What is Architectural Psychology?

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Editorial Summary: Alexandra Abel explores the general potential of disciplinary fusion and, specifically, the incorporation of psychology into the field of architecture, aiming for an architectural psychology. In her contribution »What is Architectural Psychology?«, she questions the possible intertwining of the two disciplines, highlighting their reciprocal interconnectivity. She draws specific attention to the substantial ways in which the consideration of psychological findings affect the perception and appropriation of architectural spaces and their sensual and attentive impact on human well-being. In regard to the integration of perceptual and sensory principles into the architectural design, the consideration of psychology becomes inevitable when aiming for a human centered design. [Katharina Voigt]

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Architecture is (applied) art. It is created for people to perceive and use it. Psychology, on the other hand, is the study of human experience and behavior. One of its branches is environmental psychology, which relates the environment to human experience and behavior. Today, the environment is primarily designed or at least influenced by people, and dominated in turn, by architecture. According to Evans and McCoy, we spend 90 percent of our time in architecture (Evans/McCoy 1998: 85), and the remaining ten percent almost entirely in its immediate proximity.

Unlike the subject area of psychology, the subject area of architecture is tied to evaluation. Architecture is considered to be »Baukunst« (Brockhaus 1987: 82), the art of building and construction.¹ But who decides on the

1 Brockhaus encyclopedia defines architecture as »Baukunst«, or the art of building, which is the oldest and most appropriated of the fine arts (Brockhaus 1987: 82). Similarly sensitive to the issue of inclusion or exclusion is the definition in the Duden, universal German dictionary, where three meanings are assumed of architecture as the art of building (as a scientific discipline) as a (more or less) elaborated construction and artistic design of buildings, and as the summary of products of the art of building (cf. Dudenredaktion 2003: 163).

criteria of inclusion or exclusion in this case? To free the interdisciplinary discourse from the issue of evaluation and to keep the the overlapping area between disciplines as wide as possible, architectural psychology is defined as the science of human experience and behavior in built environments (i.e. Richter 2013: 21).

Where, how, and with what intention can psychology enrich architecture with its knowledge of human nature? In their encounter, psychology is not the key player. It does not create architecture. It must find a different, virtually adjunct or corresponding position to architecture. It can incorporate this position quite confidently, however, for it has something to offer which architects can use in practice, theory, and research: scientific knowledge of human nature. Architecture as a discipline is much older than (scientific) psychology. And knowledge of human nature has always, varying in depth and thematic focus, been considered an expertise crucial to the design of architecture. The added value of architectural psychology in the interdisciplinary discourse is its scientific content, methods, perspectives, and possibly a transsystemic meta position.

The Offer of Architectural Psychology

What does architectural psychology have to offer in terms of theory, research, and practice? Architectural psychology can sensitize the significant influence of the designed environment on human experience and behavior and can contribute to an understanding of the interrelation between humans and the human-designed and influenced environment. Thus, it searches for explanations behind the observed effects, formulates them in the form of hypotheses, theories, explanatory models, and puts them up for discussion.

To support the communication about and the reflection of this interrelation, it is necessary to introduce psychological terms to the discourse in a clearly defined range of content and meaning. Attention must be paid to the pre-existing language culture of psychological content in architecture, which can be different from the specific terminology of psychologists and non-architects. Architecture conveys itself through perception and interaction. But to make this impact communicable, in the sense of the Latin origin »communicare« – to make common, share, bring into common use (Kluge 2002: 514), and reflexible, in the sense of the Latin origin »(animus) reflectere«, – to turn the mind or the thoughts back or away (Georges 1995: 2267), a language and sign system is required; a system that is preferably equally

shared by all participants of communication and reflection, and that at best offers terms for all communicable and reflexive contents.

Thus, (architectural) psychology can act as spokesperson, voice, representative, and mediator for the recipients of architecture, the ones addressing and creating it – the people. This must be the intention of architectural psychology and the intention of an interdisciplinary cooperation between architecture and psychology, which is optional per se and always has to prove and justify its added value. In this sense, from its position as a human science, architectural psychology can generate discourse, preceded by the question: Which kind of architecture do we need? Should architecture increase comfort? Raise life expectancy? Support certain actions, functions? Please our perception? Stabilize or destabilize systems and institutions, power dynamics, and states? And is it even justifiable, in terms of overall ecological interest, to focus so much on humankind, which threatens the survival of the Earth's ecosystem by merely existing?

