

Sensation of Space and Modern Architecture

A psychology of architecture by Franz Löwitsch

***Abstract:** In 1928 the Austrian architect and engineer Franz Löwitsch (1894-1946) published the article "Sensation of Space and Modern Architecture" in Imago, the psychoanalytical journal edited by Sigmund Freud. Based on Richard Semon's theories of Mneme, which Löwitsch connected to psychoanalytical theories, the prevalence of dissimilar sensations of space throughout the stages of the development of western architectural history is presupposed, and Löwitsch offered an explanation of how their symbolic meanings reflected psychological conditions of a particular time and culture.*

By connecting Semon's theory with psychoanalytical deliberations that equip the inherited memory of spatial sensations with pleasurable or unpleasurable emotions, Löwitsch furthermore argued that spatial sensations produce spatial concepts, and that the dominating shapes and forms of the architecture of a time therefore reflect the dominance of a particular inherited sensation of space. The unifying psychological make-up of a populace thus leads to spatial concepts that form an architecture which reflects these concepts and contain symbols that possess 'satisfying powers' valued by the majority of people of that particular time and place.

*But Löwitsch's theory speaks of more than a mere justification for the usefulness of psychoanalytic theory as a methodology for the humanities. Löwitsch contrasted his findings meticulously with Oswald Spengler's controversially critiqued book *The Decline of the West*, Karl Scheffler's *The Spirit of the Gothic* and Eckhart von Sydow's *Primitive Art and Psychoanalysis*. The discussion of these contemporaneous writings that essentially sought to find the driving forces for the development of styles helps in formulating Löwitsch's final hypothesis. Here, he proposes the emergence of an 'energetic space' in architecture, which is the prevalent sensation of space that he predicts to emerge in the near future. His ultimate aim, however, was not to enter academic discourse but rather to provide a scientifically based explanation, with which the impact of space on the inhabitant can be measured, explained and utilized in architectural practice.*

Introduction

In 1928 the Austrian architect and engineer Franz Löwitsch (1894-1946) published a study that tried to explain the contemporary tendency in architecture to open the house to the outside and to relate the rooms toward each other. He interpreted these aspects of modern architecture as resulting from a new ‘energetic’ sensation of space. This paper introduces Löwitsch’s theory, its theoretical underpinnings and embeds it into the discourse in architecture and art history of the time.

Löwitsch was a prolific writer¹, critic, and urban planner² as well as a designer of stage costumes and sets.³ After studying at the school of architecture at the *Technische Hochschule* in Vienna he graduated in 1920.⁴ During his early career Löwitsch entered a competition with Walter Neuzil and Rudolf Scherer for an extension to the *Technische Hochschule* in Vienna.⁵ This partnership also designed a *Raumbühne* [space-stage] on which they published an article in the magazine *Österreichische Bau- und Werkkunst* in 1924.⁶ Löwitsch furthermore collaborated in the same year, again with Neuzil and Scherer, at the competition for the *Great Theatre for the Peoples House of Art* [*Großes Theater für das Volkshaus der Kunst*].⁷

One of these projects might have provided the contact with the dancer and choreographer Mary Wigman, for whom Löwitsch developed scene designs.⁸

In 1924 Löwitsch moved to Berlin where his engagement with stage design and theatre widened toward deliberations on theories about space, the question of how the modern sensation of space can be distinguished from those of the past and the unifying aspects of past architectural styles. Between 1921 and 1926 he was self-employed but obtained a position in Erich Mendelsohn’s office from 1927 to 1929 where he was involved in the planning of the Department store Schocken in Chemnitz (built 1927-1930), plus the Columbushaus (built 1928-32) and the Union house for the metalworker’s union [Metallarbeiterverband] (built 1929-30) both in Berlin.⁹ During this time he developed the theory of ‘sensations of space’. Publications commenced with the 1928 article “Sensation of Space and Modern Architecture” [“Raumempfinden und moderne Baukunst”]¹⁰ that was published in the psychoanalytic journal *Imago*. Some short notes and articles with similar content followed in subsequent years published in the magazine *Innendekoration*.¹¹

As a result of the study on “sensations of space”, Löwitsch called – in a series of articles published in the magazine *Die Baugilde* between 1929 and 1931 – for the inauguration of an institute of *Raumwissenschaft [science of space]* that would establish which elements in architecture would be beneficial for the inhabitant. *Raumwissenschaft* would determine the quality of dwellings with the same dedication and effort commonly directed towards the scrutiny and testing of building materials to verify endurance, quality, and usability.¹²

In the following years his interests shifted again from the impact of architecture on the human inhabitant towards questions of city planning and the organisation of traffic in Berlin via beltways. Together with Robert Kisch and again with Walter Neuzil, Löwitsch proposed *The Idea Berlin [Die Idee Berlin]*, a study on the traffic routes through Berlin, at the Bauausstellung in Berlin in 1931.¹³ Later the same group collaborated in a competition for a reconfiguration of the Reichskanzlerplatz [today Theodor-Heuss Platz] in Berlin.¹⁴

According to a curriculum vitae in Löwitsch’s personal file at the Landesarchiv Berlin his architectural oeuvre includes a 1926/27 theatre [Kleinbühne] in Schäßburg [formerly in Siebenbürgen today Sighișoara in Romania], a shop design as well as a weekend-house for his father in law and two houses for the Schlecker family in Berlin, all of which were probably built before 1936.¹⁵

Apart from further articles on inner-city traffic¹⁶, as well as the much-discussed question on sun-penetration in high-rises¹⁷, his output almost ceases during the mid-1930s and early 1940s. Only in 1946 a small number of articles on the rebuilding of the bomb-damaged Vienna were published posthumously.¹⁸ Löwitsch had died in July 1946 in Vienna.

Sensation of Space

In his ambitious essay “Sensations of Space and Modern Architecture’ Löwitsch proposes a theory of *Raumempfindungen [sensations of space,]* their prevalence throughout the stages of the development of western history, and how their symbolic meaning reflects psychological conditions.¹⁹

The term ‘spatial sensation’ is defined twofold: as the ability to comprehend three-dimensional space with the help of the senses, and as the ability to create spatial ideas

and concepts that are subsequently formed into a more tangible shape such as in architecture, sculpture, or dance.²⁰

Spatial sensations, according to Löwitsch's argument, produce spatial concepts. He assumes that the dominating shapes and forms [spatial concepts] in the architecture of a time, culture, and people reflect the dominance of a particular sensation of space. The also prevalent unifying psychological make-up of the populace leads thus to spatial concepts that form an architecture which reflects these concepts and contains symbols that possess 'satisfying powers' that are appreciated and understood by the majority.²¹

An important source and theoretical basis for the paper is Richard Semon's 1909 book *Die mnemischen Empfindungen [The Mneme]*.²² Semon, today a largely unknown biologist, had worked around 1900 on inherited memory. His notion of *Mneme* encompasses more than the conventional understanding of memory as a collection of remembered events that occurred in the past. The scope of *Mneme* includes habits, instinctive behaviour and other phenomena that Semon observed and which led him towards the hypothesis of *Mneme* as a form of inherited memory. Daniel Schacter, in his to date single comprehensive study on Semon, described *Mneme* as "an organism's capacity to conserve the effects of stimulation and to interact with the environment on the basis of conserved experience."²³ This way *Mneme* connects an organism to its predecessors.

By arguing with Semon, Löwitsch explains how sensations of space are converted into concepts and ideas of space: The senses provide stimuli that are disordered and chaotic before the mind interprets them as a change in the spatial environment. This is achieved by the 'ecphory of mnemonic sensations'.²⁴

The term 'ecphory' had also been coined by Semon and relates furthermore to the terms 'engraphy' and 'engram'. The three terms are defined in Semon's first and second principal mnemonic law:

First principal mnemonic law: Law of Engraphy. All simultaneous excitations within an organism form a coherent simultaneous excitation-complex which acts engraphically; that is, it leaves behind it a connected engram-complex, constituting a coherent unity.

