

Bartlett School of Architecture

University College London. UCL

MA Architectural History

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Report

**In the context of Modernism:**

## **Paul Zucker and the rhythm of space**

**Analysis of an aesthetic theory of architecture that  
correlates function, time and space.**

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Date of Submission. 15<sup>th</sup> September 2008

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### **Contents**

Introduction	2
Ornament	6
Time Element	15
Perception	26
Rhythm	35
Conclusion	44
Bibliography	46
List of Illustrations	53
Appendices	56
Vita of Paul Zucker	
Acknowledgement	59

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## Introduction

Paul Zucker, “who loved beauty in all its forms and who understood how to bring this love to others.”<sup>1</sup>



2 Knowledgeable and cultivated...  
Zucker in his library, New York, 1968

The intention of this report is to bring to light the work and theories of the German architect and art historian Paul Zucker (1888-1971<sup>2</sup>).

Paul Zucker studied architecture and art history in Berlin and Munich. In the early 20<sup>th</sup> century he worked and lived in Berlin as professional architect and art historian, university lecturer at Lessing-Hochschule, editor, author and architectural critic. Until the 1930s Zucker enjoyed a high reputation in Berlin's intellectual circles. He published many books, reviews and articles and designed several stores, town and country houses in and around

Berlin. His established livelihood came to an end though with the onset of the Nazi-Regime when he was forced to flee Germany during the Jewish Persecution. Paul Zucker emigrated to New York City in 1937 and after some initial difficulties was able to start a new life, becoming lecturer at Cooper Union Art School and the New School of Social Research in New York. Though unfortunately not able to work again as professional architect, Zucker published and lectured in New York until his death in 1971.

Referring to the opinion of Zucker's biographer he was a loner who loved the metropolis and the cultivated intellectual society. He was an ambitious universalist. All his life time he read, thought, wrote, designed and shared his knowledge. Of the preserved documents about Zucker the following statement, albeit glorifying, is the most vivid:<sup>3</sup>

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<sup>1</sup> Paul Zucker, “der das Schöne in allen seinen Erscheinungsformen liebte und es verstand, diese Liebe auf andere zu übertragen.” See Hans Sahl, “In Memoriam Paul Zucker“ (Zürich, New York: Aufbau. Das Jüdische Monatsmagazin, 19<sup>th</sup> February 1971)

<sup>2</sup> Born 14. August 1888 in Berlin, died 14. February 1971 in New York

<sup>3</sup> Whole paragraph see Wolfgang Schäche, “Paul Zucker. Der Vergessene Architekt“ (Berlin: Jovis Verlag, 2005), pp 7-53

An important person, sceptical and at the same time luxurious, aware of traditions and still full of curiosity for what is new, a loner open towards the world around, a gentleman with a feeling for dignity and spirit that has become rare today. Those who knew him valued his Berlin humour, his knowledgeableness, the incorruptibility of his judgement. (...) He was an enemy of foolishness and he could afford it, as Paul Zucker was not only unusually smart and cultivated, he was a wise person, who thought in terms of centuries, yet passionately interested in the times he lived in.<sup>4</sup>

So far it is not possible to draw a clear picture of the personality of Paul Zucker as the archival sources are small.<sup>5</sup> Actually, the publication by Wolfgang Schäche "Paul Zucker. The Forgotten Architect"<sup>6</sup> is the only integrated biographical but theoretically brief consideration of Zucker's life and work.<sup>7</sup> One important source of Schäche's publication is the bibliography of Zucker's work published in 1977 by a student of Zucker, the American Arnold L. Markowitz.<sup>8</sup>

3 ... as well as enthusiastic and humorous Zucker lecturing at Cooper Union Art School, New York, 1954

<sup>4</sup> "ein bedeutender Mensch, skeptisch und zugleich geniesserisch, traditionsbewusst und doch voller Neugier auf das Aktuelle, ein weltzugewandter Einzelgänger, ein Herr, mit einem heute selten gewordenen Gefühl für Würde und geistige Haltung. Wer ihn kannte liebte seinen Berliner Witz, seine Belesenheit, die Unbestechlichkeit seines Urteils. (...) Er war ein Feind der Dummheit und er konnte es sich leisten, denn Paul Zucker war nicht nur ungewöhnlich klug und ungewöhnlich kultiviert, er war auch ein weiser Mann, der in Jahrhunderten dachte und doch leidenschaftlich an der Zeit interessiert war, in der er lebte." See Sahl, "In Memoriam Paul Zucker"

<sup>5</sup> Archives I have visited: see bibliography

<sup>6</sup> Schäche, "Paul Zucker. Der Vergessene Architekt"

Schäche's interest in Zucker aroused as one of Zucker buildings in Berlin was renovated in 2003/04. His research focused on a general biography and on locating Zucker's buildings.

<sup>7</sup> Additionally there exist some reviews of his books, entries in dictionaries and obituaries.

<sup>8</sup> See Arnold L. Markowitz, "Paul Zucker, Architect/Art Historian, 1888/1971. A Bibliography" in "Louis Kahn and Paul Zucker. Two bibliographies" (New York, London: American Association of Architectural Bibliographers Papers, vol. XII, 1977/78)

I was able to get in touch with Mr. Markowitz who had worked on the bibliography with the help of Lotte Pulvermacher-Egers who seemed to be a close personal and intellectual friend of Zucker. She is acknowledged in Zucker's publication "New Architecture and City Planning" (1944) and she contributed Zucker's estate to Columbia University in New York in 1973. I allow myself to speculate that this box (see bibliography) seems to be a selection of Zucker's estate. So far, nobody was able to locate relatives of Lotte Pulvermacher-Egers or anyone else (Zucker had no relatives expecting his parents and his separated wife) who could know something about Zucker's estate. Hence, I assume that the collection at Columbia is what is preserved of Zucker's life. Presumably, Zucker was not able to preserve his German records and nothing is known about more English records. Finally, it will still be a task to search for more personal documents of Paul Zucker.

However, the theoretical and professional work of Paul Zucker has not been deeply investigated yet. Because of this the sources of my research are primarily Zucker's publications as only a few personal documents are kept in archives.<sup>9</sup>

I got interested in Zucker's theoretical work when working on an essay on the importance of city squares. Zucker's book "Town and Square. From the Agora to the Village Green"<sup>10</sup> was uniquely inspiring to me and afterwards, I realized that Zucker seems to be a "forgotten architect".

Zucker is a contemporary of the modern age who lived and worked alongside the famous characters of the Modern Movement.<sup>11</sup> My investigation considers the question where to place Zucker's aesthetic theory of architecture in the context of Modernism. The crucial theoretical reference is the theory of 19<sup>th</sup> century German Aesthetics because Zucker and the early Modernists refer to their achievements but interestingly with different intentions. Zucker wants to write an aesthetic theory of architecture that values formal expression the most, whereas early Modernists try to avoid any formal notion. Both understand architecture as "Raumkunst" but how they transformed the theory of space seems to differ. Most fascinating is that Zucker at some points appears to be so close to modern thoughts and in the next moment his ideas seems to be inconsistent with modernist theories.

I am analysing this assumption in considering four different themes deriving from the German aesthetic background that are crucial in Zucker's architectural theory; moreover they represent objects of comparison as they have been considered in the modern discourse as well.

The themes "ornament", "time element", "perception" and "rhythm" will be discussed first of all to explain Zucker's theory of architecture and secondly to picture Zucker's balancing act of being attached to Modernity and at the same time admiring Aesthetics.

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<sup>9</sup> Wolfgang Schäche did a lot of archival research in public and university archives in Berlin and New York to reconstruct Zucker's life.

<sup>10</sup> Paul Zucker, "Town and Square. From the Agora to the Village Green" (New York: Columbia University Press, 1959) One of Zucker's phrases concerning the city square: "The square represents actually a psychological parking place within the civic landscape." pp 1-2

<sup>11</sup> Amongst others: Walter Gropius (1883–1969), Sigfried Giedion (1888-1968), Erich Mendelsohn (1887–1953), Mies van der Rohe (1886–1969), Le Corbusier (1887-1965)

The first three chapters discuss Zucker's conditions and methods of an aesthetic theory of architecture, whereas the fourth chapter about "rhythm" explains the aesthetic essence of this theory. All chapters refer to the modernist connotations of the terms. In doing so I try to write a critical history of Zucker's aesthetic theory that embodies the pursuit of his life.

4 The modern disrepute of aesthetic ideals does not touch Zucker's belief in the value of beauty. This note frankly reveals just what Zucker likes...

# Ornament

A theory of “ornament” is Zucker’s answer to the modern overestimation of functional purposes. In early 1920s Berlin amongst others the G group around Mies van der Rohe share the opinion that “what Kant had claimed lay outside of art, its purpose, was now indeed its very subject.”<sup>12</sup> Zucker seems to be conservative but also reactionary when he declares purpose, construction and material as important conditions but the subject of architecture as intellectual, as an artistic idea that is finally expressed in form. He chooses established aesthetic ideals in a time where these can be considered as oppositional.

In 1911 Zucker names his aesthetic idea with the term “künstlerische Erlebnis” – “artistic experience”.<sup>13</sup> The aesthetic and formalistic idea by Goethe<sup>14</sup> that the artistic experience is the process of transforming material is Zucker’s theoretical basis:

The material is offered by the world around, the content is the experience of the material by the artist, also his own purpose in life; but finally the deepest expression of a work of art is the form itself.<sup>15</sup>

This idea defines form as the final goal of the process of art, neither the material nor the work of the artist is solely important. Their formal result of correlation has the highest value. Zucker describes the formal result with the term “ornament” and the artist as “Ornamentiker” – “ornamentalist”.<sup>16</sup>

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<sup>12</sup> Adrian Forty, “Words and Buildings. A Vocabulary of Modern Architecture” (New York: Thames & Hudson, 2004), “function”, p 183

<sup>13</sup> Paul Zucker, “Ornament, Rhythmus und Gedanke” (Xenien, vol. 12, 1911, pp 328-37), p 330

<sup>14</sup> Goethe has an important influence on German Aesthetics. Later on I will refer to Alois Riegl. Therefore, it is necessary to mention that Riegl works in the same tradition. The German Aesthetic Movement is based on the general philosophies by Kant and Hegel, and specified in the art historical adoptions by Wölfflin, Hildebrand, Schmarsow, Riegl and others. (see Iversen, p 9; Forty, pp 154-60)

<sup>15</sup> “Den Stoff bietet die Welt, der Gehalt ist das Erlebnis des Stoffes durch den Künstler, also sein eigener Lebensinhalt; die Form aber ist endlich die höchste Entfaltung des Kunstwerkes.” See Zucker, “Ornament, Rhythmus und Gedanke”, p 331

<sup>16</sup> Zucker, “Ornament, Rhythmus und Gedanke”, p 329

5 The "ornamental" staircase aesthetically expresses a purposeful upward movement. Shoe store "Leiser", Berlin, 1928

Zucker chooses the staircase as an example to show the difference between functional and ornamental. First of all a staircase has a function. It is a modern achievement that functionality is expressed in architectural form. The functionalist wants to expose any functional element. Zucker honours functional expression in reflecting Historism where any functional element was hidden behind a formalistic one. Zucker wants to expose a staircase as a functional element but also to design the staircase as a motif in extracting all its conditions into

a symbol. Thus, the staircase becomes a work of art. A mere functional staircase cannot achieve this status.<sup>17</sup> The staircase in the shoe store "Leiser" in Berlin<sup>18</sup> aesthetically combines its conditions. The smooth rounded line of the staircase reflects the purpose of a continuous flow of consuming and invites the users to go upstairs to expance their shopping possibilities. In fulfilment of its function the staircase becomes an artistic element.

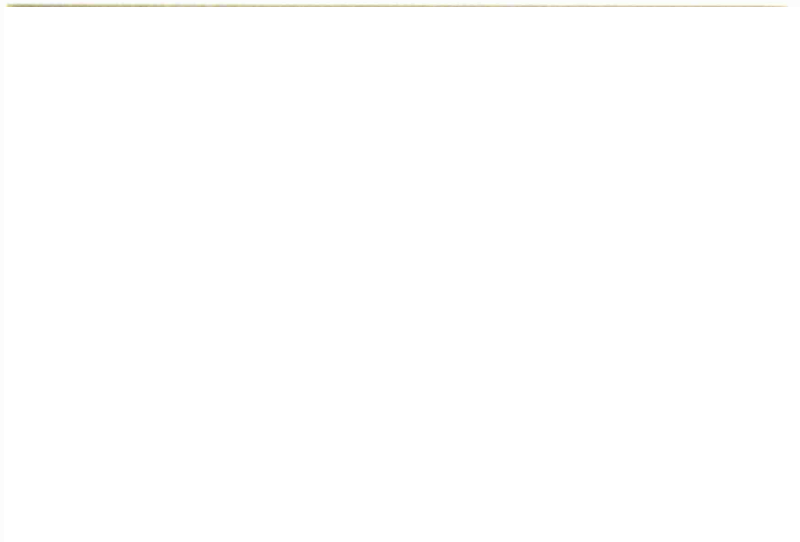
The ornamental artistic power transforms purpose, construction and material through a process of abstraction that exposes the essentiality of its conditions. The result of this process is a form that is freed from "allem Zufälligen" – "all that is coincidental" and of the "allesAugenblickshafte" "moment".

