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## A tale of two Countries: Comparing France and the UK to understand the elements of Psychosocially supportive design

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### Abstract

*For those conditions that medicine cannot provide a cure yet, non-pharmacological elements of care prove key. The built-environment comprises part of a psychosocially supportive regime. For psychiatry, both diagnostic and interventional accuracy prove challenging. This lack of effective therapeutic approaches resulted in interventional pluralism. The research explored the context of mental healthcare provision, emphasising on the building stock to identify common elements of psychosocially supportive environments. France and the UK, each adopting different models regarding hospitalization, provided the research locus. The case studies were ten facilities catering for the acute spectrum of diagnosis, yet still in the community. Data collection comprised plans and photographic record of the buildings, together with field notes and data from 115 semi-structured interviews of staff and patients. Field notes produced an architectural checklist of 215 points, analyzing each building to its institutional vs domestic traits. Architectural data were juxtaposed to interview data. One key finding was that the then dominant theory of normalization could not necessarily provide facilities that staff and users considered therapeutic. The second phase of the research explores facilities for their spatial morphology. Two new case studies were selected in the most acute end of the spectrum of community care, both in the UK. The initial methodology was retained but with the addition of Space Syntax. Results indicate that although countries differed, some elements retained global value, such as the importance of user involvement. Also, universal architectural methodologies, such as space syntax are not directly applicable to acute psychiatric environments evaluation. This combined to the uncertainty of psychiatric treatment, indicates that mental health is an area where considerable amount of research is required. Yet, despite practical difficulties of cross-border studies, involving more geographical contexts proves a very good starting point to increase a deeper understanding of the phenomena of psychiatric space.*

Keywords: behavioral health, healthcare architecture, space syntax, psychiatric facilities, health and wellbeing

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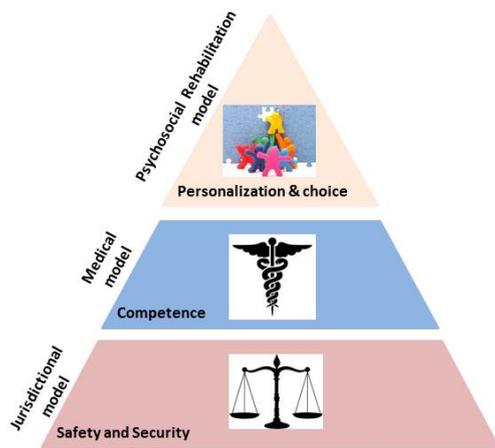
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### **INTRODUCTION**

The diversity in psychiatric service provision combined with limited interdisciplinary relations between architecture and health sciences brought about an experimental, intuitive approach for the design of psychiatric buildings. Normalization theory dominated the programming, planning and design of psychiatric facilities after the 80s but it was borrowed from learning disabilities (Wolfensberger and Glenn, 1973). This lack of a direct link between design and patients' pathology became more obvious after an array of findings on community psychiatric facilities in France and the UK (Chrysikou, 2003). One of those was that even awarded psychiatric buildings could demonstrate institutional building features. This agreed with data from service users and staff in these environments (Chrysikou, 2019). The implementation of normalization to mental health compromised the needs of the most vulnerable psychiatric patients, i.e., those accommodated in the most acute spectrum of care-provision. One of the reasons was that normalization could not address the point of balance between privacy and surveillance. This constituted a major dilemma for psychiatric architecture (Smith, 2002). However, synchronous research (Sheehan et al., 2013) on UK psychiatric facilities linked buildings to staff satisfaction, yet questioned the importance of observability for staff. Finally, there was absence of service-user involvement and vertical advocacy of staff in decision making at planning stages. This resulted in disparity between principles of psychosocial rehabilitation, architecture and end-user expectations or even the adequacy of available human resources. To address this, an alternative model to normalization was developed in UCL as a tool tailored for psychiatric facilities (Chrysikou, 2014). It was named "the SCP model" and could depict the quality of the environment and its' consequences to patients' life. It employed earlier theories for psychiatric hospitals (Vavyli, 1992), principles of patient focus care (MARU, 1991) and concepts of Medical architecture (Davies, 1988; Scher, 1996), research in psychiatric environments by environmental psychologists (Baker et al., 1960; Ittelson et al., 1970; Sloan, 1992) and work conducted in the broader field of disability from the end-user perspective (MacIntyre, 2018). The model corresponded to key issues behind mental illness expressed by the three dominant models of care: the jurisdictional, the medical and the rehabilitation model. The SCP model comprises three parameters that correspond to a pyramid of needs (Figure 1).