Against the backdrop of an open discourse, this question should nevertheless find, at least, a preliminary, hypothetical answer: Architectural psychology is the science of human experience and behavior, especially in the context of the space designed or influenced by humankind. Through the examination of the mutual relation between human experience and behavior, and the dimension of space, created or influenced by man, its intention is to support human well-being on one hand, and the continued existence and conservation of the entire ecosystem on the other.

Following the hypothesis that the aim of architectural design is the simultaneous optimal well-being of humans and the entire ecosystem, research must try to operationalize both in order to derive observable and appraisable criteria from it. The well-being of the ecosystem can be operationalized, whether in the form of soil sealing, carbon footprints et cetera, and can then be introduced into the context of design processes. Human attitudes toward the natural environment – such as the assumption of responsibility in the form of ecologically conscious action and the relevance of the natural environment for human well-being – fall into the domain of environmental psychology and thus into the domain of architectural psychology as well.

The World Health Organization (WHO), in its role as publisher of the *ICD* and associated publisher of the *World Happiness Report* as well as of numerous charters in this field, provides a widespread and universally accepted basis for an operationalization of human well-being. The terminology utilized

primarily consists of the terms: Happiness, health, (subjective) well-being and life evaluation. Yet, these terms are so similar in their definition that they are sometimes used synonymously. As such, happiness is defined as subjective well-being in the *World Happiness Report 2017* (Helliwell/Layard/Sachs 2017: 13). In contrast, life evaluation is considered to be more related to the concrete living conditions of the individual. Therefore, the *World Happiness Report* does not focus on the evaluation of individually felt happiness, but on the evaluation of life satisfaction, as the purpose of the report is to capture and compare the external living conditions in each country and not the internal attitude of the individual.² Health, on the other hand, is »not merely the absence of disease or infirmity« in this context, but »a state of complete physical, mental and social well-being«, according to the pioneering definition of the WHO.³ Consequently, the WHO's definition of health can be the starting point for an operationalization of factors, which then, as categories, can be respectively examined in relation to the built environment.

Regarding social well-being, for example, architectural psychology has the ability to create awareness of not only the human need for positively perceived social encounters, but also of the opposite need for withdrawal, and can illustrate how both are connected to the affordance of space (term definition »affordance«, cf. Gibson 1966), through proxemics (term definition »proxemics«, cf. Hall 1966), posture, viewing direction, movement et cetera. It can offer methodology as well as pre-existing instruments, such as test and questionnaire diagnostics, interviews, and criteria for content-analytical evaluation of interviews, to gather further insights, and thus put architects, architecture students or representatives of similar disciplines

2 »These twin facts – that life evaluations vary much more than do emotions across countries, and that these life evaluations are much more fully explained by life circumstances than are emotional reports – provide for us a sufficient reason for using life evaluation as our central measure for making international comparisons.« (Helliwell/Layard/Sachs 2017: 12).

3 From the Constitution of the World Health Organization (WHO): »Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.« »The Constitution was adopted by the International Health Conference held in New York from 19 June to 22 July 1946, signed on 22 July 1946 by the representatives of 61 states (Off. Rec. Wld Hlth Org., 2, 100), and entered into force on April 7, 1948.« (World Health Organization: *About WHO, Constitution of WHO: Principles*, <https://www.who.int/about/mission/en/>, accessed February 20, 2019).

in a position to examine their own issues, whether during their studies, in research or in practice.

Architectural Psychology in the Design Process

To have an impact on the design of architecture beyond the reflection of existing environments, architectural psychology must first and foremost deal with the creation of architecture, and therewith primarily with the design process. In the understanding of its dynamic nature lies the quintessence necessary for a potentially enriching collaboration of architecture and psychology. The more closely the procedures of creation and design in architecture are explored and examined by the means of psychology, the greater the potential for architectural psychology can be revealed.

Indispensable for the understanding is a meta-analysis of the design process, a process that should be entirely unknown to most psychologists. While architects may experience it regularly, they probably rarely reflect it on a verbal or graphic level. This process has to pay attention to many criteria – user requirements, structural engineering calculations, monetary guidelines, building codes, and formalities –, but it also contains a *de surplus*, the assumption of a creative Aha-moment (Csíkszentmihályi 1997: 119). How much meta-consideration and meta-analysis does the design process need? How much can it tolerate? How can architectural psychology assimilate into this process? And where? How close may the input of architectural psychology come to the creative Aha-moment? How much influence may architectural psychology have on the result of the design process? How visible may this influence be?