<sup>17</sup> Whole paragraph see Paul Zucker, "Ausdrucksmöglichkeiten der Baukunst" (Ostdeutsche Bauzeitung, vol. 9, 1911, pp 114-8), p 115

<sup>18</sup> Schugeschäft "Leiser" (Tauentzienstraße 20, Berlin-Schöneberg) constructed 1927-1928, demolished in World War II. See Schäche, "Der Vergessene Architekt", pp 137, 153

The intellectual task of the “ornamentalist“ is to educe the symbolic content of reality and to unify it in form.<sup>19</sup> The extract emerges as an integrated rhythmical entity. Zucker defines architecture as a process of interpretation of the given conditions. The result is a form that has a unique identity. It is a symbol that is characterised by a particular rhythm.

For Zucker the only true and hence inventive interpretation of early 1920s reality lies in expressionism, not in Jugendstil or Functionalism.



The character of the new ornamental style cannot be precisely defined but maybe circumscribed: Still the best would be to speak of a serrated, hasty, turbulent rhythm of single forms that become harmonious in their two-dimensional correlation via an architectural arrangement of wide curves and geometrical shapes.<sup>20</sup>

6 El Lissitzky, Proun (Entwurf zu Proun S.K.), 1922/1923

Zucker defines “rhythm” as the meaningful content of a form. Form with rhythm is ornamental. “Rhythm, an animating form, all is neutral – the material, the matter, the human body.”<sup>21</sup> The artistic process that describes how an aesthetic form emerges is called “artistic experience”. The term has a twofold meaning. It describes the process of creation by the artist as well as the impression that is felt by the beholder or user.

<sup>19</sup> See Zucker, “Ornament, Rhythmus und Gedanke“, p 337

<sup>20</sup> “Die Eigenart des neuen stilistischen Ornaments läßt sich nicht präzis definieren – nur vielleicht umschreiben: Am besten spräche man noch von dem zackigen, hastigen, turbulenten Rhythmus der Einzelformen, die im Zusammenhang der Fläche zum Zusammenklang wird durch eine in großen Kurven und geometrischen Figuren arbeitende architektonische Einteilung.” See Paul Zucker, “Das Ornament unserer Zeit“ (Innen-Dekoration, vol. 30, 1919, pp 134-5, 172-5), p 172

<sup>21</sup> “Rhythmus, die beseelende Form, alles – das Material, der Stoff, der menschlichen Körper also ist gleichgültig.” See Zucker, “Ornament, Rhythmus und Gedanke“, p 336



The experience offered by the external world, its concentration and transformation according to ornamental-rhythmical laws that act within the artist, and the sensations produced by the work of art in ourselves – that how being comes into existence and is spiritualized, the highest form of physical possession – rhythm is everything.<sup>22</sup>

It is typically single minded that Zucker defines his approach “Ornamentik” - “Ornamentalism”.<sup>23</sup> In a time where the ornament is ill-reputed Zucker decides to use this denotation to name the basis of his theoretical idea. According to Goethe’s quotation an ornament is a form filled with meaning; an ornament is the highest expression of art and not an empty meaningless formalistic creation what is usually and in a radical modern sense associated with the term ornament.

The decline of the ornament finds its roots in the process of industrialisation. Until then the ornament has been a sign of artistic individuality. The ornament was a product of handcraft that implies a unique value. Due to the progress of technical processes the ornament has lost its unique nature, as it became an object of mass production. The so-called “Maschinenornament” – “machine-ornament” does not have artistic value any more.<sup>24</sup> This basic condition of an “Haß aufs Ornament” – “animosity toward an ornament”<sup>25</sup> is settled at the change over from the 19<sup>th</sup> to the 20<sup>th</sup> century. In the era of Historism a disagreement between the modern possibilities of production and the “traditional” products exists.

Wright mentions this issue in 1908:

The machine cannot be removed from the world, it is here to stay (...) There is no more important work before the architect now than to use this modern tool to the greatest possible extent. But what does he do instead? He abuses this tool in reproducing forms born of other times.<sup>26</sup>

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<sup>22</sup> “Das Erlebnis, welches die Außenwelt bietet, seine Konzentrierung und Umformung nach ornamental-rhythmischen Gesetzen, die im Schaffenden wirken, und die Empfindungen, die das fertige Kunstwerk wieder in uns auslöst, - das ist der Werdegang und die Vergeistigung des Seienden, die höchste Form des psychischen Besitzergreifens, denn – Rhythmus ist alles.” See Zucker, “Ornament, Rhythmus und Gedanke”, p 337

<sup>23</sup> Zucker, “Ornament, Rhythmus und Gedanke”, p 330

<sup>24</sup> See Maria Ocón Fernández, “Ornament und Moderne. Theoriebildung und Ornamentdebatte im deutschen Architekturdiskurs (1850 - 1930)” (Berlin: Reimer, 2004), pp 11-15

<sup>25</sup> Jörg H. Gleiter, „Rückkehr des Verdrängten. Zur kritischen Theorie des Ornaments in der architektonischen Moderne“ (Weimar: Univ.-Verl. der Bauhaus-Univ., 2002), p 20

<sup>26</sup> Adolf Behne, “The Modern Functional Building” trans. Michael Robinson (Santa Monica, CA: Getty Research Institute, 1996), pp 99-100

Ornaments that refer to the old styles were produced as a standardised product and therefore lose their individual artistic value. As a result of this disagreement an artistic uncertainty arises. Initially, it seems to be impossible to combine the new element with the existing one. In this weak atmosphere the general opinion that the ornament is an empty shell was settled.

The rejection of the ornament is not a final modernist agreement. If we understand the ornament as a symbol for aesthetic form that originates in a spiritual artistic process, the ornament becomes the most important challenger of Functionalism. Finally, the ornamental ideal defeats pure Functionalism. The modern “dichotomy of technical and ornamental” is the main conceptual conflict during the Modern Movement.<sup>27</sup> I assume that it is therefore nearly impossible to categorise Modernists as solely functionalistic or critical contemporaries like Zucker as mere ornamental, since most of them struggle with the incoherence of Aesthetics and Functionalism.

Amongst others Sigfried Giedion (1888-1968) pursues the idea of an integrated theory that combines “ratio” and “vision”, or “thinking and feeling”.<sup>28</sup> Or Walter Gropius (1883-1969) develops the paradox formula: “Move forward to tradition! The ornament is dead! Long live the ornament!”<sup>29</sup> Not Functionalism is the issue of Modernism but the struggle between form and function.

Apparently, it is impossible and useless to categorise modern approaches as mere functional because they are ambiguous. On the other hand it is important to quote the attempts to Functionalism, not to label someone as a functionalist but to describe the atmosphere in which Zucker focused on a less radical and aesthetic tendency.

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<sup>27</sup> See Gleiter, “Rückkehr des Verdrängten”, p 21

<sup>28</sup> Sokratis Georgiadis, “Siegfried Giedion. An intellectual Biography” trans. Colin Hall (Edinburgh: Edinburgh University Press, 1993), p 55

<sup>29</sup> “Vorwärts zur Tradition! Das Ornament ist tot! Lang lebe das Ornament!”  
See Gleiter, “Rückkehr des Verdrängten”, p 21

The most definite and first detractor of the ornament is Adolf Loos.<sup>30</sup> Already the title of his essay "Ornament and Crime" tells a lot. Loos supports the rejection of the overgrowth of copied ornaments that accompany the period of Historism. "The evolution of culture is synonymous with the removal of ornament from objects of daily use."<sup>31</sup> Loos theoretical idea is based on the assumption that "each material has its own forms."<sup>32</sup> According to Loos, the idea of architecture lies in the matter. The material incorporates the resulting form; therefore the architect has nothing to decide. Loos provokes in saying "the individual human being is not able to create a form."<sup>33</sup>

Here lies the crucial difference to Zucker's theory of "Ornamentalism". For Zucker according to aesthetic ideas based on Kantian philosophy the meaning of architecture emerges in an artistic process that is inseparable from the influence of an artist, an individual human being. It is interesting that Loos and Zucker fundamentally derive their ideas from Semper,<sup>34</sup> whereas Loos avoids the artistic idea and Zucker the materialistic intention. For example, Zucker does not argue against "Veredelungstechniken" – "techniques of refinement". He is not strict in the consideration of material or constructive purity. "A resemblance of the artistic expression does not yet imply a feint of material identity."<sup>35</sup>

In the early 20<sup>th</sup> century after the destructive period of Historism there exist an absolute insecurity about the meaning of form. Loos interprets form as the opposite of ornament and ornament as decoration, according to the resistance against Historism; whereas Zucker's definition of ornament describes ornament as pure artistic form. His idea tries to resolve the eclectic neglect of the meaning of ornament, whereas Loos' attempt expands the neglected meaning.

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<sup>30</sup> Zucker shares this opinion: „Loos stood out as the mercilessly logical and radical leader. He was the first to glorify the engineer (...) Against the ornamental fervor which surrounded him, he insisted that 'the individual human being is not able to create a form, neither is the architect.'" See Paul Zucker, "The Paradox of Architectural Theories at the Beginning of the 'Modern Movement'" (Journal of the Society of Architectural Historians, vol.10, no. 3, 1951, pp 8-14), p 10

<sup>31</sup> Harry Francis Mallgrave (ed.), "Architectural Theory. Volume II. An Anthology from 1871-2005" (Malden, Mass.; Oxford: Blackwell, 2005), Adolf Loos, "Ornament and Crime", p 104

<sup>32</sup> Forty, "Words and Buildings", "form", p 161

<sup>33</sup> Zucker, "The Paradox of Architectural Theories", p 10

<sup>34</sup> Semper combines materialism with an artistic concept.

See Forty, "Words and Buildings", "form", p 161

<sup>35</sup> "Ähnlichkeit der künstlerischen Wirkung bedeutet noch nicht Vorspiegelung materieller Identität." See Zucker, "Das Ornament unserer Zeit", p 175

Loos attitude is typical and fundamental for the rejection of ornament at the beginning of the Modern Movement. It has to be pointed out that in this functional atmosphere in contrast to Zucker's opinion the term "ornament" has nothing in common with art. Apparently, Zucker's usage of the theoretical background is different. Zucker has never tested pure Functionalism that denies an artistic idea. Zucker always reflects on a spiritual idea whereas many Modernists like Loos, Behne and van der Rohe challenged an intellectual impact that determines form. They started into Modernism with rejecting any other subject in architecture than function. However, in the struggle of Modernism where functionalists became "ornamentalists" and vice versa, they came back to a kind of intellectual and artistic formalism that was based on the suggestion of a humanistic ideal.<sup>36</sup>

The conceptual basis of Zucker's "Ornamentalism" derives from the aesthetic theory of Alois Riegl (Austrian Art Historian 1858-1905). Riegl does not define the ornament as "'mere ornamental' fillings of surfaces without much meaning"<sup>37</sup> but as an important part of art that is part of artistic history. Therefore he decides to write a history of the ornament in a time where the ornament starts to be ill reputed due to the misuse in Historism. The main concept of Riegl is identified as "Kunstwollen". Riegl's and Zucker's concepts derive from the intention that art lies beyond Functionalism. Riegl denies the definition that "art is determined by given materials or circumstances"<sup>38</sup> as the reductive interpretations of Semper's theory suggest.<sup>39</sup>

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<sup>36</sup> See chapter about „time element“

<sup>37</sup> "bedeutungsarme 'bloss ornamentale' Flächenfüllungen" See Alois Riegl, "Stilfragen. Grundlegungen zu einer Geschichte der Ornamentik" (München: Mäander-Kunstverlag, 1977) Reprint of first edition: (Berlin: Siemens, 1893), p 21

<sup>38</sup> Margaret Iversen, "Alois Riegl. Art History and Theory" (Cambridge, Mass: MIT Press, 1993), p 52

<sup>39</sup> The idea refers to Gottfried Semper but Riegl points out that the reception of Semper that identifies his theory as mere functional is a misunderstanding. "Wenn Semper sagte: Beim Werden einer Kunstform kämen auch Stoff und Technik in Betracht, so meinten die Semperianer sofort schlechtweg: die Kunstform wäre ein Produkt aus Stoff und Technik." – "When Semper said: In the creation of artistic form, also material and technique shall be considered, Semper's supporters immediately opined: the artistic form would be a product of material and technique."

See Riegl, "Stilfragen", p VII

Zucker points out that Functionalism goes back to Semper but he describes Semper's theory as an idea that includes Functionalism: "Vor dem Einsetzen der neuen Bewegung hatte Semper seinen rationalistischen Stilbegriff aufgestellt, einen Begriff im Bereich des Ästhetischen." – "Prior to the new movement, Semper had established his rationalist concept of style, a concept in the aesthetic realm." See Zucker, "Das Ornament unserer Zeit", p 134

Riegl defines that “the artist makes creative use of these.” The artist in using material and circumstances determines art creatively. “The idea of the “Kunstwollen” is an emphatic affirmation of this creativity.”<sup>40</sup>

What Zucker calls “Ornamentalism” is the process that Riegl defines as “Kunstwollen”. Zucker’s mechanism of “Ornamentalism” is called “artistic experience”. The respective definitions of the terms definitely differ.<sup>41</sup> It is not my intention to analyse these varieties. I just want to underline that the theoretical tendency of Zucker is congruent with Riegl. I mean the clear argument that declares the existence of an intellectual power that alters the artistic material. Riegl’s “Kunstwollen” implies “the continuous struggle with matter; not the tools or technique are first, but the artistic thought.”<sup>42</sup>

The idea of “Ornamentalism” focuses on the existence of a “Kunstwollen” that transforms conditions like purpose and material into a work of art. The formal result is most important because it reflects this transformation. The early radical functionalists avoid this aesthetic concept.