Second principal mnemonic law: Law of Ecphory. The partial recurrence of the energetic condition, which had previously acted engraphically, acts ecphorically on a simultaneous engram-complex. Or more precisely described: the partial recurrence of the excitation-complex, which left behind it a simultaneous engram-complex, acts ecphorically on the latter, whether the recurrence be in the form of original or mnemonic excitations.²⁵

While the term *engram* describes the sum of stimuli that the mind receives through the senses, *engraphy* is defined as the encoding of these stimuli into memory. Engraphy is therefore a process whereas an engram represents the result of the process. The term *ecphory* stands for ways in which the engraphically-stored memories/engrams are retrieved and accessed.²⁶

Another term that Löwitsch borrowed from Semon is “homophony”. Semon assigned this term in order to differentiate his theory from those of other researchers. While a common belief among specialists on memory-heredity was that the repetition of stimuli leads to a stronger engram; Semon argued that each stimulus creates a new engram. Homophony then explains how stimuli reinforce each other in order to achieve a similar effect as the one described by those scholars who had put forward the concept that repetition strengthens a memory. Homophony in Semon's concept is understood as a ‘resonance’ and interaction between engrams. It creates a network between engrams with the result that, even though they are unique entities, they are united through homophonous activity.²⁷

Löwitsch adopts Semon's terminology as the basis for his deliberations on spatial sensation. The ecphory is here responsible for the perception of space. Homophony then isolates single forms and helps to differentiate the world from the notion of ‘I’. Further ecphory accomplishes that shapes are now comprehended as objects. The ecphory of experiences that have been stored in the memory further indicates the quality and function of these objects. Finally, emotions give value to mnemonic sensations and are the reason why a particular memory is delightful or disliked.²⁸

The individual sensations that lead to spatial concepts are furthermore defined as being infinite, stemming from conscious and unconscious experience as well as – here Löwitsch's argument parallels Semon's – from prenatal and phylogenetically acquired engrams. The latter, Löwitsch acknowledges, manifest themselves not as conscious

memories but rather as homophonic contributions that enhance the positive or negative value of sensations.²⁹ Löwitsch concludes that, if some engrams are inherited, there should be some that relate to ‘Riemannian space’.³⁰ Löwitsch most likely used the term ‘Riemannian space’ in order to align himself to contemporary theories about space. In his inauguration lecture "Über die Hypothesen, die der Geometrie zugrunde liegen" [‘On the Hypotheses which lie at the Bases of Geometry’] in 1854 the mathematician Bernhard Riemann had challenged the up to then prevalent notion of the Euclidian space. Riemann’s thesis became prevalent again in 1915 when Albert Einstein developed his general relativity theory that heavily drew on Riemann’s findings. One important difference between the Euclidian space and the Riemannian space is that Riemann’s understanding of space does not ascertain a particular ‘absolute’ space but instead allows differentiating between diverse categories of space.³¹ It might have been this notion of Riemann’s that allows for the existence of different understandings and types of space that sparked Löwitsch’s use of the term ‘Riemannian space’.

Based on these assumptions Löwitsch differentiates four types of sensations of space. The space which is sensed during prenatal development, where neither a distinction between the self and the environment has yet been made, nor where a perception of depth has been developed, is termed *Sensationsraum der Zelle* or *zellenhafter Raum* [sensation-space of the cell or cell-like space].³² In a later stage of development this experience of space crosses over to a second one – the *höhlenhafte Raum* [cavernous space]. Here, the womb constricts the movements of the foetus. This experience is continued during the early childhood where the child experiences space due to the movements of its limbs but where its movements are still constricted due to its immobility, the bed, blankets or clothes. The sensation of space remains that of a cave.³³

At the same time the child becomes more and more aware of its own body. It learns to differentiate between objects and “I”.³⁴ The ‘world as a cave’ disintegrates and instead of an enveloping cave the world is perceived as consisting of objects. Löwitsch termed this third sensation of space *dinghafter Raum* [tangible space].³⁵

The fourth type of space that Löwitsch describes is characterized by the increasing mobility of the infant. The urge to move determines an increase in experience of the

body's strength, as well as of the antagonistic nature of objects and environment. While accumulating experience, space is sensed as a collection of forces that interact – the space is sensed energetically and thus termed *energetischer Raum [energetic space]*.³⁶ The activating factor that determines the shift from one sensation of space to another is the degree in which movement can be carried out.

After having established these four types of sensations of space Löwitsch continues in asserting that each of these experiences can be associated with pleasure or displeasure. Thus, while the *cell-like space* evokes neither pleasure nor displeasure, the *cavernous* and *tangible spaces* can both be perceived either way, depending on the homophony of the engrams:

Each spatial experience – and each experience has a spatial element – evokes traces of memory of all preceding ones. These resonate, to the extent, which the homophony of the original and mnemonic stimulus permits. [...] Furthermore, they reach their intensity from the affects, with which they are occupied. If such mnemonic elements are associated with displeasure, they are able to subtract the attention away from the euphoric elements of cognition, and accordingly to obscure their memory or even to draw them into the subconscious, displacing them [...]. On the other hand certain elements of cognition can become more prominent if associated with pleasurable sensations.³⁷

Here Löwitsch merges his argument with psychoanalytic theory: Apart from mnemonic forces Löwitsch acknowledges libidinous ones as being another determinant responsible for the prevalence of a particular sensation of space. Depending on associations one particular sensation of space can be preferred or eschewed. This phenomenon seems to Löwitsch to be most prominent in the 'free conception' of the creative process of artists.

From the assertion that the number of spatial experiences is infinite and dependant on mnemonic and libidinous forces Löwitsch concludes that spatial sensations are distinct to an age, person, generation, culture, and race:

Because it [the sensation of space] is dependant on the spatial experiences, whose engrams were phylogenetically inherited, and reacquired in the

prenatal and infantile phases, dependent on the destinies, which they [the spatial experiences] have undergone during the development of the individual, the race, and dependant on the new experiences, which were appended during this time.³⁸

During each of these stages the libido is furthermore bound to a particular goal. When changing from one stage to another the libidinous bond is severed and the libido turns to another goal. Imperfect separations nonetheless account for ambivalent affections, fixations, or regressive tendencies in which a previous stage is reproduced and sought. Part of this reproductive urge is therefore the spatial experience that is associated with this particular stage of development that is sought. These spatial experiences furthermore remain a source of pleasure so that each new spatial experience is interpreted as befitting the sought-after one. The artist – as part of the creative process – produces a particular spatial sensation that is an expression of a particular stage of development – the one to which the individual is bound to most.

Based on this Löwitsch resumes:

If one continues to speculate, so one is tempted to assume, that the idea of space of a human, a people depending on the onto- and phylogenetical stage of development, onto which they are fixated, will be cell-like, cunnic [sic], phallic or energetic and that moreover through these features the styles, cultures must be able to be characterised.³⁹

These deliberations form the base from which Löwitsch now explains the prevalence of one, or the ambivalence of two, spatial sensations during the history of western architecture.

A particular architectural style might entail several traits but one particular one can always be recognised as the dominant one. Moreover, the way in which each sensation is associated must be analysed as well. Phallic signs for example can be used either as symbols of pleasure or of dread. Different sensations of space can therefore be occupied by diverse emotions and affects.

Based on this theory Löwitsch explains how the Greek temple is an expression of the tangible sensation of space, while late Roman, early Christian, Byzantine and Arabian-Moorish architecture contain positive expressions of the cavernous sensation

of space because, among other things, interiors gained importance. Romanesque, Gothic and Baroque architecture on the other hand was marked by a more ambivalent sensation of space. The large windows of Gothic architecture are interpreted as an attempt to leave the cavernous space, which nevertheless remained dominant and connected with a regressive tendency, but progressive-phallic forms were developed as well. The Gothic architecture was therefore marked by the ambivalence of approval and negation of two sensations.

Löwitsch nevertheless names the Sainte Chapelle in Paris and the Stephansdom in Vienna as examples where this ambivalence had been reconciled and an energetic space created:

The pure objective form elevates to the highest symbolism and is suffused by the harmony of a spirit, who consciously affirms the pain and lust of being, the rhythm in life. The space is not cave, but also not body; it is suffused by currents of energy, light, gravity, stability; from its rising and falling the structure emerges, the energetic space. It is termed spiritualization and immaterialisation.⁴⁰

Energetic space emerges as a result of the homophony of diverse ideas and concepts and is neither fully derived from the tangible sensation of space nor from the cavernous one. It furthermore cannot be developed until the spatial sensation remains captured by phallic symbols. While neither Renaissance nor Baroque could achieve such a space Löwitsch believes that the newly-developing objective [sachlich] architecture might be able to develop energetic spaces.⁴¹

Sources

Löwitsch developed his theory not only on basis of Semon's assumptions but also in relation to Oswald Spengler's *Der Untergang des Abendlandes [The Decline of the West]*⁴², Karl Scheffler's *Der Geist der Gotik (The Spirit of the Gothic)*⁴³ and Eckhart von Sydow's *Primitive Kunst und Psychoanalyse [Primitive Art and Psychoanalysis]*⁴⁴.

