

STAGE 5 and 6

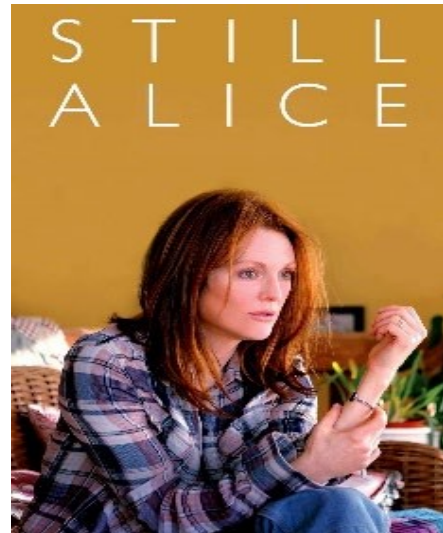
Sensory Architecture:

In MIND

'My yesterdays are disappearing and my tomorrows are uncertain, so what do I live for?'

'I live foreach day, I live in the moment'

Still Alice, by Lisa Genova



STUDIO SYNOPSIS

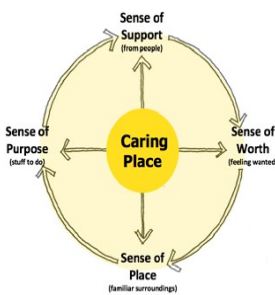


This studio develops an approach towards a non-institutional architecture in health care settings, that reduces the societal stigma of neurological disease, with a clear approach to addressing climate change and diminishing natural resources without compromising the needs of fragile users.

As an evidenced-based studio, insights from environmental psychology research and advances in building and urban performance simulation modelling are utilized to inform a user-centric yet energy efficient and sustainable architectural design approaches. The studio takes us on a journey to explore creative architectural designs that provide meaningful multi-sensory experiences, social engagement, indoors and outdoors space design that **compensate for cognitive deficits**, environmentally comfortable yet energy efficient environments that reduces agitative behaviour and slows progression of the disease.



STUDIO THEMES - User Centric Design- Understanding design from a vulnerable users’ perspective



- A sustainable building design that reduces its impact on users, its environment and on climate change
- Slowing down Dementia progression through thoughtful Architectural Design
- Application of Environmental Psychology Theories in design: Attention Restoration Theory, Affordance and Salutogenesis
- Architectural programmes promoting intergenerational and social engagement

STUDIO SPECIFIC THEMES

- Learning from the Past- what are the lessons we can learn in designing today, from a history of the intersections of society perceptions of ‘madness’ –Experimental medical practices, intertwined to produce an Architecture that is now considered a back drop of horror movies and a stark symbol of the inhumanity of humans to their fellow humans
- Approaches of thoughtful Architectural Design to compensate for sensory deficits
- Evidence based approaches using research and building/urban environmental performance simulation to address climate change without compromise to user needs

STUDIO LEADERS

Tutors in this studio are actively involved in dementia and neurodiverse research, building design and medical practice.



Neveen Hamza:

A Reader in Architecture, Energy and Wellbeing, in the School of Architecture, Planning and Landscape, Newcastle University. She is the Chair of the International Building Performance Simulation Association IBPSA_UK. She is awarded a research fund from the Wellcome Trust to study 'the impact of Dementia patients' environment on their agitation behaviours'. She has worked in both practice and academia and has over 10 research articles on the use of building and urban performance simulation to enhance human wellbeing in built environments. Neveen also carries on working on architectural competitions.



Neil Turner:

Neil Turner is an Architect , graduating from Newcastle University . He has worked in London , Toronto, and Durham . A director of Howarth Litchfield and works across many sectors including health , veterinary , industrial , education, commercial , historic, and one-off houses , both modern and conservation projects .

A qualified Conservation Architect , Design Project manager , client design advisor and expert on sustainable architecture . He writes for several regional and national publications on practice , design and issues facing the profession.

A keen sportsman and artist in his spare time.

CONTRIBUTORS:

Dr.Keith Reid: Psychiatry consultant , Cumberland, North Tyne and Wear Trust CNTW

Maritina Markopolou: Is a Graduate of the MSc Sustainable Buildings and Environments-Newcastle University, an architect and an experienced tutor in urban performance simulation tools.

VISITING LECTURERS



Lesley Palmer Chief Architect, Dementia Services Development Centre, University of Stirling



Damian Utton, Director, Pozzoni Architects.



Paul Yeomans, Director, Medical Architecture

STUDIO ETHOS

The nature of Neurodegenerative disease such as Dementia, turns all the principles of an architectural programme for healthy users upside down. This is an exciting opportunity to develop methods of design inquiry that can positively affect the vulnerable and frail in an ageing community.