The design process at the university level occupies a special position. Usually, it is freed from the restrictions of realization, and focuses on an education in the design process through content and methodology. Based on six years of architectural psychology teaching at the Bauhaus-University Weimar at the Chair of Building Morphology, held by Professor Bernd Rudolf, I am able to make the following meta-analytic observations: At the beginning of the design process, which due to university circumstances is usually restricted to one semester, there is the task, usually freely selected by the students based on interest and inclination. Different motivations, like collaboration with fellow students or a preference for particular lecturers, presumably contribute to the choice as well.

In the initial phase, a diverse input oriented toward the task ensues. This input consists of:

- The assumption of a certain user group.
- Research, field trips to prototypes, constructed or hypothetical reference examples.
- Guided preliminary tasks that aim to activate previously unconscious biographical contents, like, for example, the subject of water in relation to architecture, the examination of their own bathing experiences.
- Field trips to particular places or places where their own draft is to be positioned in the dimension of space.
- Additional knowledge about certain aspects that are important for the task, e.g. knowledge about dementia.

This input consists of the reactivation of personal memory contents as well as new information. Whereas some contents are concretely thought or perceived, others reach the preconscious⁴ through associative networks (for the concept of associative networks, see: Collins/Loftus 1975: 407–428). These fluctuating conscious and preconscious contents create an input-cloud, whose composition and consistency changes constantly and which accompanies the students over a certain amount of time (similar to a creative incubation process) until they solidify it and select a concrete design idea. This process is promoted and regulated by presentation deadlines, limitations through guidelines et cetera, and conglomerates in an initial design idea.

As the course proceeds, this first and central design idea develops into an elaborated draft, into which additional parts of the cloud can certainly be incorporated again. Where and how can architectural psychology accompany the design process in the structures of the university?

4 The terms conscious, preconscious, and unconscious are not used conforming to Freud's theories, for whom the unconscious for instance is associated with displacement. Here, they denote the distance of the potentially available information in our memory to our conscious mind (see: Zimbardo/Gerrig, in: Hoppe-Graff/Engel 2003 [1996]: 165–166).

It can:

- Observe, analyze, reflect, and support the whole process, influence it if necessary, lead, and accompany a meta-analysis.
- Add concrete scientific content to the diverse input in the first phase, thus feeding into the cloud.
- Support the activation of conscious and preconscious individual contents and accompany their reflection e.g. through processes of introspection and projective procedures.
- Support the compaction and selection with the specification of psychological criteria.
- Offer methodology to include architectural psychology contents after the compaction to a concrete idea – during the elaboration, e.g. in the form of analyses of motion, social density, privacy et cetera.
- Prepare a verbal mediation and explanation of the design that is not only based on drawings and models, but that also reflexively explains the process of the development and incorporates (scientific) psychological elements into the argumentation.

Perspectives

The interdisciplinary cooperation between architecture and psychology appears almost inevitable. Architecture has to consider human factors, while psychology is the science of human experience and behavior. This cooperation, however, presumes the acceptance and the constructive handling of a number of subject-specific particularities: Architecture has always been created for people and therefore has its own culture and tradition of knowledge about human nature. Architectural psychology has to develop a positive and conscious attitude toward this tradition and culture.

Although, or maybe even because it is a young science, (scientific) psychology is very heterogeneous regarding its schools, orientations, and approaches. Its research area concerns a complex reality and metaphysical questions, which explains why, for certain phenomena and questions, there exist parallel theories, models or hypotheses. This might complicate the access to psychology for architects in a cross-disciplinary discourse but must nevertheless be made transparent. One vision for the future would entail

a closer link between architecture and psychology, for instance in a shared postgraduate program, as productive cross-disciplinary research can only arise from proximity. The promotion of process- and project-oriented cooperation, in which new approaches are developed together and traditional paradigms are left behind, appears equally useful. Our current reality has produced a number of extremely urgent issues, such as economic and ecological fairness, which obligate both psychology and architecture. Solutions only arise from a cross-disciplinary, open discourse, which should naturally include many other related sciences as well.

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