**Figure 1:** < The SCP Model and the pyramid of needs: each tier represents a parameter of the model and corresponds to a model of mental health provision >



All topics on mental health environments could be classified according to: a) safety & security, b) competence and c) personalisation & choice. These derived from the basic needs related to the priorities relevant to the main objectives of mental healthcare:

- a) harm and self-harm prevention, which translated to keeping the person and everybody else alive and injury free
- b) medical and nursing provision, which translated to keeping the person fed, clean and restoring physical health
- c) social reintegration, which translated to providing to the person opportunity to be in wellbeing and able to regain independence and means to support a meaningful life in community.

Yet, this bottom up and patient focused model, could not address the relationship between the social fabric of psychiatric facilities and their space. This would require methodologies detached from individual perspectives. For that we looked at a theory developed at the Bartlett and named Space Syntax, supporting the interlink and indistinguishable of society and space (Hillier and Hanson, 1984). This theory of architectural morphology investigates socio-spatial relations. It has been used for understanding institutions (Marcus, 1993) but never had it been juxtaposed with the end-user perspective in mental health contexts.

Combining the approaches of medical architecture and architectural morphology, our second research set to investigate the social dynamics of institutional space and the socio-spatial angle institutional environment generate, in relation to the perspectives of end-users. We brought the two frameworks together for the first time. The first was designed especially for mental healthcare and the other covers all spatial scale and has not reference to medical architecture. By combining the two, the research set to investigate both patients' relation to the therapeutic regime and social relations to the spatial configuration.

**METHODOLOGY**

For the first part of the first objective the spatial dynamics of psychiatric facilities in relation to the personal milieu of the patients, the research involved a model specifically designed for the planning, design, and evaluation of psychiatric facilities based on medical architecture principles (Chrysikou, 2012). This was the SCP model, named after the acronyms of three variables: Safety and security, Competence and finally Personalization and choice. It was a three-dimensional model and each of these variables comprises one dimension of a cubic problem space occupied by three axes (x, y and z) (Figure 2), “where safety and security implies an opposite pole, where the building is unsafe and insecure, where competence implies a situation where dependency is fostered in patients, and where personalization and choice also implies a situation where no personalization and choice is allowed. Each building could theoretically occupy a unique position in the three-dimensional problem space of the model, which is therefore both more sensitive and more specific than the polar opposition between domesticity and institutionalization, previously described” (Chrysikou, 2014) (Figure 3). The model could depict the quality of environment and its consequences to patients’ life.

**Figure 2:** < The SCP Model as a 3D space where psychiatric facilities can be placed according to their individual characteristics in domestic (+) vs institutional (-) scale >

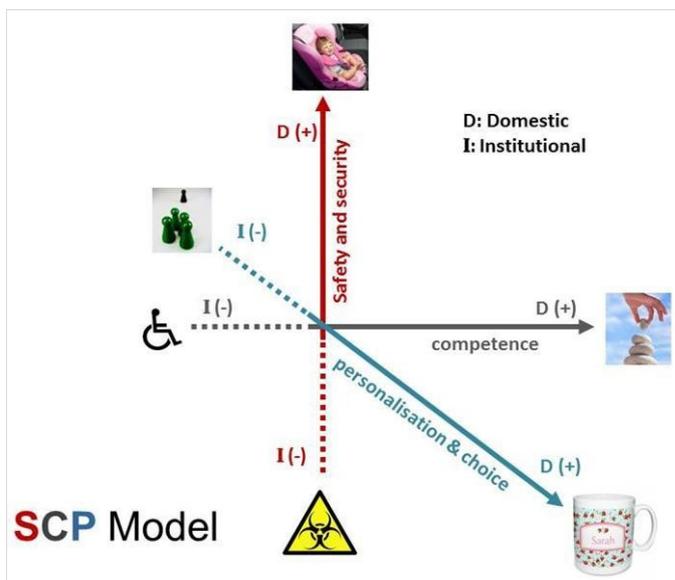
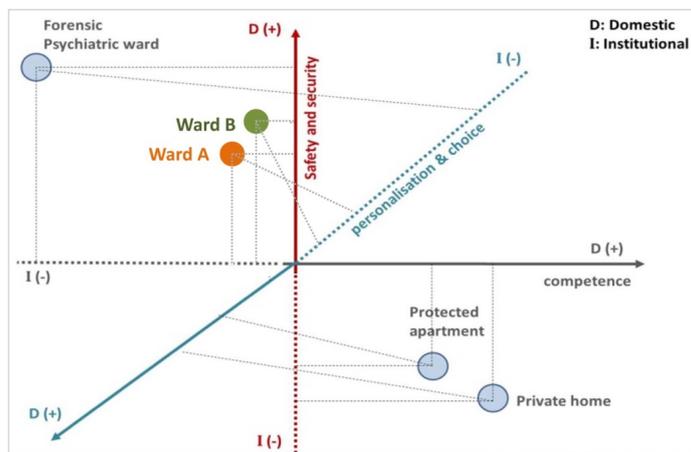


