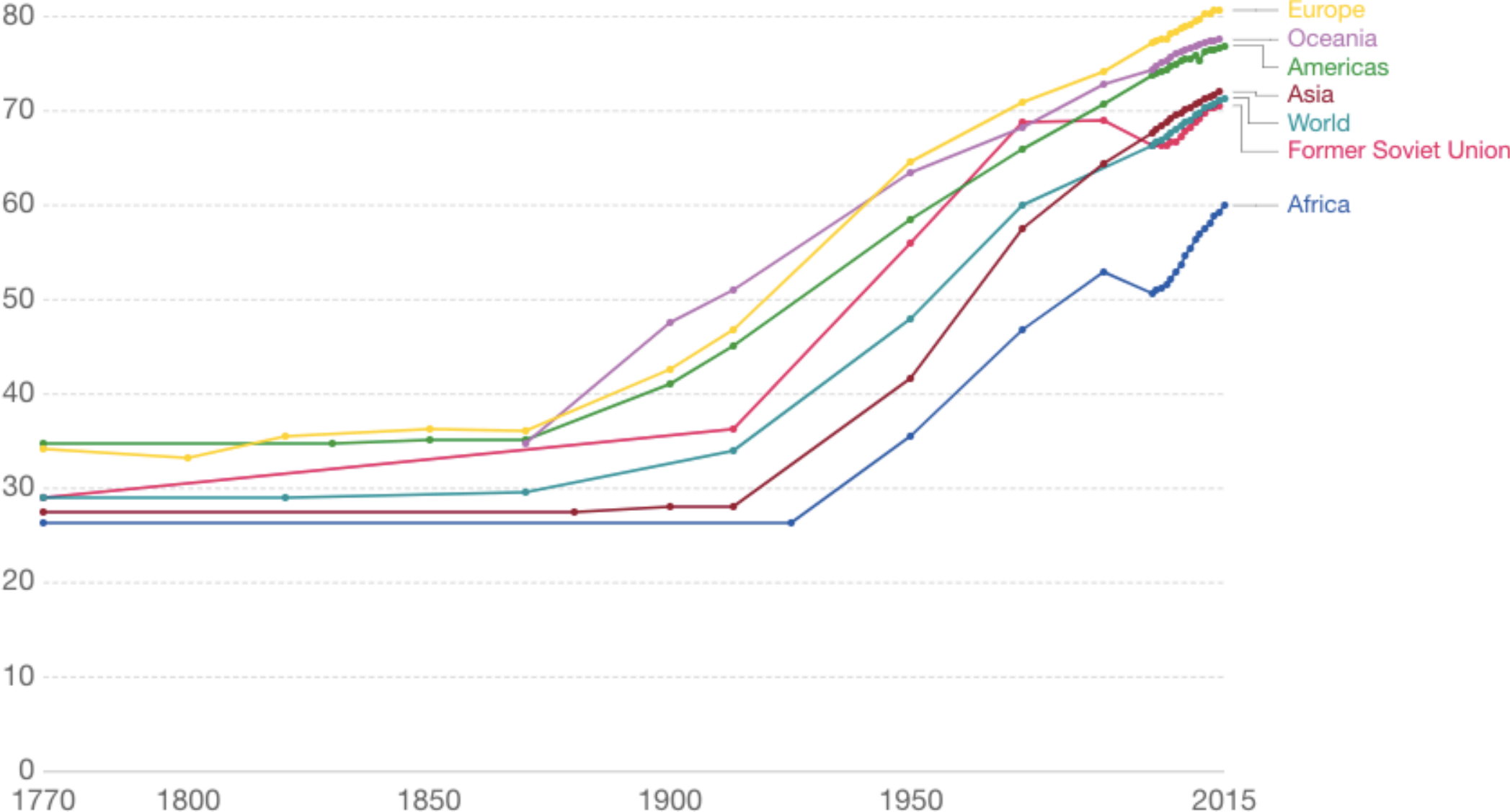


CATARINA OOM | PINE
ARQ

A hand holding a magnifying glass over a brain diagram. The magnifying glass is positioned over a specific area of the brain, which is highlighted with a white glow. The brain diagram is a grayscale illustration showing the complex folds and structures of the brain. The magnifying glass is a simple, stylized object with a handle and a lens. The background is a light, neutral color.

ARCHITECTURE FOR ALZHEIMER'S DISEASE

Life expectancy globally and by world regions since 1770



Source: Life expectancy – James Riley for data 1990 and earlier; WHO and World Bank for later data (by Max Roser)
OurWorldInData.org/life-expectancy/ • CC BY-SA