The culture of the studio depends on an integrated development of creating architecture environments through engagement with targeted user requirements, complexity of site, sustainability, and climate change. These factors are used as driving factors within a sensitive thoughtful response to architecture, tactility, and materiality.

The studio depends on creating an engaged and supportive student-to-student and student-to-tutors collaborations. There is always an element of group work, but also individual elements for assessment to appraise individual engagement with the studio trajectories.



THE SITE

There are three sites that tutors will propose as live projects, two in Newcastle and one in Leeds but you can choose your own site. Preferably in Newcastle.

SCHEDULE OF ACCOMMODATION

To ensure parity in projects a main schedule of necessary functions and an indicative area will be given to all students. You can choose to add intergenerational activities of your choice as appropriate to the cultural and urban aspects of your site

Semester 1: The Primer: (including the field visit)



The first semester will look at an open-ended exploration, researching, analysing, making sense of the historical architectural interpretations of mental health care provision. You will build your own architectural position of what a healing environment should provide. This semester's work will be the foundation of your design in Semester Two.

This is an opportunity to analyze how historical and contemporary practices in design and urban settings interface or depart. Using your records, sketches, material collections, media to show your interpretation of what a healing environment should be, and what could we learn for the future.

You are encouraged to explore in the social, medical and architectural frameworks that historically and currently influence interpretations of healing spaces for neurological conditions, such as 'civilization and madness' theories by Foucault, as well as current design guidelines such as (HBN 08-02) Dementia-friendly Health and Social Care Environments

The primer will lead to

1 - Social and physical site analysis of historical mental health facilities: can include site analysis in various formats including video recordings of walk through and a capture of the site's visual, tactile and acoustic landscapes, and site model

2 - Precedent Analysis of Contemporary Dementia Villages or other neurological conditions, including personalization of indoor and outdoor experiences and design of interactive sensory games.

This is an opportunity to come up with your own imaginative future of a happy, friendly and humane environment for people living with Dementia or a type of Neurodiverse condition.

This phase will focus on urban analysis of existing mental health care facilities moving on to analyse your own chosen site

This phase will introduce urban and massing responses to the site that includes

- **Massing Strategies** dependant on site environmental and social analysis

- **Urban Performance Simulation** to use as a tool to model and refine your building's massing and landscaping

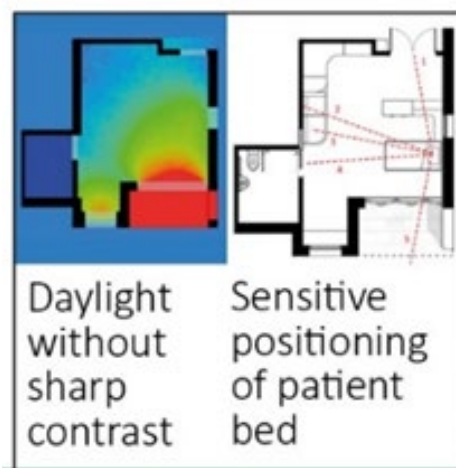
decisions, based upon predictions of the wind flow and shadowing effects of your buildings and those on the site

- **Responses to adjacencies** of other buildings on site
- **Landscaping ideas** to work out with public and private pathways to all the buildings on site, while maintaining the public access site to the surrounding neighbourhoods

The field visit will be organized by the whole studio, agreeing on a schedule and destination for all visits that would also be used to inform your primer.

Semester Two:

You will learn about Daylight Simulation and methods of analysing outcomes and its integration in you're your explorations



The various interiors of the houses within Hogeweyk gated model village in Weesp, Netherlands

Semester Two will be built on the the 'Primer', as an opportunity to experiment and explore design possibilities of a 'Neurological condition pod', looking at interior and exterior explorations

In this phase, students will explore artefacts, materials and technologies that could be used to create 'learning, remembering and feeling spaces'. The primer is an opportunity to imagine, make, sense and feel what a person with a neurological condition might feel. This is an opportunity to work outside the boundaries of design for a healthy individual and learn to be a sensitive, inclusive architect. The outcomes are expected to be interesting, and delightful spaces for living for both carers and patients.

For people with a neurological condition, sensory experiences obtained via; repetition of exposure to tactile, visual, and olfactory experiences, can help slowdown the progression of the disease, keeping patients entertained, active, and less agitated. Perception of daylighting and shadows is crucial to a healing space, in this semester we will teach you how to simulate daylight to evidence base your healing space ideas.