With the focus on the idea of “rhythm” Zucker will advance his ornamental idea. In doing so he refers to another important aspect of German Aesthetics: “space”. The theory of space was introduced by German philosophers and by the 1890s adopted in German art history. Since then architecture has been bodily and massive, but not spatial.<sup>43</sup>

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<sup>40</sup> Iversen, “Alois Riegl“, p 52

<sup>41</sup> In Zucker’s sense an “ornamentalist” interprets reality through the act of experiencing material. Consequently the artistic form as a result of this process is a symbol of reality. Through the process of experiencing material a volume (meaningless) is transformed into a symbol (meaningful). Symbol and ornament are synonyms.

See Zucker, “Ornament, Rhythmus und Gedanke“, p 333

Contradictory Riegl underlines “Es ist (...) eine der schwierigsten Aufgaben, die Grenzen zwischen Ornament und Symbol auseinander zu halten.” – “that one of the most difficult tasks is to keep ornament and symbol separate.”

See Riegl, “Stilfragen“, p 31

<sup>42</sup> “Ein fortgesetztes Ringen mit der Materie; nicht das Werkzeug, die Technik ist dabei Prius, sondern der kunstschaftende Gedanke.” See Riegl, “Stilfragen“, p 24

<sup>43</sup> Forty, “Words and Buildings“, “space“, p 256

As Zucker equates his term “rhythm” with a timely notion, he reasons the “artistic experience” with a process of movement that needs space as a condition to originate. Hence, the definition of architecture as “Raumkunst”<sup>44</sup> correlates with the “Kunstwollen” in a theory of “rhythm”. Both concepts derive from German Aesthetics. Unlike “Kunstwollen” the idea of “Raumkunst” becomes the essential fundament of Modernism. The idea of “Kunstwollen” remains as a constant challenger. Zucker advances his formalistic approach and the claiming of aesthetic content through applying it on the primary concept of Modernism, that is “space”. Zucker becomes a modern “ornamentalist”.

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<sup>44</sup> Forty, “Words and Buildings”, “space”, p 258

## Time Element

Rhythm is the concrete expression of “Kunstwollen”. To overcome the philosophical basis of the term “Kunstwollen”, or in Zucker’s denotation the term “artistic experience”, Zucker starts to deduce this process from a more practical point of view in considering function and the theory of space. As architect and theorist Zucker always tries to focus on a correlation of professional and analytical thoughts.<sup>45</sup>

The idea of “Kunstwollen” reflects one of the ideas of German Aesthetics in the late 19<sup>th</sup> century. Zucker is deeply attached to this period of art history because this was the standard of knowledge during his studies at university, and as their ideals were one source of Modernism they are not solely traditional but “proto-modern”<sup>46</sup> ideas. However, in his own theoretical approach Zucker goes beyond this background. To explain the term “artistic experience” he adopts another basis of modernist thoughts. He considers the issue of function, one of the core requirements of architecture, to explain the “artistic experience”. The modern issue of function is the second basic reference of Zucker’s theoretical approach to invent an architectural concept of “rhythm”. He establishes the “time element” in architecture as the tool to correlate function and form.

The “rhythm” of form is the intellectual content of architecture; function is its practical requirement, a precondition. To establish a relationship between these principally unrelated issues Zucker defines the “time element” as the link that transforms mere function into artistic content, respectively aesthetic form. As the “time element” can be understood as a tool or linking process it is of different nature than rhythm, therefore it will be discussed separately. Rhythm is the expression of the “time element”. Rhythm that represents the intellectual content will be discussed in the fourth chapter. This chapter considers solely the definition of the “time element”, hence the procedure that relates function and form, and that finally leads to rhythm.

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<sup>45</sup> See Schäche, “Der Vergessene Architekt”, p 56

<sup>46</sup> Forty, “Words and Buildings”, “space”, p 257

What is the “time element” in architecture? According to Zucker the aesthetic basis of architecture is that the architect through an inner creative power changes a material object into art. As previously stated this power is called “Kunstwollen”.<sup>47</sup> The goal of this power is to correlate the fundamental senses of architecture: function and form. Zucker identifies an a priori condition of architecture, respectively the “time element”, as the tangible foundation of the “Kunstwollen”.

How does the “time element” originate?  
Zucker defines that every function or purpose is characterised by a specific type of spatial movement. This movement is reflected in form, or more precisely in the spatial organisation of the built structure. According to this idea function becomes visible in form. Zucker talks about a specific movement that is typical for a specific purpose. For example, the transport building type is always connected with fast and flowing movement; or the warehouse building type is always connected with a fluctuating and circling movement.

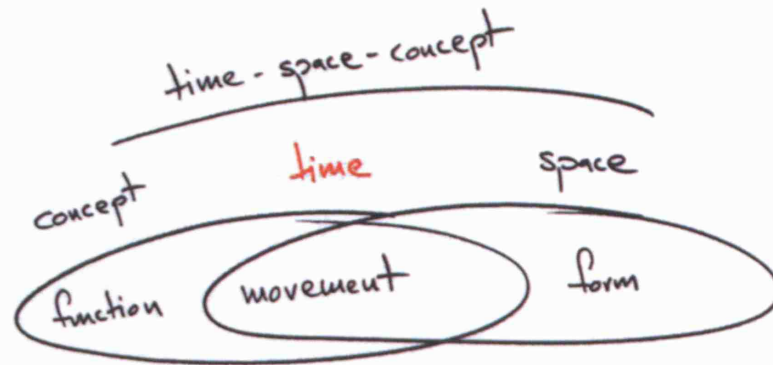
7 The rotating layout of the staircases aesthetically underlines a purposeful movement. Atrium of “Wertheim” store, Berlin, 1898

8 The beauty of the wide and fast lines of concrete embodies the practical and emphatic sense of flying. Terminal at JFK Airport, New York, 1962

<sup>47</sup> See chapter about “ornament“



This means that the coherence of function and movement, and its reflection in form is an a priori condition of architecture. Any building type reflects an immanent type of movement. “It is thus a priori movement, hence time and purpose are connected.”<sup>48</sup> Movement is an action in time that is characterised by different time processes. This means movement or “kinesthetic experience”<sup>49</sup> characterises the “time element”. Zucker does not mean the subjective movement by the beholder.<sup>50</sup> Zucker considers movement as an objective timely element that is an immanent condition of any function. This means that, “from the very beginning, a notion of a purpose lying within time is inseparable from a work of architecture.”<sup>51</sup> The connecting “time element”, this means the functional movement is represented in the architectural form, form that always has aesthetic meaning. With the introduction of the “time element” Zucker defines that function has always an aesthetic counterpart.



9 The “time element”: The link between function and form

The condition for a timely notion in architecture is that its platform is space. On this account Zucker names his method - with its components function, time and space - “Zeitraumfunktion” – “time space concept”.<sup>52</sup> Architecture is “a space structure that contains purposeful movement or a structure surrounded by purposeful movement.”<sup>53</sup>

<sup>48</sup> “Es ist also a priori Bewegung und damit Zeit und Zweck verknüpft.” See Paul Zucker, “Der Begriff der Zeit in der Architektur” (Repertorium für Kunstwissenschaft, vol. 44, 1924, pp 237-45), p 243

<sup>49</sup> Zucker, “Town and Square”, p 6

<sup>50</sup> See chapter about „perception“

<sup>51</sup> “Die Vorstellung eines im Zeitlichen liegenden Telos ist von Anfang an untrennbar von einem Werk der Baukunst.” See Zucker, “Der Begriff der Zeit in der Architektur”, p 243

<sup>52</sup> Paul Zucker, “Subjektivismus in der Architektur (Mitberichte)” (Zeitschrift für Ästhetik und allgemeine Kunstwissenschaft, vol. 19, 1925, pp 78-88), p 87

<sup>53</sup> “Ein von zweckhafter Bewegung erfülltes oder erfüllbares Raumgebilde oder ein von zweckhafter Bewegung umgebenes oder umgebares Körpergebilde.” See Zucker, “Der Begriff der Zeit in der Architektur”, p 244

The establishment of the theoretical “time element” is after the idea of “Kunstwollen” the next step in Zucker methodological approach. It is most interesting that his method combines “proto-modern” and traditional approaches. In defining the causality between function and form Zucker justifies the “proto-modern” attitude to Functionalism with evidence that derives from a traditional attitude to aesthetic theory.

Apparently, Zucker’s approach does not fit easily within modernist theory. This becomes evident in comparing his ideas with the first radical Modernists in Germany in the 1920s. Amongst others, Adolf Behne summarizes their core tendencies in his publication “Der Moderne Zweckbau”- “The Modern Functional Building”<sup>54</sup>. Behne’s writing reflects the atmosphere Zucker was confronted with during his early academic and professional career in Berlin.

The common basis of Zucker and the modern theorists is the negation of Historism. Their motivation is to overcome the intellectual emptiness of eclectic architecture. Zucker mentions this attitude frequently in his writings. Zucker regards the 19<sup>th</sup> century as a period that implies “an indifferent and artistically static type of imitation of past styles.”<sup>55</sup>

Behne describes the same period as follows: “In the 1890s people had dutifully admired any dense ballast of form and almost equated art with finery.”<sup>56</sup> Form and function were separated. Function was a minor necessity and form was the sole independent artistic goal. No correlation, but an overbalance of form. The common intention was to resolve the non-intellectual overgrowth of form and to find a new meaningful basis of architecture.

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<sup>54</sup> Adolf Behne, “Der Moderne Zweckbau” (München: Drei Masken Verlag, 1926) and Adolf Behne, “The Modern Functional Building” trans. Michael Robinson (Santa Monica, CA: Getty Research Institute, 1996)

<sup>55</sup> “indifferente und künstlerisch unlebendige Art der Nachahmung vergangener Stilepochen” See Zucker, “Das Ornament unserer Zeit”, p 134, and also Paul Zucker, “Das Wesen der Architektur” in Ludwig Lewin, Adam von Moltke (ed.), vol. IV. “Quell des Wissens. Eine Deutsche Volkshochschule in vier Bänden” (Berlin: Allgemeine Deutsche Verlagsgesellschaft, 1927), pp 305-6

<sup>56</sup> Behne, “The Modern Functional Building”, p 88

In solving this problem Zucker parts company with the first Modernists. Zucker's idea is to give form new meaning, whereas the early Modernists start with a rejection of form and set function as the initial idea of architecture. "Architectural form was seen as a danger" and "*Sachlichkeit*" was glorified as a gift for architecture. "Functional architectural concepts replaced formal ones."<sup>57</sup> The beginning of modernist theory avoids aesthetic form as a valid content of architecture, whereas Zucker points out that form is always crucial in architecture.

Zucker argues against mere Functionalism. In the early 20<sup>th</sup> century, the term "function" is used in various definitions; therefore it is not possible to make out a clear definition. Relating to Zucker Functionalism is any concept that declares function whatever its connotation as the content of architecture. In Zucker's opinion function whatever its connotation is a fundamental condition of the content of architecture, which is aesthetic form.<sup>58</sup> I am not going to analyse the variety of the term "function" as it opens up a broad subject. Some of the paradigms are for example organic Functionalism that originates in natural laws.<sup>59</sup> Its famous representative Sullivan abstracts the idea with his phrase "form follows function". Other attitudes to function are the equalisation of function as purpose ("*Zweckmäßigkeit*"), or the introduction of the abstract phrase "*Neue Sachlichkeit*" that combines various connotations such as: "anti-ornamental, non-aristocratic, (...) found in everyday objects, rational, scientific, (...) practical."<sup>60</sup> Apparently, even the term "*Sachlichkeit*" reflects the complexity of the term "function". Zucker criticises the dogmatic functional attitude at the beginning of the Modern Movement:

Our situation is extremely difficult, we are Skylla and Charybdis of an academic eclecticism on the one hand, and on the other hand of a pseudo-revolutionary, mere literary brain structure that in tragic confusion refers to machine elements and engineer's constructions when meaning chair legs and country house patios (...)<sup>61</sup>

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<sup>57</sup> Last two sentences see Behne, "The Modern Functional Building", pp 88-92

<sup>58</sup> See amongst other texts Zucker, "Ausdrucksmöglichkeiten der Baukunst", p 115 and Zucker, "Das Wesen der Architektur", pp 304-5 and Paul Zucker, "Probleme der heutigen Baukunst" in "Reclams Universum" (Leipzig: Reclam, vol. 43, 1927, pp 164-5)

<sup>59</sup> See e.g. Behne's notion of Functionalism

<sup>60</sup> See definitions of "function" in Forty, "Words and Buildings", "function", pp 175-185

<sup>61</sup> "Die Problematik unserer Situation ist so groß, Skylla und Charybdis eines akademischen Eklektizismus einerseits, einer pseudo-revolutionären, rein literarischen Gehirnarhitektur, die sich in tragischer Verwechslung bei Stuhlbeinen und Landhausterrassen auf Maschinenelemente und Ingenieurkonstruktionen beruft, andererseits (...)" See Paul Zucker, "Bilanz der Architektur II. Und wir?" (Kunst und Künstler, vol. 23, 1925, pp 475-81), p 479

Zucker thinks his idea that gives form new meaning based on the introduction of the “time element” and its “purposeful movement” is one solution to escape from this ambiguous doom, neither to exaggerate nor overrule or suppress form.

To sum up, Zucker’s approach is based on the existence of a “Kunstwollen”. It results in an aesthetic concept of art that sees form as the final goal. Zucker gives form meaning through establishing the “time element” that connects form and function. A specific kinesthetic act of movement is immanent to form and function. This means form and function represent a same rhythm. Via the “time element” form and function are connected. The “time element” becomes visible in the rhythmical expression of the space structure.