While Löwitsch does not follow Spengler's scepticism, according to which the development of a culture follows inevitably the cycle of birth, bloom and decline, he finds an accord in the ways in which Spengler explains the genesis of architectural

shapes out of the distinct capacities of a people's 'soul'. Löwitsch did not disclose which part of Spengler's text he employed but it can be assumed that he referred to the chapter *Makrokosmos. Apollinian, Faustian, and Magian Soul* in the first volume of *The Decline of the West*.⁴⁵ This chapter supports the argument that each culture and age had its distinct 'sensation of space'. Löwitsch nevertheless did not follow Spengler in assigning the dichotomy of a Faustian and Apollonian soul to the notion of space and the development of art – such as Spengler did when relying on Nietzsche's terms of the Apollonian and Dionysian.⁴⁶

Löwitsch's historical model does not stipulate the notion of birth, growth, and decline neither does it strictly follow the Hegelian notion of the development of history towards a pinnacle. The sensations of space which Löwitsch describes derive from the perception of space during the development of the human, but in Löwitsch's adaptation to architectural history they do not primarily stand for higher cultural progress or superiority, but are instead put forward as psychological developments that depend on the inherited memory or on pleasurable or dreadful perceptions. The energetic space is described as a desirable space but not because it delineates the pinnacle of a development but with the argument that it fits the needs of contemporary life and sensations of space best. His theory is put forward as the result of homophony and libidinous forces that are particular to an age and people, which might include progressive as well as regressive tendencies that appear in waves, but that do not necessarily denote decline or annihilation:

From the continuous alteration of both tendencies [regressive and progressive] a rhythm develops which rocks us in the alternation of pleasure and displeasure, of night and day, of life and death, which captures the destiny of the individual and the families and forms the history of people and humanity in waves.⁴⁷

While Löwitsch mentions Spengler merely in order to support the notion that sensations of space change throughout the ages, Löwitsch's discussion of Eckhart von Sydow and Karl Scheffler is more comprehensive. Their utilization of psychoanalytic theories as a methodology, with which art and architecture can be studied, was of interest for Löwitsch who took particular care in contextualizing von Sydow's *Primitive Art and Psychoanalysis* on a number of occasions. Von Sydow's

explanations of body art in the chapter *Die Körper-Kunst. Die absichtliche Umformung des menschlichen Körpers [Body-art. The deliberate conversion of the human body]* served Löwitsch as an example with which to explain the notion of cell-like space as an autoplasmic adaptation, whereas he assigned architecture to be an expression of alloplasmic adaptation. Von Sydow interpreted body art as autoerotic and narcissistic activities and depictions of erotic symbols as signs of repression. Löwitsch demarcated his line of reasoning from Von Sydow's in that he stressed that repression evokes the urge to perform. While an outer condition causes the urge to perform [Darstellungsbedürfnis] an inner condition causes the sensation of space and subsequently provides a solution for the repression. The inner constitution, the sensation of space, which is partly inherited and partly dependent on the ways in which the libido is bound to a paternal or maternal symbol, determines the prevalent sensation of space and provides at the same time, the possibility to find gratification – that is when the sought after space has been built.⁴⁸

Scheffler's *The spirit of the gothic* presents a theory on the development in history that is based on forces which he terms *the Gothic spirit* and the *Greek spirit*. The former is identified with forces of arousal and the latter with forces of tranquillity. Scheffler saw these forces as creative ones that have been prevalent to different extents in all art movements, which in turn explains the development of styles.

Löwitsch refers to Von Sydow and Scheffler again in the bridging passage between the analysis of historical styles in architecture and the discussion of contemporary tendencies in architecture. Here, Löwitsch indicates a lack in the studies of both authors in that both regard and assess the art and architecture of the past, not of the present.

In an attempt to make his findings relevant for the analysis of the emerging architecture of his time, Löwitsch stresses that symptoms for the emergence of an energetic sensation of space within the arts, architecture and natural sciences can currently be found and describes the structure of the modern sensation of space in four points. According to those the constitution of the modern sensation of space is firstly ruled by the energetic sensation of space because the understanding of space has become more abstract due to the advancement in the natural sciences. The architectural space also is being planned according to the internal movements, forces,

energies etc. Secondly, the appearance of phallic symbols supports traits of the energetic space since they are male symbols and thus stand for activity, and the zest for action. Thirdly, the endorsement of phallic symbols leads to the loss of female symbols. The cavernous space loses its symbolic powers. Cell-like sensations of space, finally, are prevalent in the modern sensation of space in those contributions that satisfy the infantile-narcissistic lust for sensation.⁴⁹

While the subsequent section of the article contextualises this theory with Freud's writings of the psychological development of children, which he then transfers and compares with the development of art, the concluding pages of the article are dedicated to a further explanation of the modern sensation of space and a prognosis as to how the energetic sensation of space can be translated into the 'language of architecture'.⁵⁰

Here, Löwitsch explains that the architect of today constructs a building that enables and foresees the movements within, he furthermore conceives of the movements of light, warmth, water etc. within the house as well as the outside forces (e.g. weather) that act upon the house. The architect's general attention is directed toward the movements within the house and its rhythm and tempo. Architecture therefore is no longer comprised of independent elements such as columns and beams but rather of a frame that cannot be split into parts. The spaces are interdependent; the houses lose their solidity and are open to the outside.

Not only shall the pipes and lines that distribute water and electricity be enhanced as carriers of these forces but also the house shall be considered as a vessel, which absorbs and collects outside energies and makes them available for the inhabitant. Moreover, movable walls and windows are thought to aid the energetic space in capturing these forces.

The changed modern psyche determines the new efficacy; the new needs give space a new sense, a new shape. The house is not a support and cover, but machine, transformator between cosmos and human.⁵¹

Conclusions

Löwitsch's ultimate aim was to prompt the implementation of a scientific institution with the objective to systematically analyse the effects architectural space might have

on the human subject.⁵² In a number of publications in 1929 and 1930 he argues for the instigation of an institution of such research assignment because:

It is out of the question to disregard the effects of space as imponderabilities [sic] or to merely estimate them intuitively.⁵³

The 1928 essay offers in this context an example as to how scientifically researched findings can contribute to the renewal of architecture and at the same time offer a theory on the development of architectural styles. Löwitsch's analysis of previous styles in architecture served to reinforce the concept that a unity of styles exists and it furthermore helps to delineate clearly the architecture of the past from that of the present. It explains the emergence of modern architecture not as a result of technological or aesthetic considerations but as a development resulting from psychological and mnemonic forces. The opening of the architectural structure to the outside and of the rooms towards each other is explained as resulting from the energetic sensation of space and "the urge of the active being for powerful movement"⁵⁴ Contemporary architecture thus is developing in accordance with the changes within the psychological constitution of the age.

The theory on 'energetic space' therefore can be embedded in and related to the theoretical framework of the *Neues Bauen*. Löwitsch mentioned the organisation of floor plans and the reduction of traffic routes within the house, an undertaking which was intensely discussed by Ludwig Hilberseimer, Grete Schütte-Lihotzky and Walter Gropius, to name a few.⁵⁵

Löwitsch's rendering of the future use of materials is, furthermore, reminiscent of the similarly utopian theories of Siegfried Ebeling in *Der Raum als Membran [Space as membrane]*.⁵⁶ The 'energetic space' where the wall has been replaced by a frame⁵⁷, seems to give an explanation for contemporaneous efforts that aim to break open the conventional architectural box as in Le Corbusier's "plan libre", Adolf Loos' "Raumplan" and Theo van Doesburg's theories on the fourth dimension.⁵⁸

Löwitsch's text offered a theory for the genesis of a strand of contemporary architecture where large horizontal windows, the opening of spaces to each other and to the outside, unadorned surfaces, electricity, running water as well as considerations of the ways in which modern life inside would unfold were common denominators.

He related this development in architecture to the psychological development of the human being and thus rendered this architecture as inevitable and a logical genesis that came about due to inherited engrams and the psychological framework of the age and individual.