\$360 billions



\$742 billions



\$818 billions



Every **3** seconds someone in the world develops dementia

2015
46.8 millions

2030
74.7 millions

131.5 million people will be living with dementia in 2050



Most **common type** of dementia

Unknown cause

Inevitably progresses

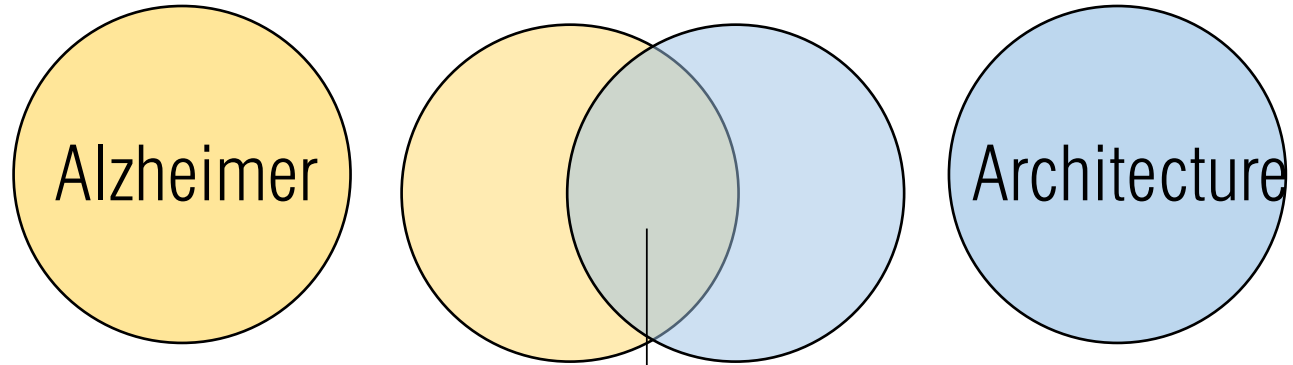


Affects mainly the **elderly**

There is no cure or therapy to stop the disease from developing

The main clinical manifestation is **memory impairment**

Methods



Bibliographic research
Meeting with specialists
Contact with patients

Evidence Based Design



Casa do Alecrim | Cascais | Portugal

Symptoms

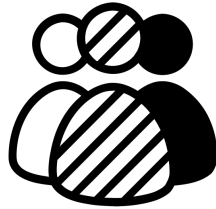
- _Memory Loss
- _Disorientation
- _Wandering
- _Difficulty in carrying out day-to-day tasks
- _Incontinence
- _Intent to leave
- _Sleep disturbances
- _Agitation, anxiety, aggression and apathy



Therapeutic Objectives



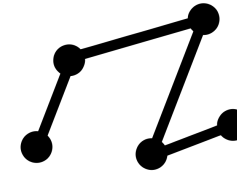
Security



Adaptation



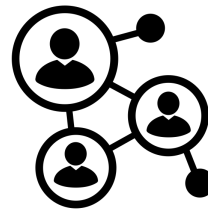
Autonomy



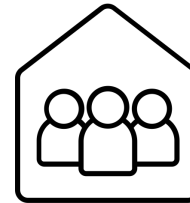
Wayfinding



Outdoor



Social



Familiar

Guarantee **security**

_One of the main concerns

_Not only it is important that residents **are safe**, but also that they **feel safe**



_ Same level and visible for those who are outside



Residential Care Home Andritz | Dietger Wissounig Architekten | Graz | Austria

_ Amount of light and a clear path with stable furniture



Geriatric Center Donaustadt | Delugan Meissl Associated Architects | Vienna | Austria



_Dutch half-doors



De Drie Hoven | Herman Hertzberger | Amsterdam | Netherlands

_Floor and walls with appropriate contrast



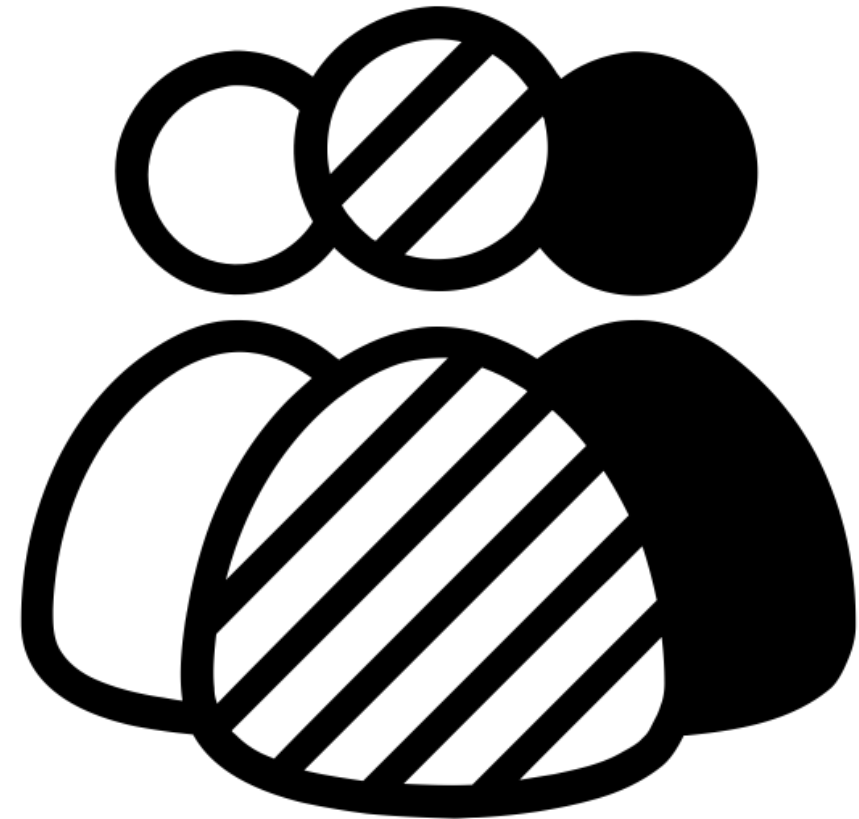
Residential Care Home Andritz | Dietger
Wissounig Architekten | Graz | Austria