A good example for the different notions of architecture is the reception of the “Wertheim” store by architect Alfred Messel in Berlin (constructed in 1897). Zucker praises the building as “zweckentsprechendste Raumfügung” – “a most functional space structure” with “künstlerisch unerreichte Wirkung” – an “unmatched artistic expression”.

Pure art emerges only when every single part is inseparably linked with the whole, one seeming to be born as part of the other, where the observer is met not only with the purpose, but also with the beauty of the space structure.<sup>62</sup>

Zucker defines the “Wertheim” building as new and inventive because the building embodies the correlation of function and form. The building is structured according to its function and this structure emerges as a whole artistic form. The formal rhythm matches the functional rhythm.

Behne writes as well: “Here a new type arose from the fulfilment of purpose.” But Behne analyses that the construction of the building does not reflect its expression. Therefore “it is not absolutely *sachlich*.”

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<sup>62</sup> “Die reine Kunst (beginnt) erst dort, wo jeder einzelne Teil in untrennbarer Weise mit dem Ganzen verknüpft, eins aus dem anderen heraus geboren erscheint, wo dem Betrachtenden nicht nur der Zweck, sondern sogleich auch die Schönheit der Raumbildung entgegenleuchtet.”  
All quotations see Zucker, “Ausdrucksmöglichkeiten der Baukunst”, p 115



10 Solemn verticals and glass fronts as a symbol of Modernity or of false monumentality? "Wertheim" store in Berlin, 1936

For Behne

"Sachlichkeit" is only achieved if a building reflects a typecast that is generally applicable. The "Wertheim" has an illogical functional concept as it piles up shop windows that practically are only useful on ground floor level, and the extra light is not used either because the windows

are needed for display as there is not enough space provided within the rest of the building. Constructively the strong vertical piers are not honest because they are formalistically designed. The basic construction is actually a massive structure with supporting walls and not a frame construction. The "Wertheim" concept was not applied later on as it is not a type. Even more Behne interprets the dishonesty of the construction as a false monumentality that makes use of eclectic Gothic elements.

What Zucker praises as an aesthetic synthesis, Behne considers as a pure psychological effect that represents and pretends a new idea but it does not consist of one. "All in all this building, apparently designed more radically in pursuit of purpose than any other of its period, is a very artificial construction" – "a tendency that inclined excessively toward art."<sup>63</sup>

In contrast, for Zucker the psychological expression of the "Wertheim" that reflects a new and positive notion of social life is most valuable. The form reflects the spirit of society, not its construction, as it is only means but not meaning. The "Wertheim" is so important because it comprehensively reflects the idea of the new era through its form.

<sup>63</sup> Last two paragraphs see Behne, "The Modern Functional Building", pp 94-8



11 For Zucker the "Wertheim" embodies the "rhythm" of modern consumption. An aesthetic typecast that inspired him:  
Design for a warehouse "Lindemann" in Frankfurt am Main, 1928

This incredibly forceful and earnest pace of verticals, which does not after all seem so heavy – they seem to want to structure the entire street life and to bring it into a well-ordered pulsation – and the powerful ease of breath of the arch hall at Leipziger Square with its inviting gesture, and above the solemn but bright frame work – all that is simply the expression of a functional thought.<sup>64</sup>

For Zucker the symbolic artistic expression is the forceful element, not literal functionality.

At the beginning of the Modern Movement a group of radical Modernists ascribe the highest value to function. However, during the development of Modernism the issue of form starts to challenge the focus on function. Zucker solves this challenge right from the start by the assumption of a "Kunstwollen" and its correlation with the "time element". Zucker includes function in form.

The attitude reflected in Behne's reception of the "Wertheim" store is a pure functionalist point of view. During the modernist process the functionalist becomes aware that in the end pure Functionalism leads to the negation of art. "Is consistent Functionalism not a dead-end street?" (p 123) Behne defines a kind of rationalism as one way out of this dilemma. The causality that leads from Functionalism to Rationalism is defined as follows:

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<sup>64</sup> "Dieses unglaublich machtvolle ernste Schreiten der Senkrechten, das doch so gar nicht erdrückend wirkt – sie scheinen das ganze Leben der Straße gliedern und in ein wohlgeordnetes Schwingen bringen zu wollen – und das mächtige Aufatmen der Bogenhalle am Leipziger Platz mit ihrer einladenden Gebärde und dem feierlich heiteren Stabwerk darüber – alles das ist doch nur Ausdrucksform eines Zweckgedankens." See Zucker, "Ausdrucksmöglichkeiten der Baukunst", pp 115-8

To preserve architecture as art the concept of Functionalism has to be advanced into a concept of Rationalism. Rationalism can be understood as humanistic Functionalism. Functionalism originates in the laws of nature and compares a building with an individual grown organism. Within its structure it is purely functional. On this account it does not interact with its surrounding.

An organic analogy as an example: The shell of a snail individually grows with the snail and is only of value for the single organism. It is a closed scheme that does not interact. "Its forms are forms of being, identical with the individual, not utilitarian forms for the many"(p 124). The organic building is isolated, focused on "a single object"(p 132). Additionally if we consider organic laws, the provision for a community always complies with mechanical typecast, like the construction of honeycombs.(p 124)

The organic idea of Functionalism does not provide suspenseful interaction, which is a human attitude; and space for human beings shall be designed according to human needs and desires, with a focus on "the whole"(p 132). Behne asserts, that "the play instinct", the desire to form is like "the tool"(p 87), the desire to practical utility, a human necessity. A correlation of these human qualities is achievable for the expression of architecture. This matches with Zucker's method that correlates form and function. "The play" is the human want to order, to proportionate, to arrange things in patterns or groups, according to themes like "community, order, rules"(p 133).

A balanced humanistic approach<sup>65</sup> shall be the foundation for an integrated and appropriate theory of architecture. As designed form finds its way into architectural theory, an aesthetic element becomes valuable in modernist thinking. "Nothing is more self-evident than that a rationalist should stress form. Form is nothing more than the consequence of establishing a relationship between human beings. (...) Form is an eminently social matter. Anyone who recognizes the right of society recognizes the right of form."(p 137)<sup>66</sup>

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<sup>65</sup> Neither an overbalance of form, as in Historicism, nor an overbalance of function, as in Functionalism.

<sup>66</sup> Paragraphs with pages in brackets see Behne, "The Modern Functional Building"

Amongst other modern rationalists Le Corbusier and Sigfried Giedion shaped the humanistic ideal:

Le Corbusier: A commonplace (...) states: one must express construction. And another: a thing is beautiful when it corresponds to its purpose. (...) Architecture has a different meaning and different tasks from showing constructions and fulfilling purposes. Purpose is here understood as a matter of pure utility, of comfort, and of practical elegance. Architecture is art in the highest sense, mathematical order, speculation, perfect harmony through the proportionality of all relationships: That is the "purpose" of architecture.<sup>67</sup>

According to Sigfried Giedion: A 'humanising' of civilisation that would bring about the 'subordination' of mechanisation 'to needs of human beings'. This new 'order' that 'our time' was striving for meant winning back a totality, a new 'universalism'.<sup>68</sup>

Or: Biological, social, economic considerations have been sufficiently stressed. Here we shall lay the main emphasis upon a greatly undervalued factor: the direct influence of aesthetic values upon the shaping reality. This is far greater than is generally realized.<sup>69</sup>

The Modern Movement solves the ambiguity of Functionalism and form through the link of Humanism. The idea to build up this relation matches with Zucker's intention. Behne calls the idea "designed reality"<sup>70</sup>, whereas reality can be understood as human reality; Zucker's symbol of human reality is "rhythm"<sup>71</sup>. Zucker's critique of the early Modern Movement and its glorification of Functionalism is finally resolved by the humanisation of the theory.<sup>72</sup> For Zucker the aesthetic element and its abstract nature has always secured the intention that architecture is more than mere facts or functions. For him the intangible nature of art was never deniable. Zucker regards this fact through a continuous focus on Aesthetics that at the same time leads him to ideas of Humanism.

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<sup>67</sup> Behne, "The Modern Functional Building", p 134

<sup>68</sup> Georgiadis, "Sigfried Giedion", trans., p 154

<sup>69</sup> Georgiadis, "Sigfried Giedion", trans., p 166

<sup>70</sup> Behne, "The Modern Functional Building", p 119

<sup>71</sup> See chapter about „perception“ and „rhythm“

<sup>72</sup> A descriptive example for this process that leads from Functionalism to Humanism is the theoretical work of Sigfried Giedion.



As outlined in the previous paragraphs the modernist and the Zucker concept touch and separate from time to time. Zucker is intensively aware and interested in the ideas of Modernism<sup>73</sup> but his aim is not to easily adopt new thoughts but to relate them to important ideas of established art history. One of his achievements is to resist the modern rejection of history and tradition.

This circumstance becomes evident in considering the different applications of spatial theory. One approach that leads back to theorists like Schmarsow, Riegl and Frankl assumes that the investigation of space is inseparable with history because space is the crucial criterion that reveals the spirit of a period. "Changes in (the) sense of spatiality", indicate a cultural change over. Zucker agrees with this idea of a historical continuum of space transitions and he uses the method to write aesthetic theories of the historical development of city forms, city squares and bridges.<sup>74</sup> The modern notion of space is therefore linked with history, as the reference to history is the scale by which modern space is measured.<sup>75</sup>

The opposite attitude that excludes history is well reflected in van der Rohe's early notions. Van der Rohe wants to be modern, "to live in the present, free from the constraints of history". As the establishment of the term "space" emerges at the same time as this modern desire, van der Rohe applied it to his purpose in claiming that the concept of space is absolutely new, has not been a concept in architecture before and therefore cannot be valued in any sense of traditional thoughts. On account of this the concept of space becomes a justification to reject history.<sup>76</sup>

Zucker comments on this attitude with a poem by Goethe:

'Ich hielt mich stets von Meistern entfernt, Nachtreten wäre mir Schmach!  
Hab' alles von mir selbst gelernt' – 'Es ist auch darnach!'  
'Denke, wer dich erst geführt,  
Wer für dich getan!'

'I always kept myself distanced from the masters, to emulate would be a shame!  
Learned all only on my own' – 'And that is how it is!'  
'Think of who led you at first,  
Who acted for you!'<sup>77</sup>

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<sup>73</sup> This is reflected in the large number of book reviews written by Zucker during his life.

<sup>74</sup> See bibliography

<sup>75</sup> Whole paragraph see Forty, "Words and Buildings", "space", p 264

<sup>76</sup> Whole paragraph see Forty, "Words and Buildings", "space", p 268

<sup>77</sup> Zucker, "Bilanz der Architektur II", p 475, Johann Wolfgang von Goethe, "Zahme Xenien VII"

## Perception

The “artistic experience” and the “time-space-concept” are Zucker’s methods to define a theory of architecture. The practical stage of these methods is aesthetically structured space, according to the idea of architecture as “Raumkunst”.

As previously stated Zucker defines space as the crucial architectural element that reveals a change in history. The change in the sense of space - “Raumgefühl”<sup>78</sup> - leads back to a changing sense of perception. If the conditions of human perception change, human beings perceive their environment in a new manner; the surrounding space receives a new quality and subsequently the creation of space changes too. Zucker values the issue of perception as an important condition for architecture. “The interrelations in the history of human seeing are very intricate, and thus also those of the Kunstwollen.”<sup>79</sup> Or more poetic: architecture is “full of sounds and melodies for those able to perceive them.”<sup>80</sup>

Modernism is accompanied by a “new spatial perception”.<sup>81</sup> Zucker’s concept of architecture as rhythmical space is interwoven with the new qualities of modern perception. The modern perceiver or user of architecture has learned to perceive three-dimensionality caused by the achievements of technical progress. On this account a concept of three-dimensional “rhythm” is sufficient as it reflects the new three-dimensional possibilities of perception. The user is able to engage with an architectural structure if they share the same spatial concept.

As perception is an obligatory reference of spatial creation, Zucker analyses and is immensely interested in technical progress that reasons the modern change in perception. Zucker is fascinated by the achievements of mechanisation as they provide rich propositions for a new kind of perception as the basis for an inventive and meaningful architecture.

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<sup>78</sup> See Paul Zucker, “Formempfinden und Raumgefühl” (Innen-Dekoration, vol. 28, 1917, pp 374-84) and Paul Zucker, “Neues Raumgefühl und Flugzeug. Ein Beitrag zur Geschichte des Sehens” (Ikarus, vol. 1, 1925, pp 70-3)

<sup>79</sup> “Die Zusammenhänge in der Geschichte des menschlichen Sehens und damit auch des Kunstwollens sind so verwickelt.”

See Paul Zucker, “Welt von Oben” (Kunst und Künstler, vol. 25, 1927, pp 256-63), p 260

<sup>80</sup> “voll von Klängen und Melodien für den, der Sinne hat, sie zu vernehmen.”

See Zucker, „Formempfinden und Raumgefühl“, p. 384

<sup>81</sup> Forty, “Words and Buildings”, “space”, p 264

The technical achievements of industrialisation have led to a new type of seeing that is circumscribed by the term "three-dimensionality". Through industrialisation human kind have expanded their possibilities of moving by the usage of technical equipment. Modern movement exceeds human capacities, and therefore broadens human perception.

For example, the automobile offers new inhuman speed and an individual freedom to influence this motion. "The car makes you realize the connection between time and space, for you yourself have to do something to conquer space in time."<sup>82</sup> New three-dimensional notions of space emerge through the broad scale of movement opportunities of a car.

Another example is the invention of the elevator that expands human possibilities of movement. The elevator adds the vertical dimension what is also "a contribution to our realization of the third dimension."<sup>83</sup>

Zucker contributes his strongest fascination to aviation. Through flying human kind learn to see spatially.