This theory reflects the search in the late 1920s for an explanation of the rapid technological developments and the subsequent changes in the overall appearance of the architectural form. Since the early years of the decade architects had embraced technology and also grappled with the consequences. The widespread desire for complete renewal in architecture with the help of technology was often expressed. Le Corbusier for example wrote in 1926: “Now, the art of constructing buildings is different, different methods on different plans. We must start again from zero”⁵⁹ and Gropius said in the same year “It is our task to adapt to our time. As we wear clothes of today, we must also create in our environment items that belong to our time”.⁶⁰

While Le Corbusier explored in his 1926 article “Architecture d’époque Machiniste”, published in the *Journal de Psychologie Normale et Pathologique*⁶¹, possibilities of both technological developments and of reconciliation of technology and aesthetics that would befit the machine age, Löwitsch did not touch aesthetic considerations. His idea of the artist is that of an individual bound to the overarching psychological outfit of an age. Aesthetics are the result of mnemonic and psychological forces, not the achievement of an individual. This reflects recent changes in the self-conception of the architect. Instead of envisaging a genius who receives inspiration from inner mental capacities, a rational, scientifically-versed engineer was now being educated at the Bauhaus and other progressive schools. Thus, the new engineer had replaced the artist/genius.⁶²

The origin for this understanding in Löwitsch’s theory lies in psychoanalytic theory. Löwitsch’s argument is developed alongside Sigmund Freud’s writings on the theory of sexuality and the unconscious, *Three Essays on the Theory of Sexuality*, which were first published in 1905. It is also informed by Freud’s disciple and colleague Otto Rank and his books *The Trauma of Birth* and *The Artist*.⁶³

In the chapter *Kritik der Psychoanalytischen Kunstphilosophie (Critique of the Psychoanalytical Philosophy of Art)* Von Sydow critically appraises Otto Rank’s 1925 *Der Künstler (The artist)*. Von Sydow summarizes the Freudian notion of

sublimation as a source of artistic creation. According to Freud's *Three Essays on the Theory of Sexuality*, strong sexual agitation leads to the utilization of surplus energy in other fields such as the arts. Otto Rank, in his book *The Artist*, developed a philosophy of art on a psychoanalytic basis. Von Sydow, however, remains critical towards Rank's deliberations and notes that psychoanalysis must be regarded as a method not a theory, so that all results of psychoanalytic study have to be constantly verified and that its importance cannot be found within the research of cultural relations, but rather as a therapeutic method.⁶⁴ Von Sydow criticises a main premise in Rank's reasoning by rejecting the theory that all cultural activities deviate from psychological motivations. The artist is rendered into a being that is steered by subconscious drives only. In Von Sydow's opinion the conclusions made by Rank remain superficial and merely 'the human who suffers through life, but who is nevertheless swollen by the lust of productivity'⁶⁵ is picked out to be the central theme. This, so Von Sydow criticises further, renders the analysis of the actual artwork secondary to the analysis of the artist. Löwitsch does not concern himself with this rather fundamental criticism on the usefulness of psychoanalytic theory. Von Sydow's sceptical remark that psychoanalysis should be regarded as a method rather than a theory does not echo in Löwitsch's paper. Instead, findings by the scholars he cites are at times assumed uncritically.⁶⁶

Löwitsch did not join deliberation on the role of the architect in contemporary times because his text is more closely related on an academic discourse – that he does not mention – but that had around 1900 instigated a novel understanding of interior space. Among the central scholars to this discourse were Heinrich Wölfflin and the German architectural theorist August Schmarsow.⁶⁷

Essential to Schmarsow's writings on architecture between 1893 and 1905 was the notion that architecture is an expression of human interaction with the world and has therefore always been transformed in accordance with changing lifestyles and requirements. Schmarsow's texts "Das Wesen der architektonischen Schöpfung", 1893 [The essence of Architectural Creation]⁶⁸ and "Der Werth der Dimensionen im menschlichen Raumgebilde", 1896 [On the Importance of Dimensions in Human Spatial Creation]⁶⁹ heralded a novel understanding of architectural space, which subsequently influenced a number of theoretical writings on this topic⁷⁰ so that by

1933 Schmarsow's theories had become "accepted foundations of the aesthetics of architecture".⁷¹

He furthermore developed a theory of space, based on theories of empathy and psychology, in which the perception of space was the focus of his examination. By not defining architecture as the "art of physical masses"⁷² as had been Heinrich Wölfflin's designation,⁷³ but as "Raumgestalterin" ["creatress of space"], the architectonic space was now regarded as enveloping the human being and its activities. This moved away from the appreciation of the surface and the study of architecture as a solid structure, and positioned the creation and perception of interior space at the centre of his analysis.

Schmarsow's goal was thus to discuss the rules according to which the spatial engagement of the human subject with its surroundings is based. The three-dimensional space – height, width, and depth – was to be examined not for its mathematical value but instead from the viewpoint of "physiological psychology". Three-dimensional space is therefore perceived and comprehended sensually; by extending the axis of the body, height is perceived; width is comprehended as an extension of shoulders and outstretched arms, and depth through mobility and the location of the eyes in the head.⁷⁴ Human perception of space was in Schmarsow's view a synthesis of sensory experience and spatial intuitions that originated in the human body. From this premise Schmarsow's understanding developed, that architecture has always been created depending on changes in life-style, culture and habits. For Schmarsow, the history of architecture is the history of spaces and how these spaces were perceived.⁷⁵

This notion of space became widely known and Art Historians such as Alois Riegl and Paul Frankl who drew on Schmarsow's concepts.⁷⁶ The connection between interior space and the psychology of the inhabitant was thus already established when Löwitsch's 'sensations of space' were published.

Löwitsch's theories were contemporaneous in that architects and critics alike asserted that a new type of space was being created that would be befitting a likewise new life-style.

During the 1920's the psychological impact of space on the inhabitant was studied, for example, by a number of Viennese architects who designed the interior of their houses accordingly.⁷⁷ Oskar Strnad in particular was interested how spatial sequences and the bodily movement through these spaces might lead to "a more profound awareness of space, which in turn served to heighten the observer's architectural experience."⁷⁸ The effects, that such architecture achieves in the inhabitant are asserted to be not only visual but also prone to "producing certain psychological impressions" that derive from numerous causes. Strnad explains that a space has an impact based on an impression of it, as well as based on the movement through it and of other elements such as materials and light that effect the senses.⁷⁹ As Christopher Long has shown, Strnad draws on writings by Adolf Hildebrand and August Schmarsow, both of whom had published on spatial perception and bodily movement through space, and asserted that in order to be able to perceive three-dimensional space, movement is essential.⁸⁰ Adolf Loos had also been interested in notions of empathy and thus in the writings of Robert Vischer and Theodor Lipps that gave insights into how emotions impact in the perceptions of space.⁸¹

In Germany this topic was likewise prevalent.⁸² The architect Adolf Rading was also interested in the psychological impact of architecture on the dweller: "Psychologically the attitude is thus, that living spaces open towards the outside, that one opens towards the outside, that one lives towards the outside and therefore does not as usual hole-up in ones cave"⁸³. Hans Scharoun, and Hugo Häring, representatives of 'organic functionalism' furthermore were at the same time interested in how functions create shapes. Häring's article "Wege zur Form" ['Paths towards Form'] is, for example, concerned with the ways in which objects of daily use have 'organically' developed due to the changes in the ways they have been used. Häring concludes that such objects/architecture reflects the psychological constitution of the time they were created.⁸⁴

While the influence of a "psychology" of space can be discerned in the work of the above-mentioned architects, none of them seemed to have overtly drawn on psychoanalytic theories.⁸⁵ The significance of Löwitsch's essay can thus be found in the ways in which he aimed at finding reconciliation between discourses in the humanities, architectural practice, and sciences by combining theories into an overarching one. Löwitsch's engagement with psychoanalytic theory, the

subconscious and the development of the human psyche on the basis of Semon's theory on *Mneme* is, to my knowledge, unparalleled. While the engagement of other theoreticians with scientists can be found more often – Ebeling, for example, developed his theory with the help of the popular books by the psychologist and politician Willy Hellpach⁸⁶ – 'Sensations of Space' is based upon a series of hypotheses that are contemporaneous with a number of modernist theories that aimed at giving plain and overarching explanations about topics of immense pluralism, such as the question of how history developed throughout the ages and throughout different cultures. In his aim to finding such overarching theory that might explain the change of architectural styles of all times and people Löwitsch did, however, overlook pluralism and also bases his assumptions on misleading terminology. The use of the term 'Moorish' seems, for example, rather cumbersome. It was informed of the ways in which architecture of Hindu or Muslim origin was perceived throughout the 19th century in that 'Moorish' architecture built in a western context aimed at creating an exotic and outlandish atmosphere that was particularly popular when building structures for entertainment.⁸⁷ The term described, on the other hand, also the traditional architecture of Muslim and Hindu cultures built between North-Africa and India. In order to support an all-encompassing theory, cultural and local differences were neglected to an extent that the smallest denominator would be found which then, in turn, would not relate to an architecture of a people or culture anymore, but which would merely amount to a stereotype.

