples can live. The new wing is aimed more at independent elderly people who want to live on their own, but also have the possibility to interact with their neighbours in communal courtyards. Among other things, these apartments have their own kitchen, but can also be ar-ranged according to the user's needs through a flexible floor plan.
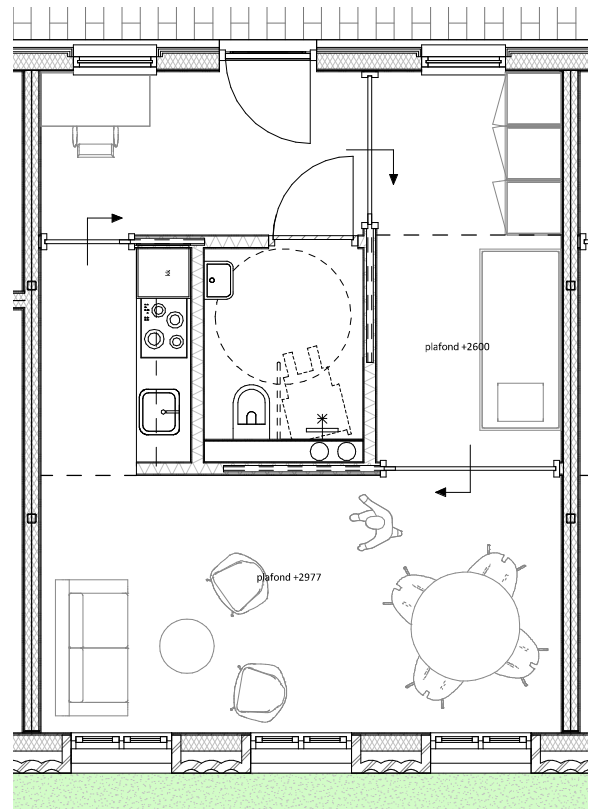

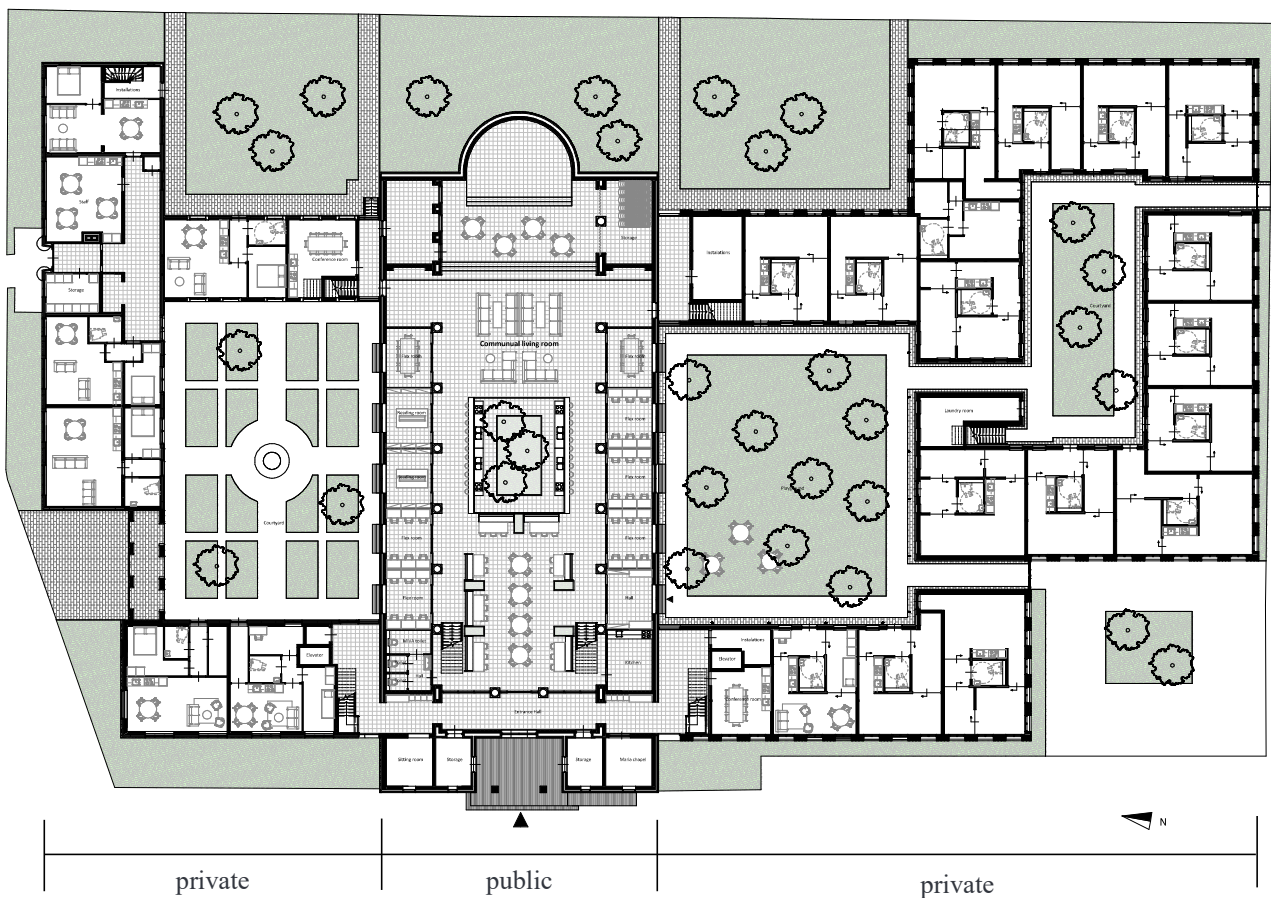*Figure 15: Design flexible dwelling floor plan based on Duinker & Van der Torre*