Until now, movement was only possible along a plane surface, for- and backwards, from right to left, - but now the terms "top and bottom" have gained a new lively and *active* meaning.<sup>84</sup>

Through flying we have the opportunity to experience all three dimensions and hence to see spatially in the fullest sense of the word.

Conquering time and space, gravity and distance, something for which humans always longed to fly, can be lived and experienced, but never directly felt or sensed. The new vision of the world, however, can.<sup>85</sup>

For example, the view from above gives new aesthetic meaning to the city. Now the city can be perceived as a whole work of art because we can see it from above.

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<sup>82</sup> Paul Zucker, "The Humanistic Approach to Modern Architecture" (Journal of Aesthetics and Art Criticism, vol. 2, no. 1, 1942/43, pp 21-6), p 25

<sup>83</sup> Zucker, "The Humanistic Approach to Modern Architecture", p 25

<sup>84</sup> "Bisher war eine Bewegung nur möglich in der Fläche von vorn nach hinten, von rechts nach links, - jetzt aber haben die Begriffe "Oben und Unten" einen neuen lebendigen und *aktiven* Sinn bekommen." See Zucker, "Neues Raumgefühl und Flugzeug", p 73

<sup>85</sup> "Überwindung von Raum und Zeit, von Schwere und Weg, derentwegen Menschenflug immer ersehnt wurde, kann erlebt und erfahren, niemals aber unmittelbar gefühlsmäßig, sinnlich erfaßt werden. Wohl aber die neue Sicht, das Bild der Welt." See Zucker, "Welt von Oben", p 256

From the top, the entanglement seems purposefully and logically structured; also this is a world full of figure, which in a higher and more general sense means architecture.<sup>86</sup>

On this account the new perception adds a new aesthetic category to urban analysis that now interprets the city as a whole artistic form. Zucker develops the “concept of the urban body”.<sup>87</sup>

He writes: The urban organism has to always be considered from two points of view: on the one hand the aesthetic concept of the city as a uniquely created work of art that exists in space with its internal logic, on the other hand the organic concept, which regards the city as a lively, constantly changing organism, due to its place in time, subject to social, hygienic, economic and technical laws.<sup>88</sup>



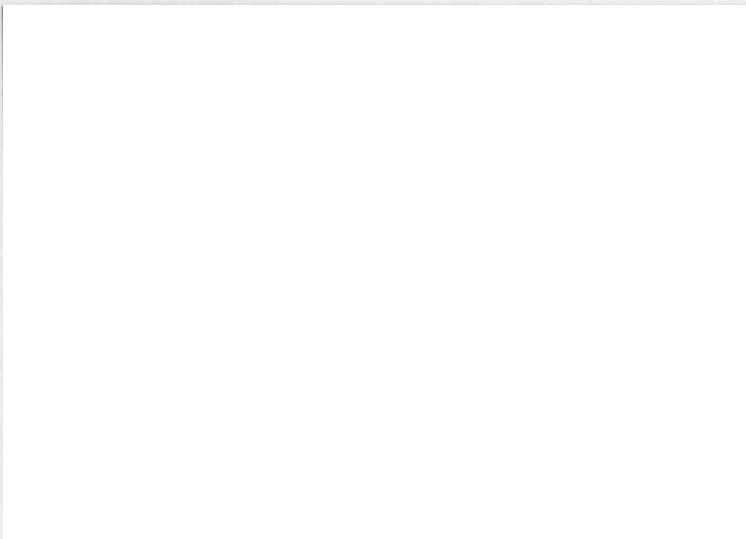
12 The “concept of the urban body” applied to the modern metropolis...  
An aerial view of New York City reveals the beauty of its form.

13 ...applied to a medieval town.  
An aerial view of the social and aesthetic core of Lucca, Italy

<sup>86</sup> “Da scheint von oben das Gewirr zweckmäßig und sinnvoll gegliedert, auch dies eine Welt “voller Figur”, die in einem höherem und allgemeineren Sinne Architektur bedeutet.”  
See Zucker, „Welt von Oben“, p 259

<sup>87</sup> “Begriff von städtischer Körperlichkeit” See Paul Zucker, “Entwicklung des Stadtbildes. Die Stadt als Form“ (Braunschweig: Vieweg, 1986) Reprint of first edition: (München: Drei Masken Verlag, 1929), editor’s preface, p 6

<sup>88</sup> “So wird jede Betrachtung des Stadtorganismus immer von einer zweifachen Sicht ausgehen müssen: Einmal von der ästhetischen Auffassung der Stadt als des einmaligen gestalteten Kunstwerkes, das mit der nur ihm eigenen inneren Gesetzmäßigkeit im Raume steht, und daneben von der biologischen Anschauung, welche die Stadt als einen lebendigen, sich ständig fortentwickelnden Organismus ansieht, der sozialen, hygienischen, ökonomischen und technischen Gesetzen unterworfen, als solcher in der Zeit steht.”  
See Zucker, “Entwicklung des Stadtbildes“, p 11



14 The exhilarating sense of a new three-dimensionality as expressed in Fritz Lang's movie "Metropolis", 1927



15 Technical progress and cinematic achievements provide a new vision of the world.  
The layers of the vertical city in Fritz Lang's movie "Metropolis", 1927

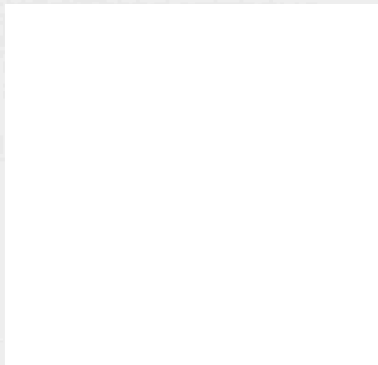
In addition to the practical effects of movement, it is the achievement of the cinema to represent these new qualities and distribute the new possibilities of space to a general public; hence, the movies change the general notion of perception and space. "By their incessant accumulation of visual impressions and unceasing coercion to new perceptions, they created a new visual sensitiveness."<sup>89</sup> Zucker defines the cinema as the "great educator of vision of our time"<sup>90</sup> who propagates a new vision of the world.

The new possibilities of movement and the conquest of new dimensions, not naturally for human kind, open new ways of seeing and a new realm for the world of art. Zucker contributes "the paced growth of a three-dimensional style"<sup>91</sup> to the impact of new possibilities of movement that disclose the experience of three dimensions, as a new kind of perception.

<sup>89</sup> Zucker, "The Humanistic Approach to Modern Architecture", p 25

<sup>90</sup> "der große optische Erzieher unserer Zeit," See Zucker, "Welt von Oben", p 258

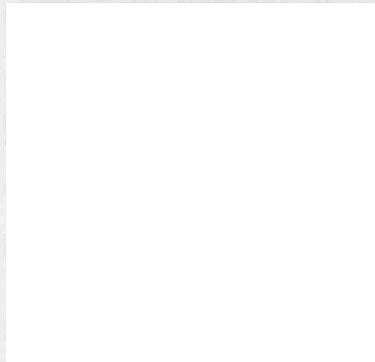
<sup>91</sup> "das langsame Werden eines dreidimensionalen Stiles"  
See Zucker, "Neues Raumgefühl und Flugzeug", p 73



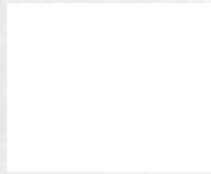
16 City squares as the object of an aesthetic history of space...  
Aerial view, St. Mark's Square, Venice



17 Site plan, St. Mark's Square, Venice



18 ... and "masses apperceived from outside" as the means of urban "Raumkunst"  
Aerial view, Place de L'Étoile, Paris



19 Site plan, Place L'Étoile, Paris

Zucker considers two conditions or better two forms of existence of the three-dimensional architectural space.

Their appearance is different but their basic characteristics are the same.

"Architecture may consist of shaped space or formed mass."<sup>92</sup> Shaped

space or the "inside view"<sup>93</sup> means the interior space of a built structure.

The "inside view" equates with the

first concept of space that was

developed by Semper. Semper

defines architecture not as mass but

as "enclosed space".<sup>94</sup>

Formed mass means "masses,

apperceived from outside."<sup>95</sup> In this

sense the façades of the buildings, the

sky and the surfaces of street or

square define the space analogue to

wall, ceiling and floor of the "inside view". In the "outside view"<sup>96</sup> the interior of the buildings have no influence on the architectural effect. The "outside view" is an issue of city planning. "The city planner deals (...) with space. Though he uses masses to create this space, the masses are the means and not the object of his creation."<sup>97</sup> Zucker thinks of the space that emerges between several buildings, space within a city structure.

Camillo Sitte was the first who adopts Semper's idea of "enclosed space" to the city structure. "Sitte saw urban design as 'an art of space' (*Raumkunst*)."<sup>98</sup>

<sup>92</sup> Paul Zucker, "The Aesthetics of Space in Architecture, Sculpture and City Planning" (Journal of Aesthetics and Art Criticism, vol. 4, no. 1, 1945, pp 12-9), p 13

<sup>93</sup> Zucker, "The Aesthetics of Space", p 14

<sup>94</sup> Forty, "Words and Buildings", "space", p 257

<sup>95</sup> Zucker, "The Aesthetics of Space", p 14

<sup>96</sup> Zucker, "The Aesthetics of Space", p 14

<sup>97</sup> Zucker, "The Aesthetics of Space", p 17

<sup>98</sup> Forty, "Words and Buildings", "space", p 258

In his publication "Town and Square. From the Agora to the Village Green" Zucker writes an aesthetic history of the most powerful object of this space structure – the city square.

The two expressions of architectural form originate in one three-dimensional conception.

Two conditions, then, characterize our aesthetic reaction towards architecture, whether it consists of architecturally shaped space (inside view) or of architecturally shaped mass (outside view). First, we ourselves and the object share in the same kind of reality; second, the particular space which is the subject of a given architectural structure may involve us (interior), or may involve us and the building together in a system of complex and automatically built up visual relations (masses apperceived from outside).<sup>99</sup>

The inclusion of the beholder and the concept that connects the beholder with the spatial structure, their same reality, refer to the theories of spatial perception in late 19<sup>th</sup> century Germany. Zucker's theoretical idea seems to be a slight change that does not want to disprove the theories but to advance them for an aesthetic notion in the realm of architecture.

Zucker agrees with the practical process of perception that amongst other German Aesthetics Hildebrand, Schmarsow and particularly Lipps derive from the philosophical background of Kant. They all agree that the perception of space is inseparable from a kind of "kinesthetic activity" or "kinesthetic experience"<sup>100</sup> by the user that matches with Zucker's introduction of the "time element". For Hildebrand the timely element is the movement of the eye, for Schmarsow the "kinetic process of moving through space" and Zucker invents the abstract term "fließenden Vollzug" – "flowing execution"<sup>101</sup>. They all relate to the precondition that the user is physically included in the space structure.

First of all Zucker stresses the impact of perception in 1917. Zucker explains the term "Raumgefühl"<sup>102</sup> in reflecting the ideas of Schmarsow and Lipps.

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<sup>99</sup> Zucker, "The Aesthetics of Space", p 14

<sup>100</sup> "kinesthetic activity" by Hildebrand, see Forty, "Words and Buildings", "space", p 259 and "kinesthetic experience" by Zucker see Zucker, "Town and Square", p 6

<sup>101</sup> "motorischen Vorgang der Raumdurchschreitung" and whole sentence see Zucker, "Der Begriff der Zeit in der Architektur", pp 240-2

<sup>102</sup> Zucker, "Formempfinden und Raumgefühl"

The psychological process of perception is successive and therefore combined with a physical movement of the user in the three-dimensionality of space. The condition of this successive perception is "an intuited sense of space"<sup>103</sup> that derives from the theory of empathy.<sup>104</sup> According to this theory Zucker states that the successive movement is the projection of an intellectual process that applies the human scale to space.<sup>105</sup> This matches Schmarsow who writes: "The spatial construct is, so to speak, an emanation of the human being present, a projection from within the subject"<sup>106</sup>

In contrast to Schmarsow, Zucker divides the object of perception in two categories. Bodily determined is the perception of spatial boundaries and aesthetically determined is the perception of the arrangement of space.<sup>107</sup> Zucker refers to Lipps idea of empathy. Lipps argues, "that there were two kinds of seeing, optical, which was concerned with matter, and aesthetic, which was concerned with (...) (space)."<sup>108</sup> Maybe here Zucker finds his distinction between bodily and aesthetic perception. Spatial boundaries are directly measured by human notion but not the space that emerges between these boundaries. This space is only successively perceivable and this process is not determined by the user but by the structure itself. Zucker introduces the term "rhythm" as the impression of this aesthetic space that relates to a succession of psychological perception.

The timely intervals of movement with which the eye perceives the components of a space is experienced by us as rhythm and this rhythm is the essential source of aesthetic enjoyment.<sup>109</sup>

The movement of the perceiving eye is hence not determined by the mind, but by the formal arrangement of the spatial boundaries that create the space.