Löwitsch's ultimate aim, however, was not to enter academic discourse but rather to provide a scientifically based explanation, with which the impact of space on the inhabitant can be measured, explained and utilized in architectural practice. If he utilized this theory for his own practice as an architect cannot be ascertained since his oeuvre as practitioner was limited and no accounts that demonstrate how he merged theory with practice seem to have survived.⁸⁸

Löwitsch's text therefore can nevertheless be placed at the margin between those methodological approaches that engaged with psychoanalytical theories and the arts (Rank, Von Sydow), as well as those who explored notions of *Zeitgeist* and style (Spengler, Scheffler), and also of contemporary architectural theories that were mainly pursued by its practitioners. Löwitsch's text is an example where those fields of research and study meet. In discussion with and based upon these theories

Löwitsch developed a theory about a fundamental question that art historians had been concerned with – the question of how a particular style emerges and the driving forces of art and creativity. It is therefore not surprising that Löwitsch's contemporaries associated his writings with those of Ernst Cassirer⁸⁹, whose philosophical work was pioneering in that he was not only equally concerned with natural sciences and the humanities, but that he also aimed at mediating between the two.⁹⁰

It is not only Löwitsch's utilization of psychoanalytical theories that might provide with impulses and insights when discussing 'architecture and psychoanalysis' or 'psychoanalysis and space' both of which were the topics of recent publications and conferences.⁹¹ His interest in bringing together the natural sciences and the humanities also gives Löwitsch's text currency today.⁹²

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¹ To date his writings have been largely overlooked. *Die Idee Berlin*, has been mentioned in: David Frisby, "The metropolis as text. Otto Wagner and Vienna's 'Second Renaissance'," in *The Hieroglyphics of space. Reading and experience the modern metropolis*, ed. Neil Leach (London and New York: Routledge, 2002), 19 and in: Marcel Potter, "Berlin in Posters – Posters in Berlin: Mass Advertisement and Urban Space in Berlin 1900-1933," in *Topography and Literature*, ed. Reinhard Zachau (Göttingen: V&R unipress, 2009). An analysis of Löwitsch's text "Raumanalyse und moderne Baukunst" and basis for this article: Tanja Poppelreuter *Das Neue Bauen für den Neuen Menschen* (Hildesheim: Olms, 2007).

² On the occasion of the *Deutsche Bauausstellung* in Berlin in 1931 Löwitsch proposed together with Walter Neuzil and Rudolf Kisch a plan to resolve the congested traffic situation in Berlin. See: Franz Löwitsch, "Die Idee Berlin," *Wasmuths Monatshefte für Baukunst und Städtebau* 5 (1931): 423-428. Franz Löwitsch, "Berlin im Überlandverkehr," *Wasmuths Monatshefte für Baukunst und Städtebau*, 6 (1932): 505-506. Franz Löwitsch, "Großstädtischer Verkehr. Erläutert am Beispiel der Stadt Berlin," *Zentralblatt der Bauverwaltung* 52 (1932): 512. Franz Löwitsch, "Autobahn – ein Element des Staatenbaues," *Die Autobahn* (1934) no. 19: 906-909. Another result of the joint venture of Löwitsch, Neuzil and Kisch was the competition entry for the *Reichskanzlerplatz* in Berlin in 1930. Franz Löwitsch, "Der Reichskanzlerplatz," *Wasmuths Monatshefte für Baukunst* 4 (1930): 436-439.

In 1946 Löwitsch published furthermore articles that discussed ways in which to reconstruct destroyed suburbs in Vienna. Franz Löwitsch, "Die wissenschaftlichen Grundlagen des Städtebaus," *Aufbau* (October 1946): 147-149. Franz Löwitsch, "Kritik an Wien?," *Aufbau* (September 1946): 99-100. Franz Löwitsch, "Das städtebauliche Formproblem," *Aufbau* (November 1946): 185-187.

³ In 1924/25 he had – together with Walter Neuzil and Rudolf Scherer – published an article on stage design. Walter Neuzil, Franz Löwitsch, Rudolf Scherer, “Plastische Bühne,” *Österreichische Bau- und Werkkunst* (1925/26): 83ff.

At the *Deutsche Tanzfestspiele* in 1934 Löwitsch created costumes for the dance *Nebel und Sonne*. The program of this festival can be found in: *Festivalizing! Theatrical Events, Politics and Culture*, ed. Temple Hauptfleisch (Amsterdam, New York: Rodopi, 2007), 161.

⁴ Among Löwitsch’s teachers were Max Fabiani, Max Ferstel, Franz Krauss und Leopold Simony but the stringent curriculum only allowed students to choose their tutors to a less degree. In an article, however, Löwitsch highlighted Rudolf Saliger, a specialist in the use of ferroconcrete, as having been the teacher who taught, “to regard and practice the draft of a construction as artistic task“ [“den Entwurf einer Konstruktion als künstlerische Tätigkeit zu werten und zu üben”]

Franz Löwitsch, “Bauwissenschaft? – Bauwissenschaft!” *Die Baugilde* 11 (1929): 383.

For information on the Technische Hochschule in Wien during the 1920s I wish to thank Juliane Mikoletzky at the archive of the Technische Universität Wien.

⁵ Petra Schumann, “Rudolf Scherer” *Architektenlexikon Wien. 1880-1945*, <http://www.architektenlexikon.at/de/537.htm> (accessed, 4. October, 2010).

⁶ Neuzil, et. al., “Plastische Bühne,” op. cit.

⁷ Ibid. See also: Schumann, “Rudolf Scherer” op. cit.

⁸ Klaus Löwitsch, *Asche auf meine Seele* (Berlin: Eulenspiegel-Verlag, 1997), 83-84.

⁹ Personal file of Franz Löwitsch at the archive of the Reichskammer der bildenden Künste, Landesleitung Berlin, Archive No: BDC Nr. 2400020506, Microfiche 99, image no. 2320, date illegible (before 1936).

¹⁰ Franz Löwitsch, “Raumempfinden und moderne Baukunst,” *Imago. Zeitschrift für Anwendung der Psychoanalyse auf die Natur- und Geisteswissenschaften* 14 (1928) no. 2/3: 294-321.

¹¹ Franz Löwitsch, “Raum-Empfinden und Baukunst,” *Innendekoration. Die gesamte Wohnungskunst in Bild und Wort* 40 (1929): 70-73. Franz Löwitsch, “Raum-Psychologie,” *Innendekoration. Die gesamte Wohnungskunst in Bild und Wort* 42 (1931): 456-458. Franz Löwitsch, “Raum-Analyse. Gestaltbildende Elemente,” *Innendekoration. Die gesamte Wohnungskunst in Bild und Wort* 42 (1931): 349-350.

¹² Franz Löwitsch, “Bauwissenschaft?,” *Die Baugilde* 10 (1928): 1669-1670. Franz Löwitsch, “Bauwissenschaft? – Bauwissenschaft!,” *Die Baugilde* 11 (1929): p. 381-384. Franz Löwitsch, “Erst Bauen, dann Entwerfen?,” *Die Baugilde* 11 (1929): 1300-1301. Franz Löwitsch, “Grundriss der Raumwissenschaft,” *Die Baugilde* 11 (1929): 1759-1760. Franz Löwitsch, “Probleme des Eisenbetons,” *Die Baugilde* 11 (1929): 1849-50. Franz Löwitsch, “Wer ist die Baupolizei?,” *Die Baugilde* 12 (1930): 526-530.

¹³ The concept and poster they developed on the occasion of the exhibition was published as: Franz Löwitsch, “Die Idee Berlin,” *Wasmuths Monatshefte für Baukunst und Städtebau* 5 (1931): 423-28.

¹⁴ Franz Löwitsch, “Der Reichskanzlerplatz,” *Wasmuths Monatshefte für Baukunst* 4, (1930): 436-439.

¹⁵ Personal file of Franz Löwitsch op. cit.