The Sensory living Pod is an individually occupied space that provides a 'home away from home' feeling. The pod design reflects analytics of how the space may be perceived from a patient's perspective. The sensory pod will utilize materials and technologies to replicate parts of patient's past environments, to remind them of their daily habits, past and present. The pod is also a medically equipped patient's room that explores the state-of-the art technologies, interior and architectural

ideas, from existing building precedents and propose innovative ideas.

Process drawings, sketches, physical models, daylight simulations, medical supporting research, or any other medium of presentation that you see appropriate will accompany your drawing ideas of a healing and sensory dementia pod.

The pod design will be assessed individually based on:

- 1 -Research into neurological specific requirements of space
- Research into movement between inside and outside of the pod
- Researching tactility and memory interior aids whether in art form or technology
- 4 - Materiality of the pod to aid in shading and reducing light level contrasts

Accommodation Requirements:

Your building and landscape exterior environment must create an environment to walk around in landscaped routes in a secure a safe environment for autonomous wondering under passive surveillance.

The Healing neurological facility is to comprise of a day-care centre, similar to a Maggie Centre, to allow for public education and engagement while linking to residential hospital wards

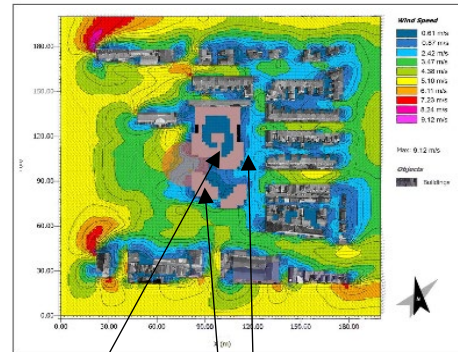
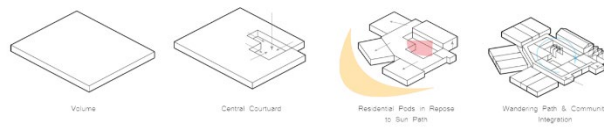
Certain facilities must be included to retain the daily habits of occupants, including:

- A walking circular path indoors and another semi-covered circulatory walkway around external courtyards
- Service kitchen,
- Medical assessment kitchen that could be used for both gender patients to prepare daily meals

The design concept and overall massing must demonstrate a high level of situational and contextual response to decrease dependency on 'grid and fossil fuel energy', increasing the potential to run completely off-grid or as a net zero carbon building. These technologies can be used to provide intrigue to all building users.

The project will present refined lines of inquiry based on research and understanding of the nature of the disease and needs of people with a specific neurological condition. The design will show synthesis with the primer studies, integrated with a sustainability strategy using evidence-based decisions from building/urban simulation modelling, with an over-riding coherent design narrative, to its particular context.

- Multiple use space (that could be used for dancing or games- intergenerational space engagements)
- A cinema, spa/beauty facilities
- Shopping areas
- Nursing stations and associated medical support rooms
- A quiet room to provide a quiet environment for an agitated patient
- A workshop for Dementia male patient
- Students are free to add to this schedule of accommodation to fit their individual ideas, as long as it provides a place where people can interact with the community and be provided with a safe and engaging healthy environment



External sheltered wandering

Area of higher wind



Urban performance simulation landscape treatments of the site to maximize external environments use-Courtesy Lewis Baylin-Student 2021

Reference list:

Michael Foucault (2001) *Madness and Civilization: The history of Insanity in the age of reason*

Dana Arnold (2013) *The Spaces of the Hospital: Spatiality and Urban Change in London 1680-1820, Routledge*

Alzheimer's Europe and Alzheimer's UK, are leading organizations in the field

University of Stirling has a comprehensive webpage on Dementia Interior environments have a look here <https://dementia.stir.ac.uk/>

Dementia-friendly health and social care environments (HBN 08-02)
<https://www.gov.uk/government/publications/dementia-friendly-health-and-social-careenvironments-hbn-08-02>

Fedderson E. and Ludtke I (2014) *Architecture and Dementia, Lost in Space, Birkhauser*

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Some precedents <https://www.derbyshire.gov.uk/site-elements/documents/pdf/social-health/adult-care-andwellbeing/accommodation-and-housing/community-care-centres/meadow-view-leaflet.pdf>

Ministry of Health (2016), *Secure Dementia Unit Design Reference Guide: A Person-Centred Perspective*, Wellington. <https://www.health.govt.nz/system/files/documents/publications/securedementia-care-home-design-information-resource.pdf>

[Shannon, K.](#) and [Jurgenhake, B.](#) (2020), "Dutch care environments for people with dementia: impressions from the perspectives of an architect and a gerontologist", *Working with Older People*, Vol. 24 No. 2, pp. 143-147. <https://doi.org/10.1108/WWOP-01-20200002>