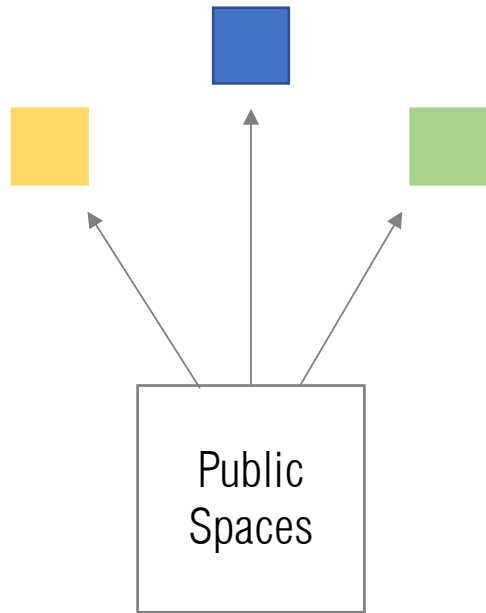
Adaptation to **changing** needs

_There are no two patients with dementia who are the same

_Alzheimer's disease **progress in different ways**, going through different phases with specific needs



_Different households



Initial Phase

Familiar environment
Therapeutic kitchen
Diverse activities
Stimulating gardens

Living room
Kitchen
Activity room
Garden

Advanced Phase

Calm environment
Preparation of meals
Sensory simulation
Protected exterior



_Door of the room with two possible sizes



Hospital do Mar | PINEARQ | Lisbon | Portugal

_Possibility to hide the mirror



Maximise **autonomy** by **supporting functional capacities**

_Residents are generally better able than their carers know or expect

_Appropriate therapeutic programmes

_Personalisation, characterization and transformation



_The wardrobe divided into two compartments



_Accessible kitchen counter, area of laundry and a private outdoor space



Peter Rosegger Nursing Home | Dietger Wissounig Architekten | Graz | Austria



_Raised garden beds



De Overloop | Herman Hertzberger | Almere | Netherlands



Peter Rosegger Nursing Home | Dietger Wissounig Architekten | Graz | Austria



_Therapeutic activities divided in small spaces

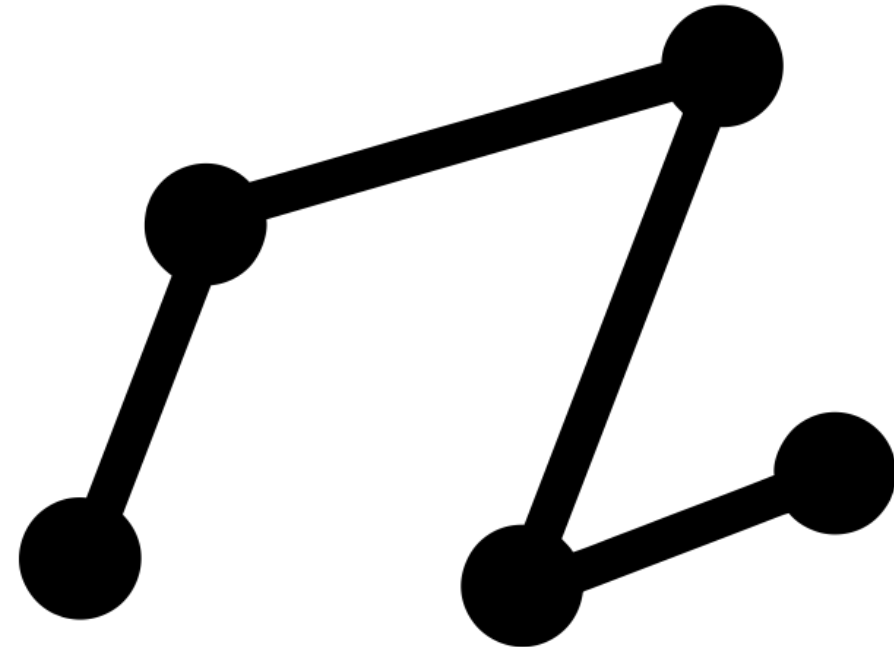


Casa do Alecrim | Cascais | Portugal

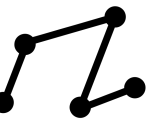
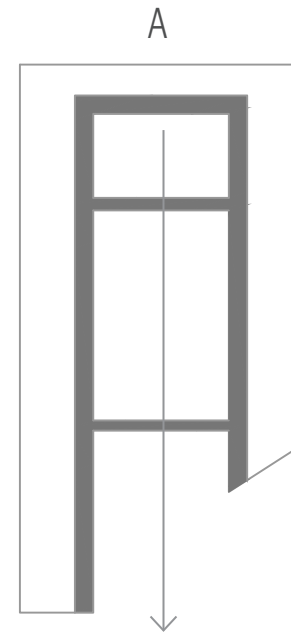
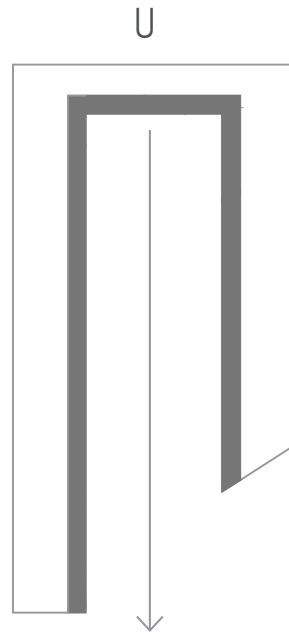
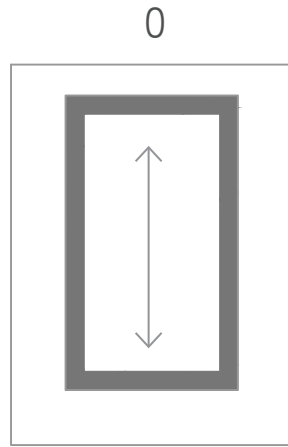