¹⁶ Franz Löwitsch “Großstädtischer Verkehr. Erläutert am Beispiel der Stadt Berlin,” *Zentralblatt der Bauverwaltung* 52 (1932): 512. Franz Löwitsch, “Autobahn – ein Element des Staatenbaues,” *Die Autobahn* (1934) no. 19: 906.

¹⁷ Franz Löwitsch, “Die Besonnung im neuen Berliner Bauordnungsentwurf,” *Die Baugilde* 14 (1932): 1117-1118. Franz Löwitsch, “Baupolizei und Besonnung von Wohnräumen,” *Die Baugilde*, part one: 12 (1930): 2121-2124, part two: 15 (1931): 104, 1923-125.

¹⁸ Franz Löwitsch, “Die wissenschaftlichen Grundlagen des Städtebaus,” *Aufbau* (October 1946): 147-149. Franz Löwitsch, “Kritik an Wien?,” *Aufbau* (September 1946): 99-100. Franz Löwitsch, “Das städtebauliche Formproblem” *Aufbau* (November 1946): 185-187.

¹⁹ Löwitsch, “Raumempfinden,” op. cit., p. 294.

²⁰ Ibid., p. 294.

²¹ Ibid., p. 294.

²² Richard Semon, *The Mneme* (London: Georg Allen & Unwin, 1921). Semon’s scientific approach was based upon Lamarckian biology and influenced by Ernst Haeckel and the Monistic League. Daniel L. Schacter asserts in his comprehensive volume on Semon *Forgotten Ideas, Neglected Pioneers*, how *The Mneme* was a theoretical application of Monistic ideas. Daniel Schacter, *Forgotten Ideas, Neglected Pioneers. Richard Semon and the Story of Memory* (Ann Arbor: Sheridan Books, 2001), 120-121.

²³ Schacter, *Forgotten Ideas*, op. cit., 121.

²⁴ Löwitsch, “Raumempfinden,” op. cit., 294.

²⁵ Semon, *The Mneme*, op. cit.

²⁶ Schacter, *Forgotten Ideas*, op. cit., 121-123.

²⁷ Ibid., 124, Semon, *The Mneme*, 260.

²⁸ Löwitsch, “Raumempfinden,” op. cit., 294.

²⁹ Ibid., 294.

³⁰ “In den Sensationen der Oberfläche [des menschlichen Fötus] ... ist schon alles Wissen von der Umwelt enthalten.“ Ibid., 295.

³¹ Matthias Kreck, “Was ist ein Raum?” http://www.uni-heidelberg.de/presse/ruca/ruca2_2001/kreck.html (accessed 25.08.2011)

³² Ibid., 295.

³³ Ibid., 295.

³⁴ Ibid., 295-296.

³⁵ Ibid., 296.

³⁶ Ibid., 296.

³⁷ "Jedes räumliche Erlebnis – und jedes Erleben hat eine räumliche Seite – erregt die Gedächtnisspuren aller vorhergehenden, sie klingen mit, und zwar in dem Maße, das ihnen von der Homophonie der originalen und mnemischen Erregungen gestattet wird. [...] Weiter erhalten sie ihre Intensität aus den Affekten, mit denen sie besetzt sind. Wenn solche mnemische Elemente mit Unlust besetzt sind, so werden sie imstande sein, die Aufmerksamkeit von den sie ekphorierenden Wahrnehmungselementen abzuziehen, beziehungsweise später die Erinnerung an sie undeutlich zu machen oder sie gar ins *Ubw* [sic = Unbewußte] zu ziehen, zu verdrängen [...]. Umgekehrt werden gewisse Wahrnehmungselemente deutlicher werden, wenn sie zahlreiche lustbetonte ähnliche Vorstellungen assoziieren." Ibid., 298. Italics by Löwitsch.

³⁸ "Denn es ist abhängig von den räumlichen Erlebnissen, deren Engramme phylogenetisch ererbt, in pränataler und infantiler Zeit wiedererworben wurden, von den Schicksalen, die diese in der Entwicklung des Individuums, der Rasse, erlitten haben, und von den neuen Erfahrungen, die während dieser Zeit hinzugetreten sind." Ibid., 299.

³⁹ "Fährt man in dieser Spekulation fort, so wird man versucht anzunehmen, dass die Raumvorstellung eines Menschen, eines Volkes je nach seiner sich so ergebenden psychischen Konstitution, je nach dem onto- und phylogenetischen Entwicklungsstadium, auf das sie fixiert sind, zellenhaft, cunnisch, phallisch oder energetisch sein werden und daß weiter durch diese Kennzeichen die Stile, Kulturen sich charakterisieren lassen müssen." Ibid., 299-300.

⁴⁰ "Die reine Zweckform erhebt sich zur höchsten Symbolik und wird durchflutet von der Harmonie eines Geistes, der Schmerz und Lust im Dasein, den Rhythmus im Leben bewusst bejaht. Der Raum ist nicht Höhle, aber auch nicht Körper; er ist durchflutet von Kraftströmen, Licht, Schwere, Festigkeit; aus ihrem Wellen und Brechen entsteht die Struktur, der energetische Raum. Man nennt das "vergeistigen" und "Entmaterialisieren." Ibid., 306.

⁴¹ Ibid., 307.

⁴² Oswald Spengler, *Der Untergang des Abendlandes. Umriss einer Morphologie der Weltgeschichte* (München: Beck, vol. 1, 1918, vol. 2, 1922). In these two volumes Spengler vouched for the existence of a *Kulturseele* [spirit of a culture] that is created due to an unconscious interaction of all members of a culture. It is expressed in the art, creativity and way of thinking of an age. This *Kulturseele* is furthermore described similar to an organism that can grow, bloom, and wither in order to allow a new *Kulturseele* to develop. In his analysis of western culture Spengler assesses the age of technology as being the last stage of its development.

⁴³ Karl Scheffler, *Der Geist der Gotik* (Leipzig: Insel Verlag, 1922). Karl Scheffler was an art critic and historian who specialized in modern art. In 1897 he began publishing in the magazines *Atelier* and the *Dekorative Kunst*, and *Die Zukunft*. From 1906 onward Scheffler edited the magazine *Kunst und Künstler*. The 1917 book *Der Geist der Gotik* displayed similarities to Wilhelm Worringer's *Das Formprobleme der Gotik* (1911). Scheffler gained particular notoriety during the so-called *Berliner Museumskrieg* in which he criticized Ludwig Justi's – the director of the National Gallery – conception of presentations of modern art. See: <http://www.dictionaryofarthistorians.org/schefflerk.htm> (accessed October 2010) and Dieter Scholz, "Max Liebermann und Karl Scheffler," *Jahrbuch der Berliner Museen* 39 (1997): 157-167. See also: Ulrich Pfisterer, Anja Zimmermann, *Animationen, Transgressionen: Das Kunstwerk als Lebewesen* (Berlin: Akademie Verlag, 2005), 233.

⁴⁴ Eckhart von Sydow, *Primitive Kunst und Psychoanalyse* (Leipzig, Wien, Zürich: Internationaler Psychoanalytischer Verlag, 1927).

⁴⁵ Oswald Spengler, *The Decline of the West, Vol. one. Form and Actuality* (New York: Alfred A. Knopf, 1966), 181-216.

⁴⁶ Löwitsch, "Raumempfinden," op. cit., 300.

⁴⁷ "Aus der ständigen Alteration beider Tendenzen entsteht ein Rhythmus, der uns im Wechsel von Lust und Unlust, von Nacht und Tag, von Leben und Tod wiegt, das Schicksal des Individuums und der Familien erfasst und die Geschichte der Völker und Menschheit in Wellen formt." Ibid., 307.

⁴⁸ Ibid., 302-303. In order to support his understanding of the Greek temple as a phallic symbol of Löwitsch once again relies on Von Sydow's book. While Von Sydow had interpreted the *originating symbol* [*Ursymbol*] of architecture as being the maternal womb and the *Ursymbol* of plastic the phallus, Löwitsch sees both as being models for architectonic creations. Ibid., 304.

⁴⁹ Ibid., 311-312.

⁵⁰ Ibid., 316-321.

⁵¹ "Die veränderte moderne Psyche determiniert eine neue Zweckmäßigkeit; die neuen Bedürfnisse geben dem Raum neuen Sinn und neue Gestalt. Das Haus ist nicht mehr Stütze und Hülle, sondern Maschine, Transformator zwischen Kosmos und Mensch." Ibid., 318.