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<sup>103</sup> Forty, "Words and Buildings", "space", p 260

<sup>104</sup> The theory of empathy is based on the idea of Kant that „space exists ‘in the mind a priori (...) as a pure intuition, in which all objects must be determined’“. Robert Vischer adopts the idea and equates the meaning of form with bodily sensations. See Forty, "Words and Buildings", "space", p 258

<sup>105</sup> See Zucker, "Formempfinden und Raumgefühl", p 378

<sup>106</sup> Forty, "Words and Buildings", "space", p 261

<sup>107</sup> See Zucker, "Formempfinden und Raumgefühl", pp 378-83

<sup>108</sup> Forty, "Words and Buildings", "space", p 261

<sup>109</sup> "Die zeitlichen Intervalle der Bewegung, mit der das Auge die Einzelteile des Raumes in sich hintereinander aufnimmt, empfinden wir als Rhythmus und dieser ist die wesentliche Quelle des ästhetischen Genießens." See Zucker, "Formempfinden und Raumgefühl", p 383



What Zucker criticises is that the focal point of German theories of perception is subjective because they focus on psychological terms that circumscribe the perception of individuals, a subjective act of perception.<sup>110</sup> As against Zucker, for whom the idea of an aesthetic and objective process is more essential. He defines this process as “artistic experience”. Zucker considers an a priori factor of perception most intensively caused by the aesthetic space structure itself, whereas the others see an a priori factor in the mind of the individual. The reason for that lies in their varying definitions of the “time element”. Zucker’s theory considers the “time element” as aesthetic content, the other approach as part of the physical process of perception.

The important task that Zucker pursues, is the definition that unlike the previous results in art history he defines the perception of architecture or art as primarily objective, not only subjective. The beholder perceives the building in a physically and psychological process but Zucker adds that this subjective perception is already determined by an objective issue, the previous analysed basic conditions of architecture and rhythm as its expression. These are immanent, therefore objective parts of the architectural structure and not an issue of a subjectively and psychologically determined process of perception. The aesthetic element creates the expression, not the individual psychological process of the beholder.

In truth it is not only the time that we need for visual or haptic perception of this spatial area, but the “flowing execution” that is a constant function of the built structure, an immanent factor of its creation.<sup>111</sup>

Zucker accepts the new kind of perception as a condition of perceiving architecture but he wants to stress that the content derives from another source, from the rhythm of aesthetic form.

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<sup>110</sup> See Zucker, “Der Begriff der Zeit in der Architektur”, pp 240-1

<sup>111</sup> “In Wahrheit handelt es sich keineswegs etwa nur um die Zeit, die wir gerade zur optischen oder haptischen Wahrnehmung dieses Raumabschnittes brauchen, sondern um einen “fließenden Vollzug”, der ständige Funktion des einmal errichteten Gebäudes ist, immanenter Faktor seiner Gestaltung.” See Zucker, “Der Begriff der Zeit in der Architektur”, p 242

The condition of this objective aesthetic process is that all participants “share in the same kind of reality.”<sup>112</sup> Zucker stresses that the communication between user and space is a continuum as the scale of the two parties is the human scale. Everything created in the architectural space is determined by human kind. The beholder can measure anything according to his individual reality. It is confusing that Zucker talks about objectivity and on the other hand refers again to the theory of empathy when he reflects “a space as real as our own since it is an extension of our own (...) its mass is as real as our own persons.”<sup>113</sup> The theory of empathy implies a sense of subjectivity as it defines the human body as the reference that determines the experience of architectural space. Some ideas may help to understand what Zucker really means by the term “flowing execution”, “rhythm”, “continuity”<sup>114</sup> and the sharing of a same reality. The expression and perception of architecture is based on the effects of the “time element”. Hence, it is an architectural continuity that any participant in the architectural process is engaged with “kinesthetic activity”. This unity of motion or “rhythm” in all parts appears as a “flowing execution”. This coherence is “flowing” because it is not interrupted by external factors. Any content of the self-contained architectural world, the “continuous spatial coherence”<sup>115</sup> is result and part of a man-made world, tangible for any human being. When Zucker refers to the theory of empathy I think he has in his mind that this empathy is part of a more universal and therefore objective sense. The word “own” means not the individual but the unity of human kind. Zucker wants to stress an objective aesthetic nature of architecture because what we perceive from architecture is not primarily our individual impression but an expression of a universal human scale expressed in aesthetic form – an objective “rhythm”.

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<sup>112</sup> Zucker, “The Aesthetics of Space”, p 14

<sup>113</sup> Zucker, “The Aesthetics of Space”, p 13

<sup>114</sup> See Paul Zucker, “Kontinuität und Diskontinuität. Grenzprobleme der Architektur und Plastik” (Zeitschrift für Ästhetik und allgemeine Kunstwissenschaft, vol. 15, 1921, pp 305-17)

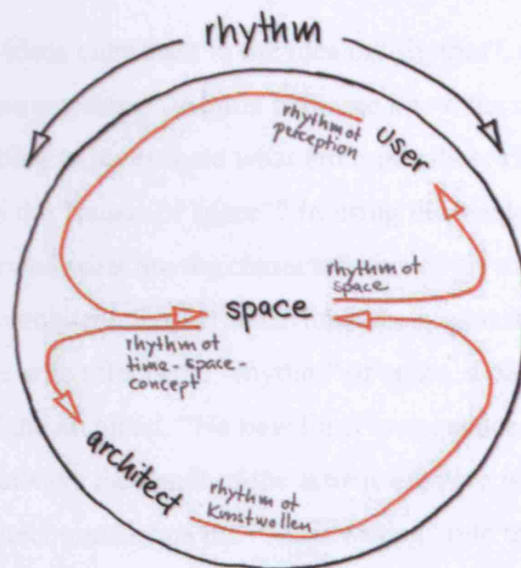
This essay is the German basis of his essay „The Aesthetics of Space”. Already in 1921 Zucker thought about the idea of a spatial architectural continuity that relates to his idea of rhythm and „flowing execution”.

<sup>115</sup> “fortlaufende räumliche Zusammenhang” See Zucker, “Kontinuität und Diskontinuität”, p 308

## Rhythm

The last three chapters have shown Zucker's theoretical references and his methodological synthesis. What all these themes share is the idea of "rhythm".

"Ornament", "time element" and "perception" culminate in a rhythmical expression or impression.



20 The rhythmical process of the "artistic experience"

The "ornament" embodies Zucker's starting point that says the content of architecture is symbolically expressed in rhythmical aesthetic form; because form is the object that reveals the artistic idea, the "Kunstwollen". How function, a basic architectural requirement, relates to aesthetic form is fixed via the definition of the "time-space-concept". The "time element" and its rhythm is immanent to function and form and hence the substance of the artistic power or "Kunstwollen". The stage of this process is space, as the timely element that is defined by "kinesthetic activity" is based on a three-dimensional notion of architecture – "Raumkunst". Cultural achievements that lead to a new rhythmical perception of space are the precondition to define architecture as "Raumkunst".

This means finally, the linchpin that relates Zucker's issues of architecture is its "rhythm". The content of architecture that correlate architect, beholder, space and even a whole period is "rhythm". The formal arrangement of space implies this rhythm that is projected onto the structure by the artistic experience of the architect and the beholder.

Zucker focuses so explicitly on Aesthetics because in his opinion the content of architecture is solely comprehensible in formal space. "The arrangement and distribution of volumes is the only and the dominant source of aesthetic enjoyment," because this spatial organisation is a "rhythmische Fügung" – "rhythmical composition".<sup>116</sup> "Thus, the means of the artistic expression is spatial rhythm" - "the music of space".<sup>117</sup>

Zucker's theoretical ideas culminate in the idea of "rhythm", according to his very early statement "rhythm is everything". At this point we know the conditions that lead to rhythm, now I am going to investigate what circumscribes "rhythm" as an expression of architecture. What is the "music of space"? In using this analogy the question emerges who is the composer and what are the characteristics of his melody?

The composer is the architect. Zucker underlines the important role of the architect,<sup>118</sup> because he is the one who affects the "rhythm" of space. Consequently, Zucker literally fights for the role of the architect. "No new form or sequence of space is ever a creation of a client, (...) but always the result of the artistic creative power of the architect."<sup>119</sup> For Zucker the architect transforms the "Kunstwollen" into tangible form, he creates a "rhythm".

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<sup>116</sup> "So ist (...) die Anordnung und Verteilung der Massen der einzige und beherrschende Quell ästhetischen Genießens." Whole sentence see Zucker, "Formempfinden und Raumgefühl", p 374

<sup>117</sup> "Ist also der räumliche Rhythmus das Mittel des künstlerischen Ausdrucks" and "Musik eines Raumes" see Zucker, "Formempfinden und Raumgefühl", p 384

<sup>118</sup> Zucker criticises the tendencies in art history that pursue a "Desindividualisierung" – "de-individualisation" of architecture, an "Anonymität, (die) schon Tradition geworden ist." – "anonymity that has already become tradition". The focus of 18<sup>th</sup> century art historians was the "Entwicklungsgeschichte der Seh- und Gestaltungsformen aufeinander folgender Generationen" – "Historical development of generational changes considering perception and formal expression". In the reception of Wölfflin this focus on an emphatic history of style leads to a rationalistic attitude of generalisation. Zucker identifies an "optischen Marxismus" – "optical Marxism", because the collective artistic achievement is more important than the individual. At the beginning of the 20<sup>th</sup> century the role of the architect was also insecure. The first ideas of some radical modernists who challenge the artistic importance of architecture also questioned the role of the architect. Loos provokes in saying "the individual human being is not able to create a form." Zucker saw the trial to establish function and construction as an architectural basis also as a hazard to the significant role of the architect as an artist. See Zucker, "Subjektivismus in der Architektur", pp 78-9 and Zucker, "The Paradox of Architectural Theories", p 10

<sup>119</sup> "Keine neue Raumform oder Raumfolge ist jemals von einem Bauherrn, (...) sondern sie ist stets das Ergebnis der künstlerischen Formkraft des Architekten." See Zucker, "Subjektivismus in der Architektur", p 81

According to Zucker rhythm is the only generally valid content of architecture. As rhythm is the realm of the architect his impact is fundamental. Rhythm is the conscious application of the "time element". The architectural creation is always based on the timely procedures of spatial organisation. Three-dimensional space is always defined by a rhythmical succession of time. Space is perceivable in time, and the function of a building relates as well to a successive timely process.<sup>120</sup> These conditions of the architect's creation are connected to the element of time from the very beginning. This means that the architectural creation is characterised by the transformation of these timely concerns. This transformation is summarised in Zucker's term "rhythm". The task of the architect is immanent with a consideration of time. The architect designs the timely characteristics of space.

The architect's artistic and hence subjective influence is achieved in the realm of rhythm. The architect can be understood as a composer of timely issues. The composition of an architectural rhythm or melody is the subjective part in architecture.

The time function is in its spatial fixation (...) always a process in time, a succession of single spatial components. The arrangement of these components, the spatial fixation of their timely rhythm is the real task of the architect, the object of his creative power.<sup>121</sup>

Architecture is inventive, new or subjective if an architect composes a new rhythm for an existing solution.

A solution or composition becomes subjective at that moment, when he develops a new rhythm, new connections, new relationships for the organization of space.<sup>122</sup>

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<sup>120</sup> see chapter „perception“, and „time element“

<sup>121</sup> „Die zeitliche Zweckfunktion in ihrer räumlichen Fixierung (...): Immer ist es ein Verlauf im Zeitlichen, ein Nacheinander einzelner räumlicher Komponenten. Die Regelung der Verknüpfung dieser Komponenten, die räumliche Fixierung ihres zeitlichen Rhythmus ist die eigentliche Aufgabe des Architekten, das Objekt seiner Gestaltungskraft.“

See Zucker, „Subjektivismus in der Architektur“, pp 86-7

<sup>122</sup> „wird seine Lösung subjektiv in dem Moment, wo er in der Folge oder in der Maßzahl der Räume neue Rhythmen, neue Verknüpfungen, neue Verhältnisse findet.“

See Zucker, „Subjektivismus in der Architektur“, p 87

The idea of a timely determined rhythm refers to the German philosopher Nietzsche who is an intellectual source of German Modernists. Nietzsche reveals the dualism of the Apollonian and the Dionysian. "Nietzsche argued that culture in general derived from two instincts, the Apollonian – the realization of the images presented to the mind in dreams; and the Dionysian – the intoxication experienced in song and dance." The essence of the Dionysian instinct is that it does not consider human kind as a beholder of culture but as a participant whose "body's whole being" is involved in the cultural process. The stage of this participation is space and this space is designed by applying the Dionysian spirit.<sup>123</sup>

Hence, the Dionysian idea ideally matches with the modern notion of space. The discovery of the three dimensions is accompanied by the "new spatial perception" and one crucial element is the bodily inclusion of the beholder.

Zucker's idea of spatial rhythm correlates with Nietzsche's Dionysian instinct. Zucker refers as well to dance when he tries to explain the architectural rhythm.

Dance transfers a timely rhythm, the beat of music, into a spatial rhythm that transforms bodily movement. (...) In the observation of a spatial work of art the process works vice versa: the spatial rhythm, the relationships among the single elements of space are perceived in timely intervals.<sup>124</sup>

According to Nietzsche it is the human being that animates the space with rhythm. "I believe in absolute space as the substratum of force: the latter limits and forms".<sup>125</sup> This idea can be found in Zucker's idea of "rhythm". It is the architect whose artistic idea or creative power – the "Kunstwollen" - "limits and forms" the architectural space. As this rhythm is a composition of timely or kinesthetic elements its "substratum" is space and literal spatial inclusion.

The means of "song and dance" is timely rhythm – a melody. Zucker's rhythm of built structures is also an application of timely elements – the composition of the "time-space-concept" that is immanently connected with "kinesthetic experience".