Wayfinding

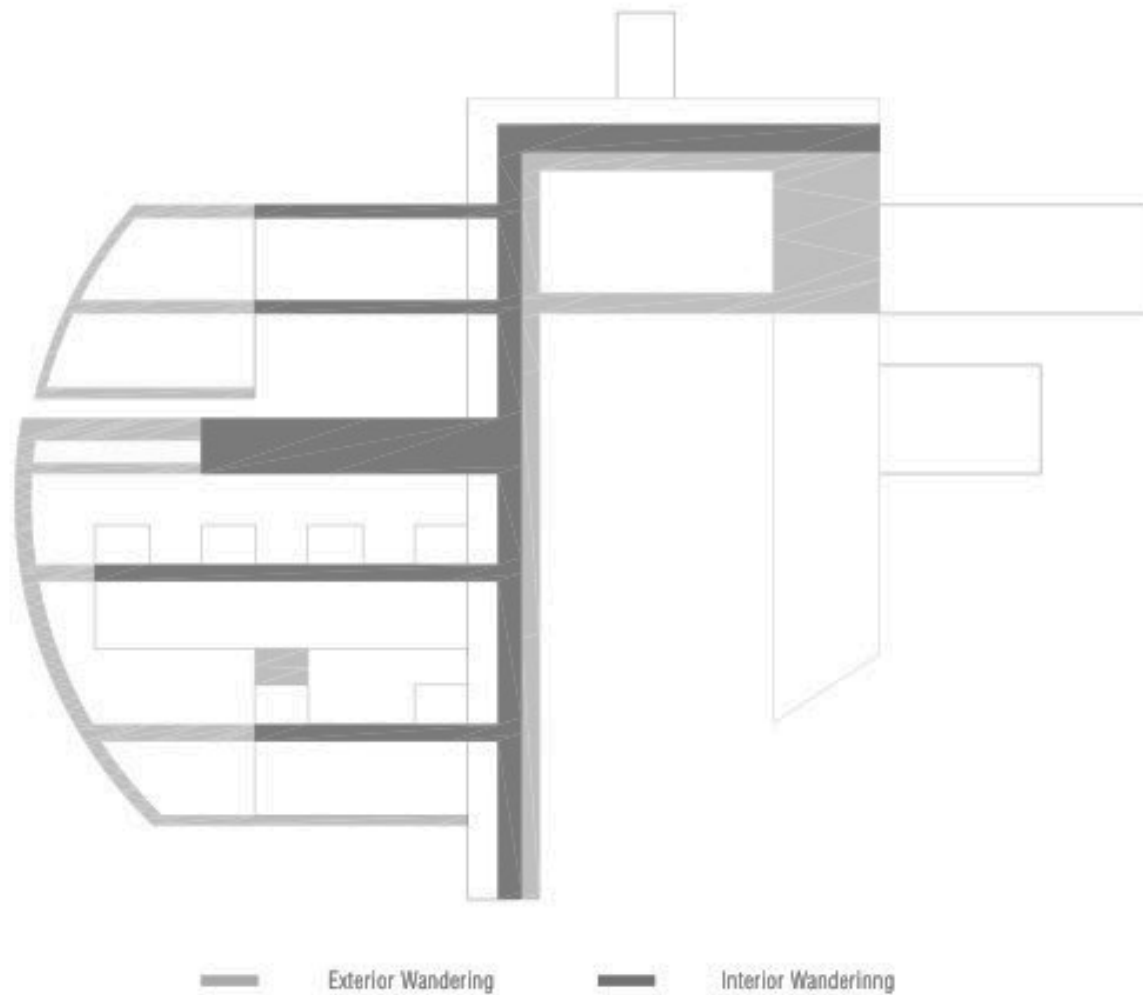
_Enable people to **read their environment**, which allows them to **know where they are** and to make **appropriate decisions** to reach their destination



_Reduce **distances**, allows a **continuous walking path** and **opening towards nature**



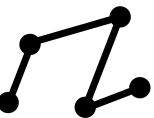
_Continuous outdoor and indoor walking path



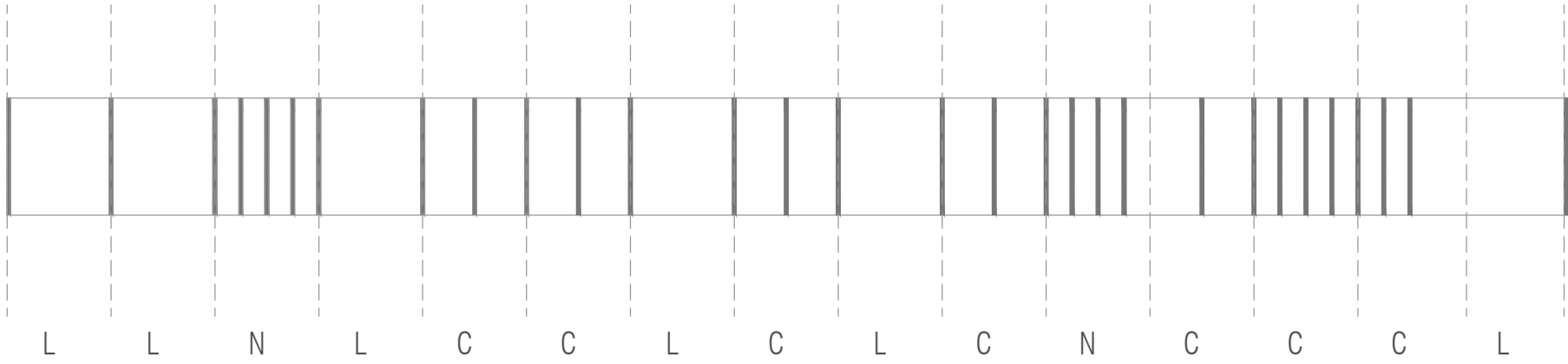
Steinfeld Retirement and Nursing Home |
Dietger Wissounig Architekten | Steinfeld |
Austria