⁵² As early as 1922 an article was published in the magazine *Gesundheits-Ingenieur* that had asked for an analysis of architectural elements such as the psychological effects of sunlight. The author bemoaned that the psychological necessity of sunlight for the individual has not been subjected to research. The author, K. A. Hoepfner wished for a scientifically based indication that would give insight to the impact of light, warmth etc. on the psyche. K. A. Hoepfner, "Die Lagerung städtischen Wohnblocks zur Himmelsrichtung mit Rücksicht auf die Besonnungsverhältnisse," *Gesundheits-Ingenieur* 45:14 (1922): 184.

⁵³ Es geht nicht an, die Wirkungen des Raumes als *Imponderabilien* zu vernachlässigen oder sie bloß gefühlsmäßig abzuschätzen. Löwitsch, "Grundriss der Raumwissenschaft," op. cit., 1759.

⁵⁴ “Drang des Tatenmenschen nach kraftgespannter Bewegung”, *ibid.*, 309.

⁵⁵ Poppelreuter *Das Neue Bauen*, op. cit., 75ff.

⁵⁶ Löwitsch’s ‘energetic’ architecture and the ways in which modern materials will change the perception of space remind, furthermore of the 1926 book *Der Raum als Membran* published by the former Bauhaus student Siegfried Ebeling. Ebeling anticipated the future architecture to consist of materials that would utilise natural waves and rays for the inhabitant. Siegfried Ebeling, *Der Raum als Membran* (Dessau: Dünnhaupt Verlag, 1926).

⁵⁷ *Ibid.*, 317-318.

⁵⁸ Le Corbusier, Adolf Loos and Theo van Doesburg are usually considered as having pioneered the three-dimensional planning where spaces inside the house are not defined by their surrounding walls; instead, they open towards each other, towards the outside and bridge the previously distinct levels within the house. Visual links are being created that are not necessarily walkable. Loos’ *Raumplan* and Le Corbusier’s *plan libre* challenged the traditional concept of the interior as comprised of solitary rooms that do not correspond with each other. The term *Raumplan*, however, was at the time when Löwitsch wrote the article not elaborately described by Loos himself and had only been coined by his associate Heinrich Kulka in his 1931 book on Loos. Cynthia Jara. “Adolf Loos’s ‘Raumplan’ Theory,” *Journal of Architectural Education* 48:3 (February 1995): 185-201. See also: Max Risselada (ed.), *Raumplan versus Plan Libre. Adolf Loos and Le Corbusier. 1919-1930* (Rizzoli: New York, 1988), Carel Blotkamp, et. al. (ed.), *De vervolgjaren van De Stijl 1922-1932* (Amsterdam: Veen, 1996). In Theo van Doesburg’s theoretical framework the fourth dimension was a synonym for time and the experience of space that the individual gains by moving through architecture. Van Doesburg’s and Cornelis van Eesteren’s *Maison Particulière* in particular exemplifies this. The model was exhibited in Paris in 1923 and consisted of horizontal and vertical planes that defied the traditional shape of the house and demonstrated the opening between inside and outside not as abrupt break but as a gradual one. Robert P. Welsh, “De Stijl: A Reintroduction,” in *De Stijl: Visions of Utopia*, ed. Mildred Friedman (New York: Abbeville Press, 1986), 37.

Carsten-Peter Warncke, *De Stijl: 1917-1931* (Köln: Taschen Verlag, 1990), 36ff.

Joost Baljeu, *Theo van Doesburg* (London: Studio Vista, 1974), Allan Doig, *Theo van Doesburg. Painting into architecture, theory into practice* (Cambridge: Cambridge University Press, 1986), 130.

⁵⁹ Reyner Banham, *Theory and Design in the First Machine Age* (London: The architectural press, 1960), 258.

⁶⁰ Wir haben die Aufgabe, uns unserer Zeit anzupassen. Wie wir Kleider von heute tragen, so müssen wir auch in der Umwelt uns Dinge schaffen, die zu unserer Zeit gehören. Walter Gropius, “Grundlagen für Neues Bauen,” *Bau- und Werkkunst* 2:1 (1925/26): 134-147.

⁶¹ Le Corbusier, “Architecture d’époque Machiniste,” *Journal de Psychologie Normale et Pathologique* 23 (1926): 325-350. See also: Banham, *Theory and Design* op. cit., 257-263 and Nina Rosenblatt, “Empathy and Anaesthesia: On the Origins of a French Machine Aesthetic,” *Grey Room* 2 (Winter 2001): 78-97.

⁶² Due to the increasing role that technology gained in construction expectations of which skill architects would need shifted as well. Even before Walter Gropius published the second program of the Bauhaus “Grundsätze der Bauhausproduktion” [“Principles of Bauhaus Production”] in 1926, Bauhaus students in Weimar such as Werner Gräff had published manifestoes such as “Es kommt der neue Ingenieur” [“The new Engineer comes”]. In 1928 Hans Schmidt and Mart Stam publish “ABC fordert die Diktatur der Maschine” [“ABC demands the dictatorship of the machine”]. All these relate to a new definition of the architectural profession and education of architects and designers. See: Werner Gräff, “Es kommt der neue Ingenieur,” [1923] in *Programme und Manifeste zur Architektur des 20. Jahrhunderts*, ed. Ulrich Conrads (Braunschweig, Wiesbaden: Vieweg, 1981), 67. Walter Gropius, “Grundsätze der Bauhausproduktion,” *Vivos Voco. Werkland. Zeitschrift für neues Deutschland* 6:8/9 (1926): 265-267. Hans Schmidt and Mart Stam, “ABC fordert die Diktatur der Maschine,” [1927/1928] in *Programme und Manifeste zur Architektur des 20. Jahrhunderts*, ed. Ulrich Conrads (Braunschweig, Wiesbaden: Vieweg, 1981), 108-110.

⁶³ Löwitsch mentions Rank’s 1926 book *Das Trauma der Geburt* in connection with explanations on the cavernous space. Löwitsch, “Raumempfinden,” op. cit., p. 305. The Austrian psychologist and psychoanalyst Otto Rank was one of the editors of *Imago* and a close associate of Sigmund Freud. Rank’s book *The Trauma of Birth* is his major theoretical text. Ellen Handler Spitz, “Conflict and Creativity: Reflections on Otto Rank’s Psychology of Art,” *Journal of Aesthetic Education* 23:2 (Autumn, 1989): 97-109.

⁶⁴ Von Sydow, *Primitive Kunst*, op. cit., 158.

⁶⁵ “... der am Leben leidende, dennoch von Produktionslust geschwellte Mensch” *Ibid.*, 162.

⁶⁶ Löwitsch might have been more interested in Rank’s *The Trauma of Birth* in that Rank here gives a definition of the room in relation to female genitalia: “the space, which for the Unconscious regularly symbolizes the female genitals. And, indeed, ultimately it symbolizes the womb as relating to the only female genital known to the Unconscious, and the places in which before the birth trauma one as protected and warmed” Otto Rank, *The Trauma of Birth* (New York: Robert Brunner, 1952), 88.

⁶⁷ On the wider academic discourse on the notion of a psychology of space see: Mark Jarzombek. *The Psychologizing of Modernity. Art, Architecture, and History*. Cambridge University Press: Cambridge, 2000.

⁶⁸ August Schmarsow “The Essence of Architectural Creation” in *Empathy, Form and Space: Problems in German Aesthetics, 1873–1893*, ed. Harry Francis Mallgrave and Eleftherios Ikonomou (Santa Monica: Getty Center for the History of Art and the Humanities, 1994), 281-297.

⁶⁹ August Schmarsow “Über den Werth der Dimensionen im menschlichen Raumgebilde.” *Berichte über die Verhandlungen der königlich Sächsischen Gesellschaft der Wissenschaften zu Leipzig, Philologische-historische Klasse* 48 (1896): 44.

