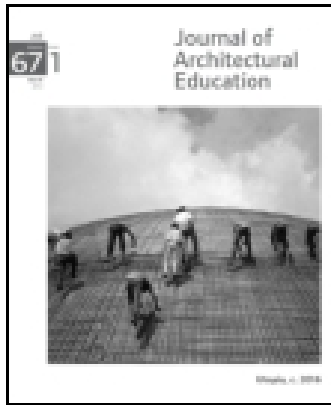


This article was downloaded by: [New York University]

On: 18 April 2015, At: 15:39

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41
Mortimer Street, London W1T 3JH, UK



Journal of Architectural Education

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rjae20>

Form as the Object of Experience: Georg Simmel's Influence on Mies van der Rohe

W. Gordon Brown

Published online: 08 Jan 2014.

To cite this article: W. Gordon Brown (1990) Form as the Object of Experience: Georg Simmel's Influence on Mies van der Rohe, Journal of Architectural Education, 43:2, 42-46

To link to this article: <http://dx.doi.org/10.1080/10464883.1990.10758559>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Form as the Object of Experience: Georg Simmel's Influence on Mies van der Rohe

W. Gordon Brown teaches at the College of Environmental Design at the University of Colorado at Boulder. His degrees are: B.S. Communications, University of Illinois at Urbana-Champaign; M.Sc. (Arch.) (thesis distinction), University of London; M.B.A., University of Pennsylvania.

Notions of form permeate Mies' work and his statements about teaching architecture. These notions were influenced considerably by the philosophy of culture of the German philosopher/sociologist Georg Simmel for whom form was the crystallization of experience. Simmel articulated a three stage developmental progression from materials through function to a state in which the subject eventually developed the capacity to know form. While every stage has its own existential requirements, at the highest level is the forbearance of exegesis and interpretation of one's own work.

Simmel's comments on content and form parallel and illuminate Mies' own statements and help reveal why the IIT architecture curriculum which Mies founded had such a profound influence in its day. This pedagogy is no longer (if it ever was) well understood, but a close examination of Simmel's ideas will show that it is a model for architectural education with continuing merit.

This article was first presented as a paper at the ASCA Technology Conference in Baton Rouge, Louisiana in February, 1989.

In the more than two decades since Robert Venturi wrote *Complexity and Contradiction in Architecture*, meaning has substantially replaced form as a central issue in architectural discourse.¹ Venturi relied on attractively subtle literary critics like Kenneth Burke for whom language, especially poetic language, constituted a means of questioning "modernist" values.² But as this normative position gained entry into thoughtful architectural discourse, its borrowed critical technique slipped in transformed to a substantive model that redefined buildings as texts.

Today the textual model and its associated analytic and interpretive techniques have become a tacit but pervasive approach to architectural education. Yet, whatever their merit as metaphors or as vehicles for criticism,

language or textual models seem ultimately inadequate and inappropriate in describing the operations and consequences that result in architectural form. The now mostly mute discourse of modernism, particularly the work of Mies, provides an alternative model.

Gerald McSheffrey called one of Mies' works, the Illinois Institute of Technology architecture curriculum, Mies' greatest bequest.³ For several decades, this curriculum yielded a body of architectural talent possessing a virtually unmatched commitment and discipline. The reasons for this lie in an educational approach that sought to integrate a philosophy of objective form with a philosophy of subjective experience. This approach appears to rely considerably on the cultural philosophy of the German philosopher/sociologist Georg Simmel.

Simmel's book on cultural philosophy was one of the many philosophical works in Mies' library. Simmel is regarded as the founder of formal sociology, and in particular the origins of social network theory are found in Simmel's work. But Simmel also had intense interests in aesthetics, and he framed his thinking about social structure in architectural terms. As E. V. Walter remarked, "In his system, the organization of society resembles the structural logic of architecture."⁴ This interest in architecture emerges in his essay, "The Ruin," a part of *Philosophische Kultur* with which Mies was familiar.⁵

"What has led the building upward is human will; what gives it its present appearance is the brute, downward-dragging, corroding, crumbling power of nature. Still, so long as we can speak of a ruin at all and not a mere heap of stones this power does not sink the work of man into the formlessness of mere matter."⁶