Figure 3: < The case studies projected on the SCP model in relation to the spectrum of mental healthcare building stock >

## The SCP Model



From the above it is clear that all topics on mental health environments could be classified according to these parameters. These derived from the basic needs related to mental health priorities as they relate to the main objectives of care:

- a) Harm and self-harm prevention (essential for existence and therefore forming the basis of the pyramid), and corresponds to safety and security.
- b) Medical and nursing provision, to restore competence compromised by mental illness.
- c) Social reintegration, promoting the personalization and choice that are lost in institutional environments, and correspond to wellbeing.

The SCP model could help define enabling environments for what staff considers best practice and patients perceive as suitable for their environments of care. So far, the SCP model has been already applied in facilities in the UK and in France (Chryssikou, 2014). Data used in the previous study could add a longitudinal evidence of changes that happened, bearing in mind though the limitations as the facilities in both studies are of the same time but not the same buildings neither belong to the same health authorities. The model concentrates on patients in relation to care models and needs. Therefore, it has limitations regarding the socio-spatial dynamics inside the wards.

By combining these two methodologies, the research set to investigate both patients' relation to the therapeutic regime and social relations to the spatial configuration. The SCP model constituted the basis of the evaluation, being more high-level in the aspects covered even though it is less generic when it comes to population and the building types, since it has been specifically designed for mental health. Space Syntax, on the other hand, has broader applicability in the build environment but is more focused on layout issues and does not cover issues such as placemaking, fixtures and fittings, technologies, availability and types of human resources or aesthetics. Thus, it provided tools on observability, wayfinding, and social solidarity. The findings from that methodology enriched areas that came under the SCP parameters. The

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morphological analysis is used for the first time in psychiatric wards, yet a meta-analysis of earlier research using the SCP model is possible. This could extend the sample and provide a clearer understanding to the methodology, especially if performed to the awarded case studies of the previous UK sample of the SCP model research. However, this is an area for further research and remains beyond the scope of this paper. Findings of agreement between the two frameworks enable the formulation of an integrated model for mental health design and findings of non-agreement allow these theories to evolve by addressing the limitations that the research pointed out.

Regarding the objective on the built environment in relation to psychiatric space, the research set to establish a valid framework of designing for mental health. To achieve that, this user- inclusive research involved academics and architects, health authorities, staff, and patients. The locus comprised two secure acute facilities chosen according to pre-set criteria and permission granting, in line with the growing policy of community care. For the secure, acute parameter, the more severe the symptomatology is and the closer to the acute episode, the more important the therapeutic environment, and the more persistent the institutional regime might be socio-spatial dynamics a second method would be needed. Space syntax has developed tools that could look in more depth on the opportunities for social encounters that buildings generate. In this case, it would investigate the socio-spatial relations and dynamics of space. This methodology has been widely used in urban and normative architecture settings but was seldom used in healthcare settings. The question would be if we could set more light to the socio-spatial angle of the institutions and if we could identify any generators of institutional environments.