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<sup>123</sup> Whole paragraph see Forty, "Words and Buildings", "space", p 259

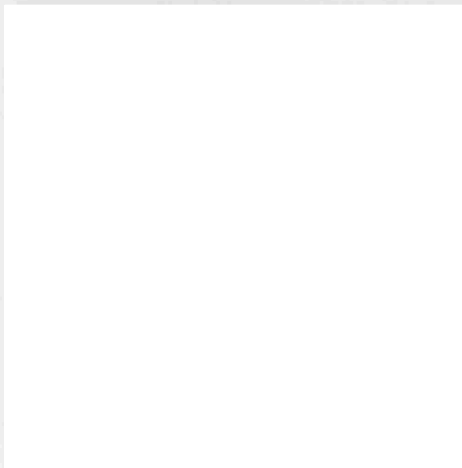
<sup>124</sup> "(Beim Tanz) wird ein zeitlicher Rhythmus, nämlich der Takt der Musik, in einen räumlichen Rhythmus, die Bewegung der Glieder umgesetzt. (...) Beim Betrachten eines Raumkunstwerkes (findet) derselbe Vorgang im umgekehrten Sinne statt: der räumliche Rhythmus, die Verhältnisse der Einzelteile des Raumes untereinander werden in zeitlichen Intervallen aufgenommen."

See Zucker, "Formempfinden und Raumgefühl", p 383

<sup>125</sup> Forty, "Words and Buildings", "space", p 259

Moholy-Nagy who understands the expression of architecture as “dynamic fields of force” also refers to the Dionysian instinct. This phrase matches Zucker’s term “flowing execution” that circumscribes Zucker’s “rhythm”.

Zucker defines the sense of space and therefore the different rhythmical organizations of space as the content of architecture. The sense of space is a mirror of contemporary life and culture. This means architecture is a reflection of society. Zucker understands architecture as “frozen contemporary life”<sup>126</sup> or as “the lively artistic spirit of a period.”<sup>127</sup> The role of architecture is “the articulation of human life in its social relation.”<sup>128</sup> The architectural rhythm is the symbol of a period. “The similarity (of a period) lies only in the rhythmic organization imposed on the projected and penetrable space of painting and building respectively.”<sup>129</sup> What we would like to know about a period in history or contemporary life, we may find it in the aesthetic articulation of art that embodies a specific rhythm.



21 Spatial dynamic of baroque city space  
Site plan, Piazza and Scala di Spagna in  
Rome

Zucker’s ideas pursue the intention to articulate what spatial organization means to architectural content in general, and particularly Zucker pursues the expression of a modern sense of rhythm that Zucker tries to catch with his “time-space-concept”. The modern rhythm is the “flowing execution” of functionality in three-dimensional aesthetic space. Zucker finds the roots of a dynamic concept of architecture in the baroque period where “dramatization and the suggestion of movement”, and hence a sense of three-dimensionality has been expressed for the first time.<sup>130</sup>

<sup>126</sup> Zucker, “The Humanistic Approach to Modern Architecture“, p 21

<sup>127</sup> “lebendige künstlerische Ausdruck ihrer Zeit”

See Zucker, “Ausdrucksmöglichkeiten der Baukunst“, p 118

<sup>128</sup> Paul Zucker, “The Role of Architecture in Future Civilization” (Journal of Aesthetics and Art Criticism, vol. 3, 1944, pp 30-8), p 36

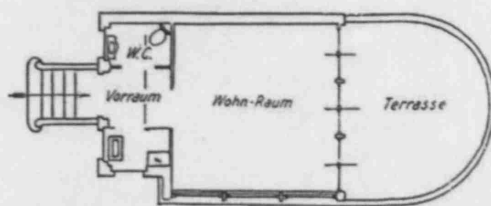
<sup>129</sup> Zucker, “The Aesthetics of Space“, p 12

<sup>130</sup> Paul Zucker, “Space and Movement in High Baroque City Planning“ (Journal of the Society of Architectural Historians, vol.14, no. 1, 1955, pp 8-13), pp 8,13

Zucker's ideal of a modern spatial rhythm can be found in some of his own buildings, especially in his designs for stores. What he tries to achieve is to fulfil aesthetically the requirements of "purposeful movement". The process of "purposeful movement" has to match exactly with the arrangement of rooms and spaces. This fulfilment shall be carried out in an emphatic aesthetic manner. This transformation as the task of the architect is the essential expression of his "Kunstwollen".



22 The tranquil rhythm of functional solitude. Boathouse in Berlin, 1930



23 Level 1, floor plan, boathouse in Berlin

The boathouse Posnansky in Berlin Wannsee<sup>131</sup> is a small functional building. It is practically separated in two functional layers. The lower level is the landing place and the garage; the upper level is the space for the boat owner. The upper level offers

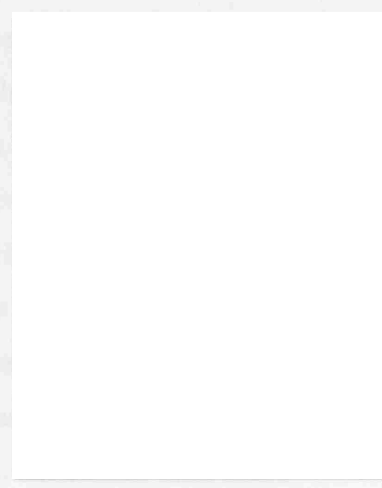
outside and inside space to serve any weather condition. The upper level functionally advances the lower level as the outside terrace is a canopy for the landing place to ensure a comfortable landing or an outside anchorage sheltered from bad weather. According to its function the small building express a sense of romantic solitude. The building cleverly serves any purpose in a functional and formally intriguing way; it combines these issues in an aesthetic rhythm that exactly matches the feeling of a day off in the quite countryside, in the wide tranquillity experienced when riding a boat on a calm lake.

<sup>131</sup> Boathouse Posnansky, Kleine Seestraße 6 (Now Am Kleinen Wannsee 6) in Berlin-Zehlendorf (Wannsee) constructed 1929, building preserved, see Schäche, "Der Vergessene Architekt", p 154



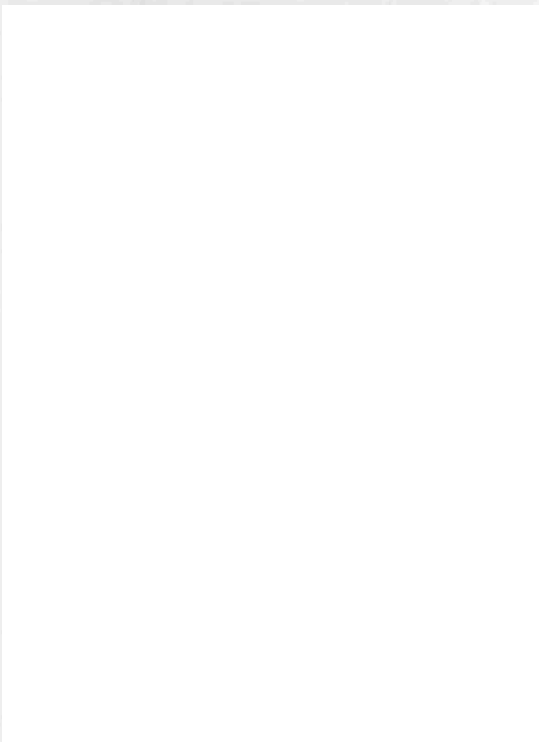


24 The "flowing execution" of the inviting entrance front  
Drawing of shoe store "Leiser" in Berlin



25 "Leiser" entrance, Berlin, 1928

Another example that matches a totally different function and hence a different aesthetic expression is the shoe store "Leiser" in Berlin. Here Zucker focuses on the requirements of clear and generous retail spaces that reflect elegance and high standard products.<sup>132</sup>




26 The spatial continuum aesthetically matches the consumer's motion and his desire for exclusivity.  
Interior with staircase, "Leiser", Berlin, 1928


Zucker transforms these issues into a smooth flow of curved elements clad in elegant materials that aesthetically embody these requirements and additionally create an elegant spatial layout that literally accompanies and leads the consumer to the product displays. This idea of flowing walls is a spatial continuum that also connects the façades with the inner space. The curved entrance walls literally draw the consumer into the inner space of the store. Light-bands underline the flow of consuming and moving people. The aesthetic play of curved forms refers exactly to the attitudes of shopping, such as ease of use and exclusivity.<sup>133</sup>

<sup>132</sup> See Schäche, "Der Vergessene Architekt", p 137

<sup>133</sup> I have to mention that not all of Zucker's designs fit so easily within his ideal of modern rhythm. There are also examples that seem to recall eclectic architecture. I am not going to weigh Zucker's designs against each other as it is not my question but I take these two examples to clarify Zucker's theoretical ideas.



27 The romantic notion of ruins expressed in a painting by Caspar David Friedrich, "Cloister Cemetery in the Snow, 1819



28 Ruins as the aesthetic expression of a rhythmical arrangement of space and volumes in a drawing by Fra Franscesco Colonna, "Hypnerotomachia Polifili"

That the arrangement of space and its rhythm is the architectural core content given by the architect is also analysed in Zucker's treatise about ruins. Here Zucker's aim is "to explore the roots of the emotional and intellectual effects of ruins."<sup>134</sup> Ruins are an "aesthetic hybrid"<sup>135</sup> of organic nature and man-made forms. What is left of architecture in ruins and what therefore remains, as the main core of any architectural structure is the expression of an "organising power of the human spirit." It is the composer's signature that gave an individual rhythm to space and that remains in ruins as "an aesthetic unity dominated by whatever has been preserved as fragments of the original architecture."<sup>136</sup>

There exist the romantic and the archaeological attitude in the consideration of ruins, but Zucker is inspired by the concept that "accentuates their intrinsic original architectural values."

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<sup>134</sup> Paul Zucker, "Fascination of Decay. Ruins: Relic, Symbol, Ornament" (Ridgewood, N.J: Gregg Press, 1968), p xi

<sup>135</sup> Paul Zucker, "Ruins. An Aesthetic Hybrid" (Journal of Aesthetics and Art Criticism, vol. 20, no. 2, 1961, pp 119-30)

<sup>136</sup> Whole paragraph see Zucker, "Facination of Decay", pp 3-5

These values are “proportions and the interrelationship of space and volume”; this means the “three-dimensional, architectural qualities”.<sup>137</sup> This circumstance shows how crucial the organisation of space in architecture is. “The splendour of the original work of architecture, even if veiled by the inroads of growing nature, by demolition and sometimes by adaptations of later generations, has not been lost and radiates still.” Architecture, even ruins have a “Gestalt”<sup>138</sup> that is the composition of space. This composition is so strong that it even remains in ruins, beyond any functionality or style. The investigation of ruins supports Zucker’s justification of the importance of aesthetic values. As ruins have no practical value, but reflect the core content of architecture, this content has to be a formal expression.

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<sup>137</sup> Last two sentences see Zucker, “Ruins. An Aesthetic Hybrid”, pp 128-9

<sup>138</sup> Last two sentences see Zucker, “Ruins. An Aesthetic Hybrid”, p 130

## Conclusion

The architectural theory of Paul Zucker derives from a correlation of modern and traditional thoughts. His theory of rhythm gives new shape to traditional Aesthetics by enriching the traditional concepts with modern ideas and achievements. Zucker tries to fill the vulnerable aesthetic ideal with new promising meaning.



29 Zucker: "I know what I like"...  
...The beauty of spatial rhythm as expressed in a  
painting by Lyonel Feiniger, "The Viaduct", 1920

The result of my research can be summed up as follows:

Zucker's fundamental aspiration is to strengthen the importance of Aesthetics in the realm of architecture. Zucker's goal is to encourage a belief in the value of aesthetic judgement. The development of his theory shall prove a meaning of beauty. The theory gives evidence that aesthetic form is inseparably connected with major conditions of architecture. Zucker derives these conditions from modern achievements. For Zucker the issues space, functionality, time, movement, perception and humanism

culminate in form, hence in a traditional formalistic notion. The architectural requirements established in Modernism become the means of a traditional "Kunstwollen", the power that creates form. Via the introduction of the "time element" Zucker includes the modern ideas of functionality and space in the traditional idea of artistic form (see "time-space-concept").

Zucker's most interesting idea is to unify these modern and traditional concepts in an integrated theory that detects a sense of rhythm in all its parts.

Moreover, he defines the modern themes of space and functionality as issues that are deeply connected with human reality. This means rhythm, continuity or the "flowing execution" of space as the formal content of architecture mirror human reality and its Zeitgeist. The architectural melody expressed in form mirrors human needs and desires.

Paul Zucker values the achievements of Modernism the most. What distinguishes him from the modern mainstream is his reactionary idea to define these achievements explicitly as means of pure aesthetic meaning. Zucker has chosen a position in the modern context that especially stands out during the functionalistic beginning of the Modern Movement. Due to the humanisation of modern theory in late Modernism Zucker's approach seems to get closer to the core of the Movement.

By now I can only speculate why Zucker was relatively unknown in Modernism and its reception. His ideas can be understood as an intriguing interpretation of the achievements of the modern era as it allows a different perspective – the aesthetic perspective. Personal reasons such as Zucker's personality, or the sad fate of his life as being victim of Nazi Germany could have influenced his sparse popularity. An academic reason could be his focus on Aesthetics in a time where this issue was extremely vulnerable and ill reputed. As the archival sources are relatively small it is yet not possible to give a proven appraisal.



30 Paul Zucker who pursued the ideal of an aesthetic Modernity.

However, it was fascinating and inspiring to explore the thoughts of a person that so ambitiously, vividly and well-founded pursues an aesthetic ideal. Zucker's broad theoretical work that besides architecture considers any other field of art history and in addition his professional work still remain broad sources to interpret Zucker's influence and importance. My focus was Zucker's architectural theory that circles around a formal concept of spatial rhythm.