Expressive and Platonic Form

When a discussion of Mies' work arises, it is impossible to avoid reference to form, particularly Platonic form. James Freed, for example, has said that, "Mies reduced his buildings to the absolute Platonic, pure minimum evocation of the idea."⁷ However, Mies' own use of the word *form* seems confusing. Sometimes he uses form in a Platonic sense, other times in a modern way: as a vehicle or mode of

expression. From his comments as a whole, what Mies means by *form* seems confusing. What Mies means by form seems inconsistent and contradictory, at once affirming and also denying its importance. For example, he said in the 1920's, "I do not oppose form, but only form as a goal."⁸ And referring to 19th century architecture: "Inventing new forms is obviously not the task of architecture."⁹ Again, "Form is not the aim of our work, but only the result. Form, by itself, does not exist."¹⁰ In a 1938 speech at the Armour Institute, he said, "Architecture ... is the crystallization of [time's] inner structure, the slow unfolding of its form."¹¹

To the educator, these are challenging, if not confusing statements. Are they just aphorisms, or do they have relevance beyond that original IIT curriculum where they were originally set. If architects are not to invent new forms, just what are they doing? If form is not the purpose of the architect's work, how can it be the result? If form does not exist, how then is architecture the slow unfolding of time's form? In short, what is form and how does one teach it?

These apparent contradictions derive in part from two alternative readings of the word "form," one artistic or poetic, the other philosophical. Mies was referring, not to a shape or figural notion of form, but, to an abstract, non-visual, Platonic notion of form.

The Platonic notion of form refers to an abstract order or arrangement of those elements or substances that constitute the real, objective world. It is neither figure nor shape, image nor concept. It derives, not from the free creations of the mind, but, from that which is objectively accessible to the intellectual operations of the mind, the underlying abstract structures of moral and physical reality.

This is a key consideration in understanding, not just Plato's, but the Greek mentality of his time. There is always a firm connection between abstract form and an objective reality in classical Greek thought. For example, Adrian Stokes pointed out that "Pater, in *The Renaissance*, described the classical world of art a that in which the thought does not outstrip or lie beyond its sensible embodiment."¹² The Greeks' conviction was that the external world, natural or artificial, was a separate, legiti-

mate reality embodying form, which was reality's own means to the abstract, and, conversely, that abstract thought had to have its embodiment in reality. To quote Eric Havlock,

"Plato inherited from his predecessors an underlying conviction that as we experience physical phenomena we are somehow in contact with a world, an order, a system which exists outside ourselves and independent of our knowledge of it ... it was fundamental to the Greek genius ... that the external world not be taken lightly or dismissed as non-existent. What was required was that its structure and logic be appreciated. This structure for Plato as for most Greek thinkers was itself abstract... an object of intelligence, not of intuition."¹³

Thus, a Platonic form has an immutability or constancy but, while essentially unaffected by human action, is nevertheless accessible through human action. It is remarkable how Mies' phrase, "We refuse to recognize problems of form, but only problems of building," echoes the realism of the Greeks.¹⁴

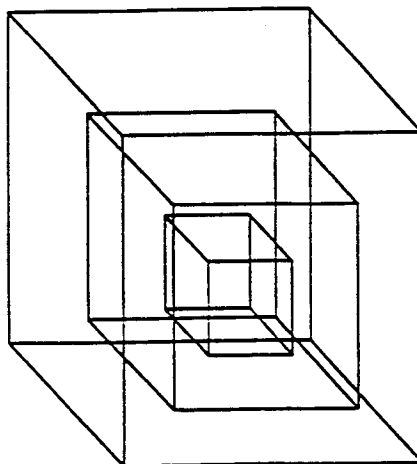
Form and Development

Simmel had a like conviction about the relation of the real and the abstract.