## FINDINGS

The justified graphs illustrate the spatial configuration of the wards. In short, they are graphs representing how each space is connected to one another, each space corresponding to a dot and each line to a link between two spaces. The two justified graphs (Figure 4) demonstrate similarities in their overall shape and relatively similar amount of depth. On the other hand, the two wards differ considerably regarding the location of private and intimate areas. In ward A, those appear in the same depth from the ward entrance compared to the rest of the ward areas. According to space syntax this is a trait of a non-domestic (institutional) architecture. In ward B, we see that the private and intimate areas are found in the deepest parts of the building, i.e., hidden from the entrance and from public spaces. This gives better control of the “inhabitant” (patient) in relation to the “visitor” (staff and visitors), according to Hillier and Hanson (Hillier and Hanson, 1984). Therefore, the typologies appear similar but due to the placement of private and intimate areas the justified graph of ward B resembles to domestic buildings and corresponds to a greater sense of normality. The difference of the depth of the intimate and private areas in the two buildings is very visible in Figure 5 where the deepest parts (dark blue) in ward B are in the toilet section, followed by bedrooms (lighter blue) but for ward A the deepest areas are mostly in staff offices. In both wards, the warmest-coloured area (dark red) is in the corridor, just outside the nursing station.

Figure 4: < Justified graphs of Wards showing depths of private/intimate areas>

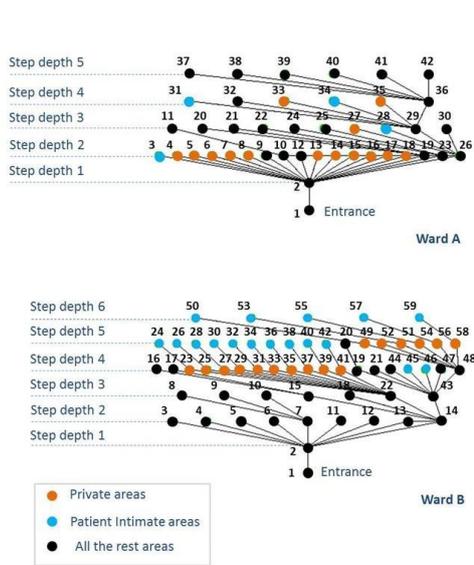
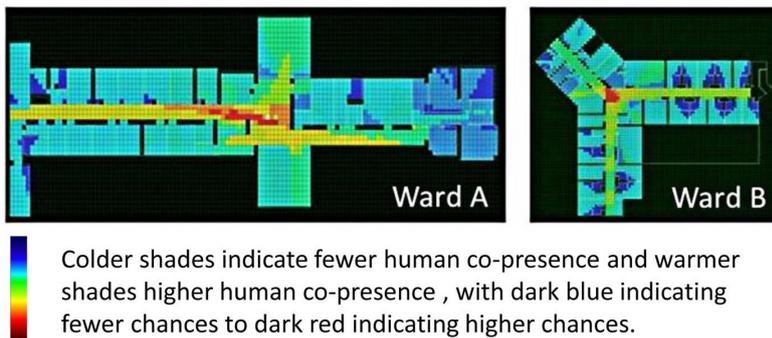


Figure 5: < Integration of Wards A/B. The colours are computer generated from the shape of the plans and indicate chances of human co-presence (from dark blue indicating fewer chances to dark red indicating higher chances). From the plans it occurs that the most integrated space is the area outside the nursing station (red)>



Alongside the spatial analysis, the research produced a significant volume of data, deriving from the checklist, the architectural auditing and the interviews. These generated a comprehensive series of

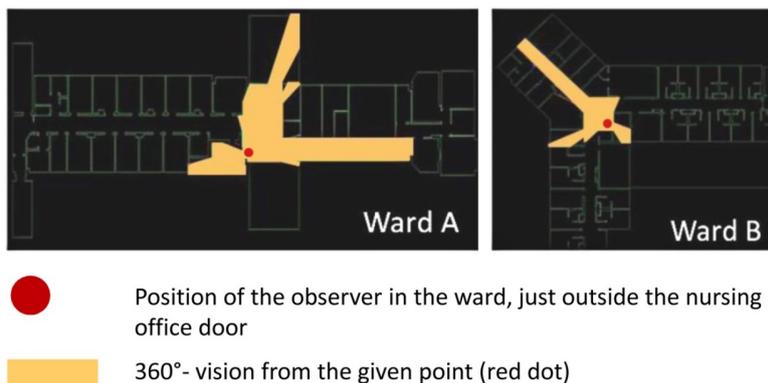
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findings regarding the architectural features of the buildings, the therapeutic regimes, the layouts, the relationship to care models, and to users' preferences, plus their relationship to the data of the early 2000s UK research (Chryssikou, 2012; Chryssikou, 2014; Chryssikou, 2013: 418-42) that used the SCP model and generated a comparable amount of data that could not be presented in a single paper.