private | public | private

Figure 16: New ground floor plan St Dominicus church sepe-rated between private and public

11. Figures

Figure 1: Damme, M., Reinstra, A., & Strolenberg, F. (2020). *Kerkgebouwen ? 88 inspirerende voorbeelden van nieuw gebruik. Van appartement tot zorgcomplex.* Uitgeverij Blauwdruk.

Figure 2: Centraal Bureau voor de Statistiek. (2020, December 18). *2 Ontwikkelingen in religieuze betrokkenheid.* Centraal Bureau Voor De Statistiek. Retrieved January 8, 2023, from https://www.cbs.nl/nl-nl/longread/statistische-trends/2020/religie-in-nederland/2-ontwikkelingen-in-religieuze-betrokkenheid

Figure 3: Bedaux de Brouwer Architecten B.V. (2023). *Doorsnede Vredeskerk*

Figure 4: Bedaux de Brouwer Architecten B.V. (2023). *Plattegrond Mariadal*

Figure 5: Aalten, O. (2023). Oosterkerk. *Oud Aalten.* https://oudaalten.nl/straten-aalten/oosterkerkstraat/oosterkerkstraat-01/

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Figure 8: AxionContinu. (2022, April 13). *Woonzorgcentrum De Ingelanden in Utrecht.* AxionContinu. https://www.axioncontinu.nl/locaties/de-ingelanden

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Figure 10: *Zo ziet landgoed Haarendael er een jaar na de verwoestende brand uit, bekijk dronebeelden.* (2020, September 9). Omroep Brabant. https://www.omroepbrabant.nl/nieuws/3253966/zo-ziet-landgoed-haarendael-er-een-jaar-na-de-verwoestende-brand-uit-bekijk-dronebeelden

Figure 11: AxionContinu. (2022, April 13). *Woonzorgcentrum De Ingelanden in Utrecht.* AxionContinu. https://www.axioncontinu.nl/locaties/de-ingelanden

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Figure 13: Conference Proceedings International Conference. (2019). P*olyvalence: A possible way in reprogramming housing architecture* (DOI: 10.14415/konferencijaGFS2019.081). International Conference. Retrieved May 6, 2023, from http://www.gf.uns.ac.rs/~zbornik/doc/NS2019.081.pdf

Figure 14: Van Zantvliet, M. J. M. (2023, May 14). *Axonometrie nieuw ontwerp St Dominicus kerk.*

Figure 15: Van Zantvliet, M. J. M. (2023, May 14). *Nieuwe woningplattegrond St Dominicus kerk*

Figure 16: Van Zantvliet, M. J. M. (2023, May 14). *Nieuwe begane grond plattegrond St Dominicus kerk*

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