Zucker loved the beauty of form and the achievements of his era. Zucker was an alert and critical contributor to Modernism with a distinct sense for aesthetic tradition. Paul Zucker was not just a "forgotten architect", but also one of the first Aestheticians of Modernity.

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- 1 University Calendar 1937-1970

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Avery Architectural and Fine Art Library Archive, Zucker Collection

- 1 Acknowledgement of diploma work criteria, addressed to Zucker by Königliche Technische Hochschule, Berlin, 1911
- 2 Photographs of several buildings and shops designed by Zucker, 1920s-30s
- 3 Competition entry: Continental-Building for the International Exhibition Chicago, 1933
- 4 Letter patent of a presentation notebook by Zucker, 1934
- 5 Certificate "Bundesverdienstkreuz", 1968
- 6 Notebook with handwritten essay on the staircase in Schloss Pommerfelden, without date
- 7 Handwritten notebook with notes about staircases, without date
- 8 Card of Lotte Pulvermacher-Egers who donated the collection in February 1973

The Cooper Union, New York, USA  
The Cooper Union Library  
Zucker File

- 1 Essay "Das Wesen der Architektur" by Zucker, 1927, see Zucker's German books
- 2 Essay "Teaching History of Art in Our Visual Chaos" by Zucker, 1946
- 3 Typed essay "Architecture in USSR" Rand School, 1948
- 4 Brochure "Impact of Science and Materialism on Art Today" for lectures at The Architectural League, New York 1953/54
- 5 Article "Popcorn Pretzels and Rembrandt" by Zucker in Cooper Union Alumni News Feb/March 1962, vol. 25, no. 5
- 6 Appreciation certificate from student(s) upon Zucker's retirement, ca. 1969
- 7 Typed essay "Prospects of Art in American. Seen Through European Eyes" by Zucker, without date
- 8 Typed note "I know what I like or The Aesthetic Judgement", without date and name
- 9 Typed appreciation "Our Most Priceless Possession", without date, by student(s)
- 10 List of signatures
- 11 CD with image of Zucker
- 12 University Calendar 1938/39 – 1968/69

## List of Illustrations

- 1 Paul Zucker portrait 1  
Zucker lecturing at Cooper Union, 1954  
"Cable", Yearbook of Cooper Union Art School 1954, New York, USA  
In Schäche, Wolfgang "Paul Zucker. Der Vergessene Architekt" (Berlin: Jovis Verlag, 2005), p 53  
  
with Paul Zucker's signature  
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Institut für Geschichte und Theorie der Architektur (gta), Sigfried Giedion Archiv  
43-K-1944-01-07  
  
Image editing by Janna Lipsky
- 2 Paul Zucker portrait 2  
Zucker in his library, New York, USA, ca. 1968  
Berlinische Galerie, Landesmuseum für Moderne Kunst, Fotografie und Architektur,  
Architektursammlung  
In Schäche, Wolfgang "Paul Zucker. Der Vergessene Architekt" (Berlin: Jovis Verlag, 2005), p 2
- 3 Paul Zucker portrait 1  
see illustration 1
- 4 Typed note "I know what I like or the Aesthetic Judgement", without date and name  
The Cooper Union Art School, New York, USA  
The Cooper Union Library, Zucker File
- 5 Detail of "Leiser" staircase, ca. 1928  
Schugeschäft "Leiser" in Tauentzienstraße 20, Berlin-Schöneberg, Germany  
Architect: Paul Zucker, constructed 1927-1928, demolished in World War II  
Columbia University, New York, USA  
Avery Architectural and Fine Art Library Archive, Zucker Collection
- 6 El Lissitzky, Proun (Entwurf zu Proun S.K.), 1922-1923  
Solomon R. Guggenheim Museum, New York, USA  
jpg see [http://www.guggenheimcollection.org/site/artist\\_work\\_md\\_90\\_2.html](http://www.guggenheimcollection.org/site/artist_work_md_90_2.html)
- 7 Interior of "Wertheim" warehouse, atrium with work of Ludwig Manzel, 1898  
Warenhaus A. Wertheim in Leipziger Straße 132-137, Ecke Voßstraße, Berlin,  
Germany  
Architect: Alfred Messel, constructed 1897; extension 1899/1900 und 1904/06,  
demolished in World War II  
Staatsbibliothek zu Berlin, Bildarchiv Preußischer Kulturbesitz
- 8 Terminal of Trans World Airlines at John F. Kennedy Airport, New York, USA, 1962  
Architect: Eero Saarinen, constructed 1956-62  
Photo by Ezra Stoller / ©Esto, 1962  
In Khan, Hasan-Uddin "International Style. Architektur der Moderne von 1925 bis 1965" Philip  
Jodidio (ed.) (Köln: Taschen, 1998), p 140
- 9 Diagram „time-space-concept  
Private archive of Janna Lipsky

- 10 General view of "Wertheim" warehouse, 1936  
 Warenhaus A. Wertheim in Leipziger Straße 132-137, Ecke Voßstraße, Berlin, Germany  
 Architect: Alfred Messel, constructed 1897; extension 1899/1900 und 1904/06, demolished in World War II  
 Staatsbibliothek zu Berlin, Bildarchiv Preußischer Kulturbesitz
  
- 11 Warehouse design, drawing of façade, 1928  
 Warehouse Lindemann in Frankfurt Main, Germany  
 Architect: Paul Zucker, drawing  
 Architektur und Schaufenster, vol. 25, 1928  
 In Schäche, Wolfgang "Paul Zucker. Der Vergessene Architekt" (Berlin: Jovis Verlag, 2005), p 126
  
- 12 Aerial view of Manhattan, New York, USA  
 Hegemann, W. "Amerikanische Architektur" (Berlin: Wasmuth, 1925)  
 In Zucker, Paul "Entwicklung des Stadtbildes. Die Stadt als Form" (Braunschweig: Vieweg, 1986)  
 Reprint of first edition: (München: Drei Masken Verlag, 1929), p 140
  
- 13 Aerial view of Piazza dell' Anfiteatro, Lucca, Italy  
 Paul Zucker, "Town and Square. From the Agora to the Village Green" (New York: Columbia University Press, 1959), plate 49
  
- 14,15 Two film stills of silent movie "Metropolis", Fritz Lang, 1927  
 Friedrich Wilhelm Murnau Foundation, official restoration, DVD, 2005  
 Private archive of Janna Lipsky
  
- 16 Aerial view of St. Mark's Square and The Piazzetta  
 Photo ENIT, courtesy Italian State Tourist Office, New York, USA
- 17 Site plan of St. Mark's Square and The Piazzetta  
 Sitte, Camillo "The Art of Building Cities"  
  
 Both in Paul Zucker, "Town and Square. From the Agora to the Village Green" (New York: Columbia University Press, 1959), plate 34
  
- 18 Aerial view of Place de L'Étoile, Paris, France  
 Photo Archives Photographiques Paris, France
- 19 Site plan of Place de L'Étoile, Paris, France  
 Sitte, Camillo "The Art of Building Cities"  
  
 Both in Paul Zucker, "Town and Square. From the Agora to the Village Green" (New York: Columbia University Press, 1959), plate 72
  
- 20 Diagram "rhythm"  
 Private archive of Janna Lipsky
  
- 21 Site plan of Piazza and Scala di Spagna, Rome, Italy  
 In Zucker, Paul "Space and Movement in High Baroque City Planning" (Journal of the Society of Architectural Historians, vol.14, no. 1, 1955, pp 8-13)
  
- 22 General view of boathouse Leon and Rosa Posnansky, 1930  
 Kleine Seestraße 6 (Now Am Kleinen Wannsee 6) in Berlin-Zehlendorf (Wannsee), Germany Architect: Paul Zucker, constructed 1929, building preserved  
 Columbia University, New York, USA  
 Avery Architectural and Fine Art Library Archive, Zucker Collection

- 23 Level 1, floor plan of boathouse Leon and Rosa Posnansky, 1930  
Das Schöne Heim, vol. 1, 1929/30  
In Schäche, Wolfgang "Paul Zucker. Der Vergessene Architekt" (Berlin: Jovis Verlag, 2005), p106
- 24 Façade drawing of "Leiser"  
Bauwelt, vol. 19, 1928  
In Schäche, Wolfgang "Paul Zucker. Der Vergessene Architekt" (Berlin: Jovis Verlag, 2005), p 139
- 25 "Leiser" entrance, ca. 1928
- 26 "Leiser" staircase, ca. 1928  
Schugeschäft "Leiser" in Tauentzienstraße 20, Berlin-Schöneberg, Germany  
Architect: Paul Zucker, constructed 1927-1928, demolished in World War II  
Columbia University, New York, USA  
Avery Architectural and Fine Art Library Archive, Zucker Collection
- 27 Caspar David Friedrich, Cloister Cemetery in the Snow, 1819  
Nationalgalerie, Berlin, Germany  
Photo by Herbert von Einem  
In Zucker, Paul "Fascination of Decay. Ruins: Relic - Symbol - Ornament" (Ridgewood, N.J: Gregg Press, 1968), p 184
- 28 Fra Francesco Colonna, Hypnerotomachia Polifili  
The Polyandrion (Courtesy Cooper Union)  
In Zucker, Paul "Fascination of Decay. Ruins: Relic - Symbol - Ornament" (Ridgewood, N.J: Gregg Press, 1968), p 14
- 29 Lyonel Feininger, Viaduct, 1920  
MOMA, The Museum of Modern Art, New York, USA  
jpg see [http://www.moma.org/collection/browse\\_results.php?criteria=O%3AAD%3AE%3A1832&page\\_number=63&template\\_id=1&sort\\_order=1](http://www.moma.org/collection/browse_results.php?criteria=O%3AAD%3AE%3A1832&page_number=63&template_id=1&sort_order=1)
- 30 Paul Zucker portrait 3  
The Cooper Union, New York, USA  
The Cooper Union Library, Zucker File

## **Appendices**

### **Vita of Paul Zucker**

#### **1888**

Born on 14<sup>th</sup> August in Berlin as son of Sanitätsrat Dr. med. Julius Zucker and Anna Zucker, née Samter

#### **1894-1907**

School attendance (until 1898 Gemeindeschule, afterwards Gymnasium)

#### **1907**

Abitur at Humanistisches Wilhelm-Gymnasium in Berlin

#### **1907-1911**

Studied Architecture and Art History in Berlin and Munich

#### **1911**

Degree in Architecture, Diplom-Ingenieur (Dipl.- Ing.) at Königlich Technische Hochschule in Berlin-Charlottenburg

#### **1911-1912**

Assistant to Richard Borrmann, the chair of Architectural History at Königlich Technische Hochschule in Berlin-Charlottenburg

#### **1913**

Doctoral degree (Dr. Ing.)

Doctoral thesis: "Raumdarstellungen und Bildarchitekturen bei den Florentiner Malern der ersten Hälfte des Quattrocento" at Königlich Technische Hochschule in Berlin-Charlottenburg

#### **1913-1914**

Assistant to Max Georg Zimmermann at Schinkel-Museum, associated with Königlich Technische Hochschule in Berlin-Charlottenburg

#### **1914**

Lecturer at private school of arts and crafts Reimann in Berlin

#### **1916**

Married to Rose Walter, vocalist of concertos and oratorios (born 15<sup>th</sup> November 1890 in Berlin, died 24<sup>th</sup> October 1962 in New York)

#### **1916-1919**

Partnership with Paul Leschinsky in architecture office "Architektenhaus"

#### **1916-1935**

University lecturer in Architecture, Town Planning and Art History at private Lessing-Hochschule in Berlin



**1916-1937**

Member of Architekten- und Ingenieurverein in Berlin (AIV)

**1919-1923**

Editor of journal supplement "Archiv für Geschichte und Ästhetik der Architektur" in Wasmuths Monatshefte der Baukunst

**1920-1933**

Independent architect with office in Berlin

Member of Bund Deutscher Architekten (BDA)

**1925-1932**

Broadcasting for Deutsche Welle and Berliner Rundfunk

**1932**

Separation from Rose Walter, who emigrated to England, UK in 1934 and to New York, USA in 1940

**1933-1936**

Independent architect in Berlin, without official registration at Reichskulturkammer

**1937**

Emigration from Germany to the United States of America

**1937-1970**

Lecturer in Architecture and Art History at New School for Social Research in New York ("University-in-Exile")

**1938-1969**

Adjunct Professor and after his retirement in 1963 Visiting Professor at Cooper Union Art School in New York

**1940-1971**

Member of American Society for Aesthetics (1942-1969), of College Art Association of America (1940-1971) and of Society of Architectural Historians (1941-1971)

**1944**

Citizen of the United States of America

**1944-1955**

President of American Society for Aesthetics, New York group

**1946-1951**

President of Society of Architectural Historians, New York group

**1953**

Arnold W. Brunner Scholarship Award from American Institute of Architects (AIA)

**1968**

Honoured with the Officer's Cross of the Order of Merit of the Federal Republic of Germany

**1969**

Rossi Award of Cooper Union Art School in New York

**1971**

Died on 14<sup>th</sup> February in New York

Translation of Paul Zucker's vita. German original see Wolfgang Schäche, "Paul Zucker.

Der Vergessene Architekt" (Berlin: Jovis Verlag, 2005), pp 151-2

Moreover, the book by Wolfgang Schäche includes a catalogue of Paul Zucker's buildings and the entire bibliography of Paul Zucker. See pp 152-168

## **Acknowledgement**

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I, Janna Lipsky, confirm that the work presented in this report is my own. Where information has been derived from other sources, I confirm that this has been indicated in the report.