The integration of the nursing station could generate food for thought regarding the application of Space Syntax in psychiatric institutions and perhaps in institutions in general. What Hillier and Hanson (Hillier and Hanson, 1984) would describe as social logic of space might be severely compromised by top down imposed rules, restricting movement, such as access to offices or curfews, as well as imposing non-natural movements, such as the escorted passing through complex indoor and outdoor routes in the campus to reach an open area that was not owned by the National Health Service (NHS) to smoke compared to the more intuitive option of accessing the ward courtyard. On the contrary Space Syntax identified as spaces generating social interaction the locations of possible institutional behaviours and anti-social outbreaks. For instance, in both wards, the most integrated spaces appear to be the spaces outside the nursing station (Figure 5). They are also areas of visibility (Figure 6). Like total institutions, using Goffman's (Goffman, 1961) definition, patients gathered outside both nursing stations putting themselves in the surveillance "radar". Visibility from those points might have been requirements of the architectural briefs. Yet, most staff would not be present at that particular room and especially not clinicians. Patients did not gather outside the staff office of Ward B, which was at a segregated part, neither outside the entrance connecting the ward corridor to the staff only part in Ward A, which was also segregated. Patients wandered outside the most integrated part of the wards. It remains uncertain whether that was a demonstration of an institutional behavior or a human need of meeting people at the point that spatially provided the highest chance of social encounters. The correlation between the two, areas of high integration and anti-social behaviours contradicts the space syntax theory. Yet, if we combine the high scoring in institutional features, then perhaps we could suggest that it is because these wards have strong institutional elements according to Goffman's theory on total institutions (Goffman, 1961) that they would operate against norms. In this case, these buildings might fit into what Hanson and Hillier would describe as "inverse" types, a terminology they use for institutions (Hillier and Hanson, 1984). This could be the case in ward A, as private and intimate areas for inhabitants, i.e., patients, are not in the deepest part of the axial diagram. However, in ward B the axial graph does not justify this, as private and intimate areas are in the deepest levels of a building, resembling patterns of normative accommodation.

The complexity of the narrative increases if we considered the visibility from the nursing stations. Nursing stations primary aim would be patient surveillance (Figure 6). However, visibility from nursing station glazing to the corridors in both cases had been partially blocked by staff and in both cases staff had their backs to the corridors. Thus, staff could not obtain visual control. This casts doubt on the centrality of the placement of the nursing station, one of the key spatial features of institutional design dating as back in history of mental health design as the design of Panopticon, in terms of a briefing priority.

**Figure 6:** < Visibility from the nursing station at Wards A/B. The dot on the two graphs represents the position of the observer in the ward. The raster shows the 360°- vision from that given point.>



## CONCLUSIONS

Findings highlighted potential connections between therapeutic regimes, spatial configuration and social fabric of psychiatric institutions. Architectural morphology methods indicated areas attracting people, as a result of ward layout (Figure 5). However, this derived from institutionalisation, confirming Goffman's theory of total institutions (Goffman, 1961) rather than space syntax theory of people attracting people. Psychiatric hospitals have been classified as spaces generating institutional phenomena. Yet, community psychiatry allegedly de-institutionalised psychiatric provision. The inverse effect of the integrated spaces being those who fostered anti-social behaviours, demonstrate that de-institutionalisation remains incomplete even within the cadre of community care. The high scores in institutional points supported this. This is a finding that has been mentioned in psychiatric literature (Killaspy, 2007) but has never come from a medical architecture research linking spatial provision directly with indicators of institutionalization.

Space Syntax as a methodology presented strong limitations on understanding space inside psychiatric facilities, unless it was justified by Goffman's theory. This is in agreement with scholars who question the applicability of space syntax to healthcare architecture (Peponis, 2017; Van der Zwart, 2018). Indeed, looking at space in relation to physiology and perception as compromised by illness or disease is something outside space syntax core theory, which follows very generic patterns. So, space syntax should be used very cautiously and juxtaposed to other tools to prevent misunderstanding phenomena, when it comes to medical architecture. Insights from healthcare architecture field of research should be essential to outline institutional undercurrents. In any case, a generic methodology of architectural theory, including space syntax, should not be used on its own because, differences on perception and on physiology that derive from an illness conflict with generalised principles. Therefore, it is imperative that the understanding of healthcare spaces needs to derive from integrated methodologies combining healthcare and spatial tools and from multi-disciplinary and patient inclusive research consortia.

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