Residential Care Home Andritz | Dietger
Wissounig Architekten | Graz | Austria



_Distance between columns give **meaning** and **dynamism** to the space



L-Living Space

N- Nucleus

C- Circulation



_Trees and living spaces function as **reference elements** and **decision-making points**



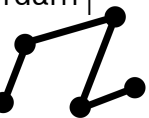
School of Education | Siza Vieira | Setúbal | Portugal



De Overloop | Herman Hertzberger |
Almere | Netherlands



De Drie Hoven | Herman Hertzberger | Amsterdam |
Netherlands



Promoting contact with the **outside**

_ **Indispensable** in environments that promote **health**.

_ Attuned to the **days and seasons**

_ **Synchronisation** of circadian rhythms

_ Improves **mood** and **attention**



_Wide and circular paths



Abe's garden | Nashville, TN | USA

_Opportunities to sit, shelter from the rain



Casa do Alecrim | Cascais | Portugal

_Different gardens design according to the phase of development of the disease



__Activities that stimulate long-term memory



_Sensory stimulation



_Bring the **outside** into the **inside**...



Fisher House | Louis Kahn | Hatboro | Pennsylvania

_...and the **inside** into the **outside**



De Overloop | Herman Hertzberger | Almere | Netherlands

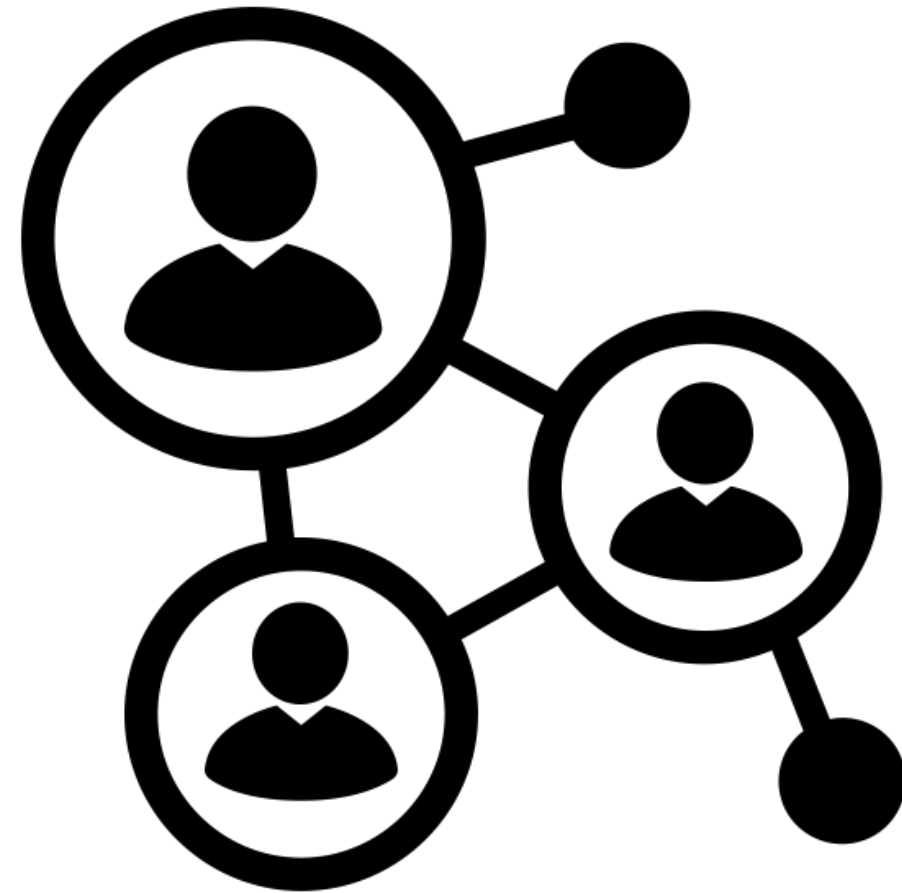


Develop positive **social activities** and provide **special spaces** for **caregivers**