- ⁷⁰ Schmarsow developed his theory of spatial design (Raumgestaltung) mainly in the above-mentioned texts but also in August Schmarsow. *Grundbegriffe der Kunstwissenschaft am Übergang vom Altertum zum Mittelalter, kritisch erörtert und in systematischem Zusammenhange dargestellt* (Leipzig/Berlin: B. G. Teubner, 1905). For an account of Schmarsow's legacy and intellectual background: Mitchell W. Schwarzer, "The Emergence of Architectural Space: August Schmarsow's Theory of "Raumgestaltung" *Assemblage* 15 (Aug. 1991): 48-61. See also: Roy Malcolm Porter Jr., *The essence of architecture: August Schmarsow's theory of space* (Ph.D. dissertation, University of Pennsylvania, United States – Pennsylvania) Retrieved March 6, 2010, from Dissertations & Theses: Full Text. (Publication No. AAT 3179790).
- ⁷¹ "[...] anerkannte Grundlage der Architekturästhetik". Oskar Wulff, "August Schmarsow zum 80. Geburtstag," *Zeitschrift für Kunstgeschichte* 2/3 (1933), 208. See also: Schwarzer, "The Emergence of Architectural Space," 56.
- ⁷² "Kunst körperlicher Massen" Schmarsow, "Über den Werth", 44, own translation.
- ⁷³ Ibid., 44.
- ⁷⁴ Ibid., 44.
- ⁷⁵ See also Anthony Vidler, *Warped Space: Art, Architecture, and Anxiety in Modern Culture* (Cambridge: MIT Press, 2000), p. 4.
- ⁷⁶ Ibid. 4-5.
- ⁷⁷ Christopher Long, "The House as Path and Place: Spatial Planning in Josef Frank's Villa Beer, 1928-1930," *Journal of the Society of Architectural Historians*, Vol. 59, No. 4 (Dec., 2000), pp. 478-501.
- ⁷⁸ Ibid. p. 485.
- ⁷⁹ Ibid. p. 486.
- ⁸⁰ Adolf Hildebrand, *Problem der Form in der bildenden Kunst*, (Strassburg: J. H. E. Heitz, 1893). August Schmarsow "The Essence of Architectural Creation" in *Empathy, Form and Space: Problems in German Aesthetics, 1873-1893*, ed. Harry Francis Mallgrave and Eleftherios Ikonomou (Santa Monica: Getty Center for the History of Art and the Humanities, 1994), 281-297 and Schmarsow "Über den Werth", p. 44.
- ⁸¹ Long, "The House as Path and Place," pp. 486.
- ⁸² Art historian Sigfried Giedion, for example, asserted in 1929 "the opened house represents a reflectance of the psychological condition", a notion he further developed in 1941 in *Time, Space, Architecture*. The emergence of a new type of interior space was for Giedion one of the most important characteristics of modern architecture. "... das geöffnete Haus auch eine Widerspiegelung des heutigen seelischen Zustandes bedeutet" Sigfried Giedion, *Befreites Wohnen* (Zürich, Leipzig: Orell Füssli Verlag, 1929), 10-11. See also: Vidler, *Warped Space*, p. 5.
- ⁸³ "Psychologisch ist die Einstellung so, daß die Wohnräume nach außen sich öffnen, daß man nach außen sich öffnet, daß man nach außen wohnt, also nicht mehr wie gewöhnlich in seiner Höhle sich verkriecht." Adolf Rading, "Das Haus von Adolf Rading", *Die Form. Zeitschrift für gestaltende Arbeit* 2:9 (1926/27): 288.
- ⁸⁴ "Dies bedeutet andererseits, dass die Formen der Zweckerfüllung auch auf eine naturhafte Weise und sozusagen auf anonymen Wege entstehen, während die Formen, die um eines Ausdrucks willen geschaffen wurden, einer psychischen Konstitution entstammen und deshalb im höchsten Maße subjektiv und unbestimmbar sind." Hugo Häring, "Wege zur Form" *Die Form. Zeitschrift für gestaltende Arbeit*, 1/1925.
- ⁸⁵ After WWII the Vienna-born architect Richard Neutra drew heavily on Psychoanalytical theories. During the 1950s, Neutra created spaces, in close relation with the client that made him analyst and architect at the same time, and based on his understanding of psychoanalysis, that were to affect the unconscious mind of the inhabitant. Otto Rank had in *The Trauma of Birth*, developed the theory that in the trauma of birth the sources for anxieties might be found. The separation from the mother's womb was in Rank's view the cause of neurosis and thus focused in his therapy on mastering this trauma. Rank thus assigned a set date for the end of analysis in order to recreate the act of separation. Rank furthermore asserted – based on theories of empathy – that "viewers projected their birth trauma into an object. ... The house, for Rank, does not express the desire to return to the womb but is the material realization of the effort to overcome the fear of detachment." Sylvia Lavin, *Form Follows Libido. Architecture and Richard Neutra in a Psychoanalytic Culture* (The MIT Press: Cambridge, Mass., London, 2005), 54-55. Neutra then likened architecture to the womb and the architect to the mother. He reminds, furthermore, of the responsibility of the architect to create spaces of the postnatal environment that protect "from regressing into indeterminacy" Ibid., p. 56. Neutra thus understood architecture as "a primary factor in psychological development." Ibid., p. 56.
- ⁸⁶ Willy Hellpach was a psychologist and had a position at the *Technische Hochschule* in Karlsruhe. Between 1924 and 1926 he was state president in Baden. His book *Die geopsychische Erscheinungen [The geophysical phenomenon]* was first published in 1911. Hellpach explains here the psychological and physical reactions to the environment such as weather, landscape, and climate. His main premise is the belief that the human organism is part of Earth's electrostatic field. The chapter *Die tellurischen Elemente [the telluric elements]* is dedicated to describing the impact of electromagnetic rays on the body. According to this chapter the body needs natural rays such as ultraviolet light for its well being. Willy Hellpach, *Die geopsychischen Erscheinungen. Wetter, Klima und Landschaft in ihrem Einfluss auf das Seelenleben*, (Leipzig: W. Engelmann, 1917 [1911]), 112. Ebeling bases his argument on Hellpach's findings in that he argues that buildings isolate the body from these natural rays and thus from its natural environment. It must therefore be part of the task of architects to study the interactions between natural environment and human physiology that can be aimed at finding material which would be permeable for natural rays. This way the build environment, the natural environment and the human physiology would be able to correlate. Ebeling, *Der Raum*, op. cit., p. 11-12.

⁸⁷ John Sweetman, with A. R. Gardner, "Moorish [Hindoo, Indo-Saracenic] style." *Oxford Art Online* (accessed, 1 October, 2011) <http://www.oxfordartonline.com>

⁸⁸ Löwitsch's architectural output was limited. In his personal file at the Landesarchiv Berlin the following buildings are listed as having been build by Löwitsch independently: *Kleinbühne & div. Inszenierungen [sic] in Schäßburg*, *Wochenendhaus Dr. Lohmann in Hermsdorf*, *Wohnhaus Ing. K. Schlecker in Bln. Grunewald*, *Wohnhaus Ing. H. Schlecker in Bln. Karslhorst*. Landesarchiv Berlin, File: A 243-04 No. 6283. Date not decipherable, ca. 1937. Further research led to a water tower in Stockelsdorf-Eckhorst, Germany that was build during the 1930s. Jens U. Schmidt, *Messtürme in Schlesig-Holstein*, Cottbus: Regia-Verlag, 2008. Löwitsch publishes furthermore an article in 1941 in which he published a number of floor plans. Whether or not these relate to houses that have been build by Löwitsch cannot be clearly discerned. Franz Löwitsch, "Baupreis und Wohnkultur" *Das schöne Heim*, 12:10 (1940/41), 232-237.

⁸⁹ See: No author, "Bericht über die Veranstaltungen 1931-32" *Zeitschrift für Ästhetik* 26:4, 1932, 388-389.

⁹⁰ Friedman, Michael, "Ernst Cassirer", *The Stanford Encyclopedia of Philosophy (Spring 2011 Edition)*, Edward N. Zalta (ed.), URL = <<http://plato.stanford.edu/archives/spr2011/entries/cassirer/>>. (accessed, 12 September 2011)

⁹¹ See for example: John Shannon Hendrix, *Architecture and psychoanalysis: Peter Eisenman and Jacques Lacan*, Peter Lang, New York, 2006, Vidler, *Warped Space*, Lavin *Form Follows Libido*, and Jarzombek, *Psychologizing of Modernity*. In 2000 The School of Architecture, Architectural Association, London organized the conference 'Psychoanalysis and Space' chaired by Mark Cousins, and in 2003 Peggy Deamer organized the symposium on architecture and psychoanalysis at the Yale School of Architecture.

⁹² See: C. P. Snow, *The Two Cultures*, September Cambridge: Cambridge University Press, 1993, and Anonymous, "Are we Beyond the Two Cultures?" *Seed*, May 7, 2009 (accessed 1 October, 2011) http://seedmagazine.com/content/article/are_we_beyond_the_two_cultures/