_ Encourage residents to **interact with their neighbours**

_ Living spaces for **family and friends**

_ Meaningful **spaces for employees** and carers



Informal seating spaces



Paimio Sanatorium | Alvar Aalto | Paimio | Finland

Contact between generations and coexistence outside the units



Torre Julia | Pau Vidal, Sergi Pons, Ricard Galiana | Barcelona | Spain



_Dutch half-doors



De Overloop | Herman Hertzberger | Almere | Netherlands

_Spaces where people can be alone



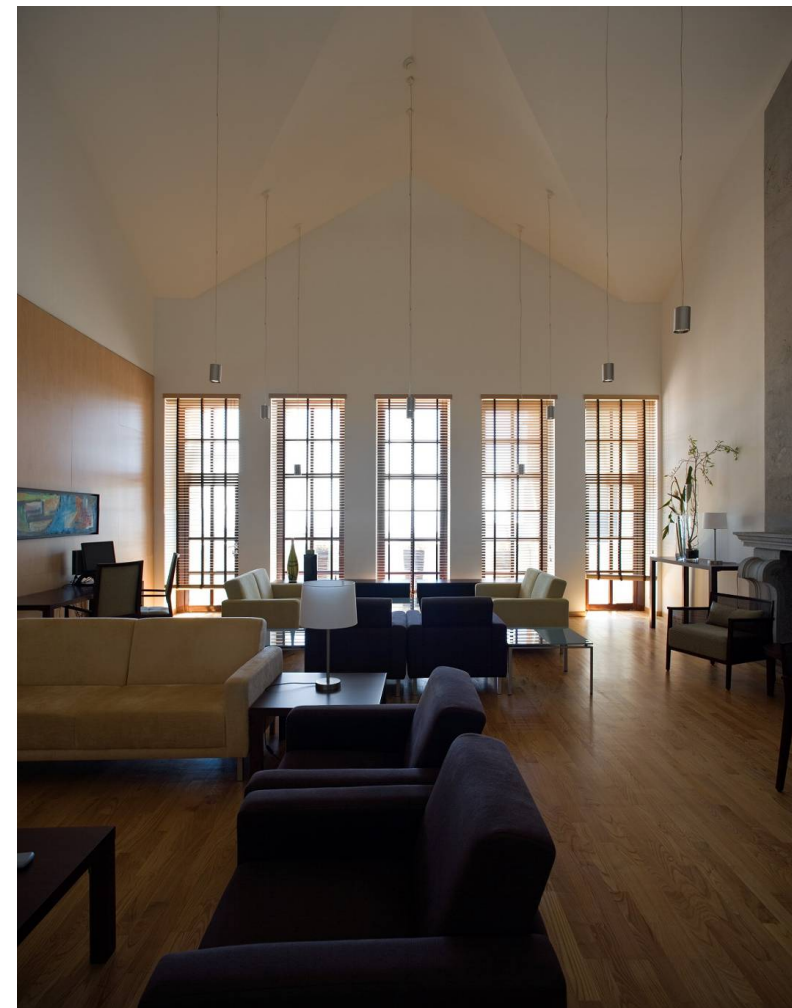
Casa do Alecrim | Cascais | Portugal



_ Quiet and relaxing spaces for caregivers



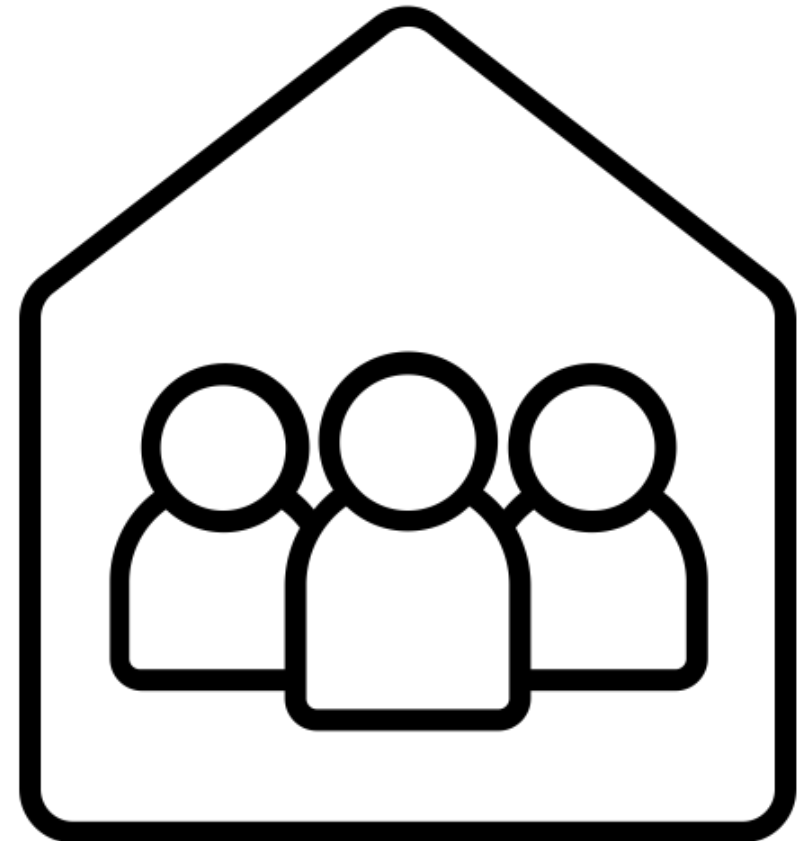
Hospital do Mar | PINEARQ | Lisbon | Portugal



Create a **familiar environment** by stimulation **memories**

_As the disease progresses, memories can be restricted to those experienced at the time. Then, **architecture has a greater responsibility.**

_Our **house** is present in our memory, often, as the **most comfortable and intimate** place we know

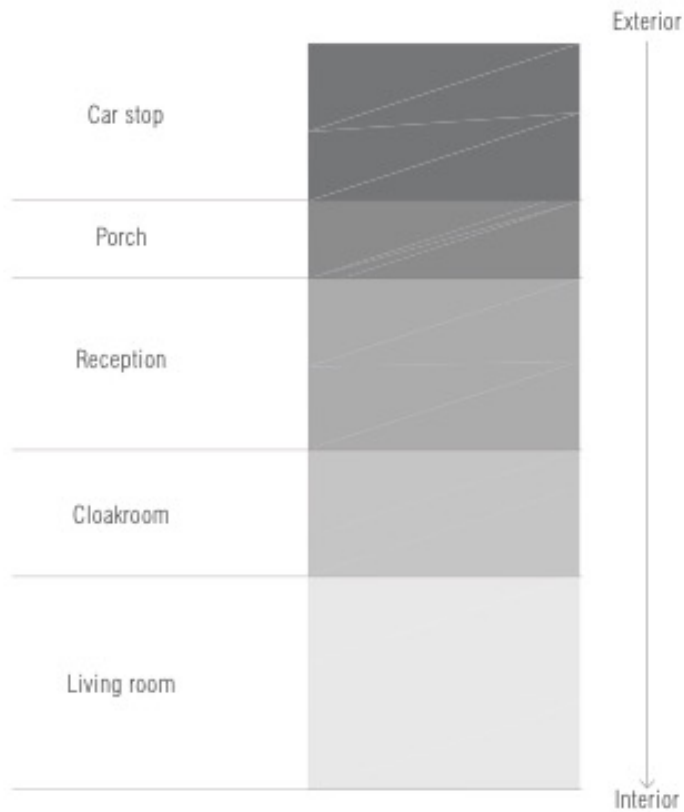


Entrance | Living and dinning spaces

_Entrance divided in small spaces

_Main dinning room

_Small-scale kitchens



Willibrord Nursing Home | Atelier
PRO Architecten | Middelburg |
Netherlands

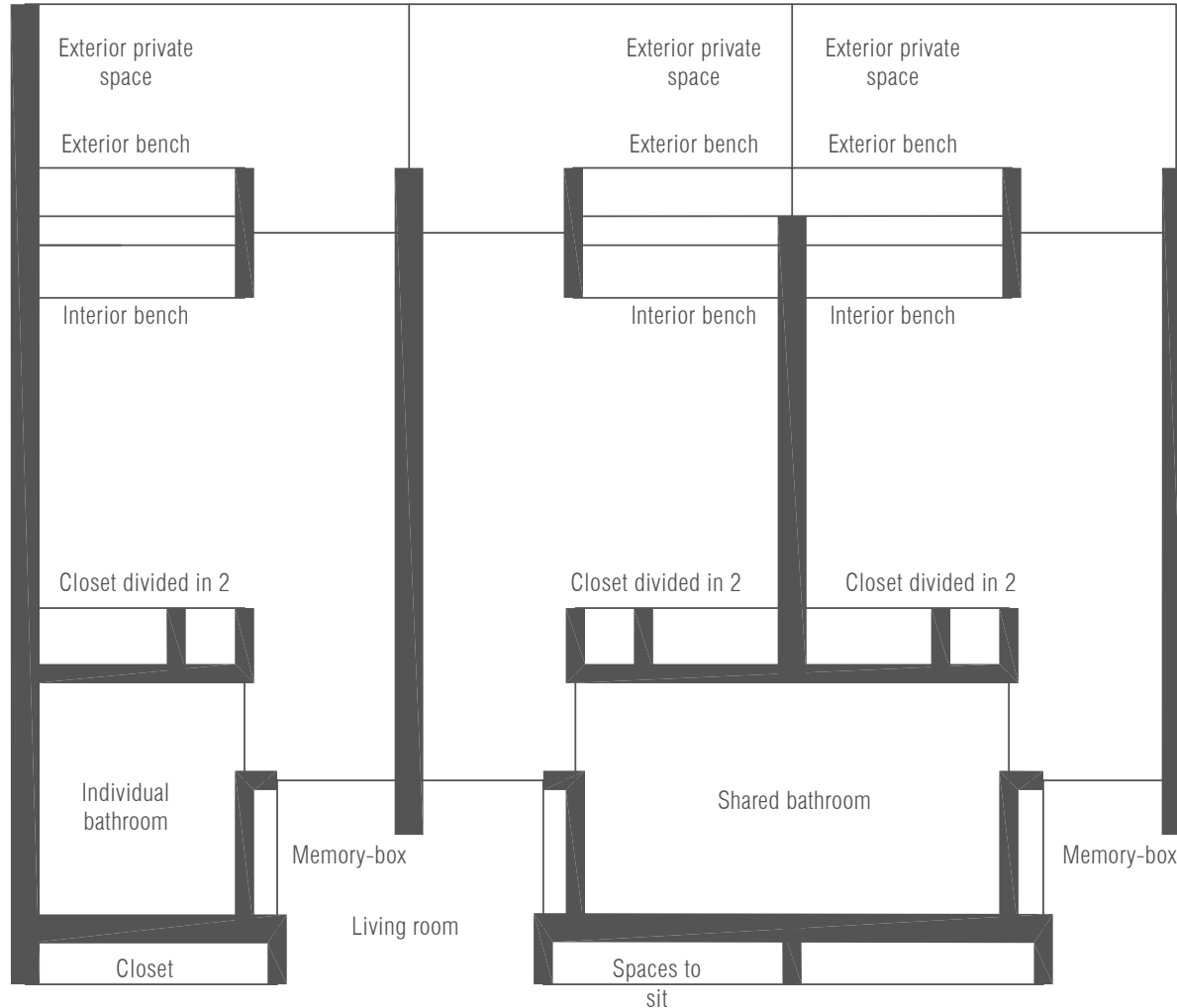


Residential Care Home Andritz | Dietger Wissounig
Architekten | Graz | Austria



Rooms

_Individual rooms with shared bathroom



Peter Rosegger Nursing Home | Dietger
Wissounig Architekten | Graz | Austria



Willibrord Nursing Home | Atelier PRO
Architekten | Middelburg | Netherlands



Illumination

_ "Horizontal human being"



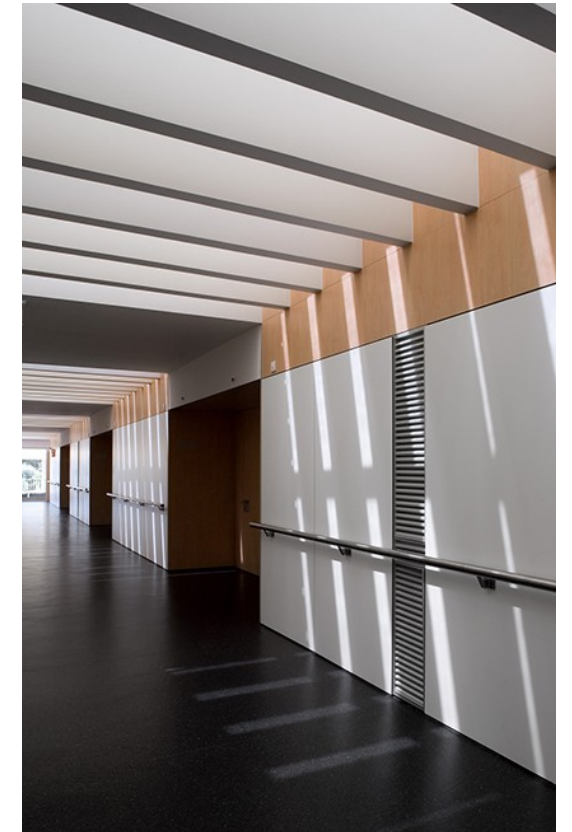
Paimio Sanatorium | Alvar Aalto | Paimio | Finland

_ Familiar windows



Peter Rosegger Nursing Home | Dietger
Wissounig Architekten | Graz | Austria

_ Height of ceilings



Hospital do Mar | PINEARQ |
Lisbon | Portugal

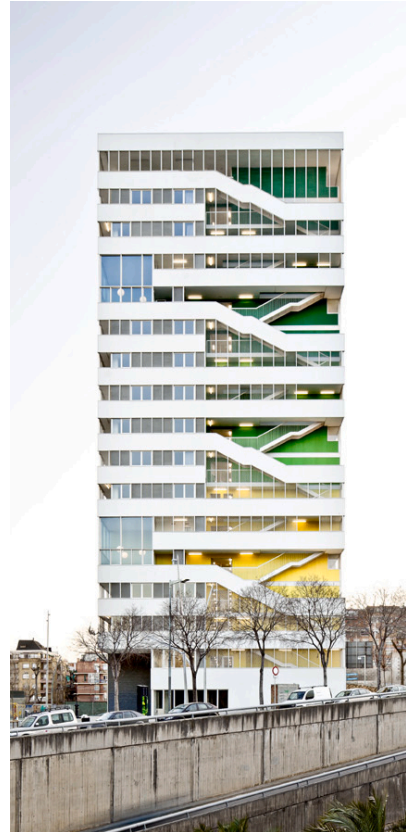


Colour

_Identification of spaces and **contrasting** surfaces



Paimio Sanatorium | Alvar Aalto | Paimio | Finland



Julia Tower | Pau Vidal, Sergi Pons, Ricard Galiana | Barcelona | Spain

_Use of colours as **red, yellow and blue** in reference places



Senior's Residence + Nursery | a/LTA | Nantes | France

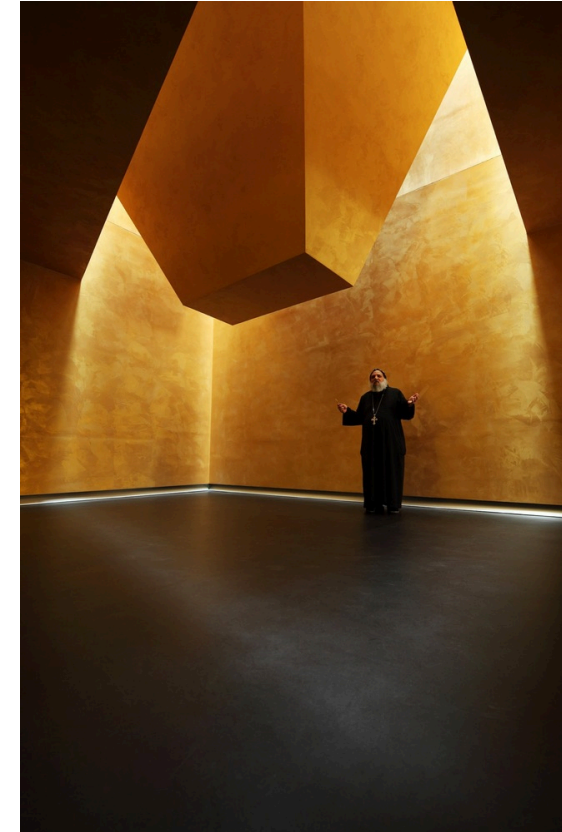


Religion and spirituality

_A place of refuge, contemplation and meeting between residents and neighbours



Saint Benedict Chapel | Peter Zumthor | Sumvitg | Switzerland



Geriatric Center Donaustadt | Delugan Meissl Associated Architects | Vienna | Austria



Highlights

Importance of **getting to know the future user** of the space

Many physical **characteristics of the space** can thus **contribute to a better experience** with Alzheimer's disease and to the **reduction of anxiety and agitation**

How and where do you want to live your last days?



CATARINA OOM | PINE
ARQ

A hand holding a magnifying glass over a brain diagram. The magnifying glass is positioned over a specific area of the brain, which is highlighted with a white glow. The brain diagram is a grayscale illustration showing the complex folds and structures of the cerebral cortex. The magnifying glass is a simple, stylized object with a handle and a lens. The background is a light, neutral color.

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