"Forms, then, are not merely generalized aspects of 'observed' reality and must not be mistaken for general, inductive concepts — notwithstanding their relation to reality. Far from merely mirroring reality, they make it intelligible to us."¹⁵

As Neumeyer has suggested, Mies' thinking about culture was influenced by Simmel for whom form was a central issue.¹⁶ For Simmel, artistic, scientific and metaphysical form is a result of, a crystallization of, experience. The metaphor of crystallization seemed to pervade architectural thinking in early 20th century Germany. And as Harrington has pointed out, Mies was long interested in, and studied, crystal theory.¹⁷

Simmel's crystal notion should be seen as an attempt to fuse two fundamentally contradictory world views, a Platonic (or even Pythagorean) world of being with Goethe's Aristotelian world of becoming. But the crystal idea



1 Emergence. Objectively, the boxes are transparent. Knowledge enfolds purpose which enfolds consciousness. Subjectively, the boxes are opaque. Development is the reverse, i.e. inside out: experience with form pulls the individual through consciousness and purpose to knowledge.

precedes 19th century German speculation: cosmologies regarding the earth as part of a series of concentric and interrelated crystal spheres go back centuries. On the other hand, no German thinker of Simmel's time could escape coming to terms with Goethe's developmental organicism, *naturphilosophie*, whose powerful, if not deleterious, effect on German science is discussed in Gillispie.¹⁸ "The essence of [Simmel's central metaphysical idea] is that the concept of life includes both open flux and closed crystallization."¹⁹ As he said,

"Objects of art, knowledge, or metaphysics ... are, as it were, experience crystallized. They come into being and what they are by virtue of the forming power of experience and hence of life."²⁰

Simmel's philosophy regards form and experience as two dynamically interacting elements. While Simmel undoubtedly accepts forms as the mechanisms by which reality is knowable, it is clear that, for Simmel, knowability is not independent of human experience. While form's impact is to make objective reality intelligible, the impact is possible only if the experiencing subject has the capacity to absorb form's impact.

1. *The impact of form* To know a form, it is necessary to be conscious of its existence. And consciousness presupposes a subject's

experience of material reality and grasping of its content. Material reality provides mental content for the subject.

"... by being grasped, contents are given form. Speaking of contents, Simmel asserts that "the mere sum ... [of] disconnected ... elements is mere material." Form, therefore, can best be recognized by the task it performs. First, form relates a number of contents to each other in a way that they constitute a unity Second as a number of contents are given form, they are separated from other contents. Third, but not as an operation that is distinct from the others, form imparts a structure to the contents it relates."²¹

Form is in the background here, acting as a kind of *deus ex machina* in performing its task of unifying, differentiating and structuring reality as well as engaging the subject in its structure.

"In short, what we call form is, from the point of view of the function it exercises, the unification of material: it overcomes the isolated separateness of its parts. The totality, as a unity which is made up of these parts or imposed upon them, is now placed in opposition to other material, either unformed or differently formed."²²

Though abstract and objective, form is embodied in the world that is experienced and confers order or structure and intelligibility on it.²³ But the subject has a part to play in the emergence of form. The emergence of form, from an undifferentiated material reality, is not an independent or predetermined result. It is conditional: it relies on the conjunction of a certain material reality with the capacity of the subject to understand the inherent form of that reality. A subject does not just automatically cause form to emerge.

2. *The capacity of experience* Simmel proposed a three stage natural history, or developmental progression, of experience that appears to be the basis for Mies' curriculum. The first consists of a kind of non-conscious experience-as-such, where the experiencing subject cannot differentiate that which is experienced from its effects on the subject. The second consists of purposeful experience, where the experiencing subject regards the objective world as means for the subject's purposes or ends. The third involves the

experiencing subject in the objective world where form becomes the end, and the subject, in essence, the means. We progress towards our own self-realization as our relation to reality changes during these three stages.

The first stage is one wherein, as subjects in relation to objective reality, we are not able to differentiate subject from object and, consequently, are not conscious of experiencing objective content. This is just non-conscious experience, or what Simmel calls the *Erleben* stage. At this stage, the materials of reality have no cognitive unity, identity, function or structure of their own but exist simply as subjective satisfactions or frustrations. The *Erleben* stage is essentially pre-conscious life, typical not just of infants, but of anyone embarking on knowledge. There may be knowledge to act, but it is not knowledge of which the actor is conscious.

The second stage results from the subject's conscious awareness that the contents of objective reality can be instruments manipulated for personal, subjective and pragmatic ends. As they are given such purposes, contents become differentiated and objectified. Because it is characterized by purpose or function, particularly within the context of an individual career (i.e. path of life), this is called the teleological stage. "... all experience can be understood in terms of the goals set by the process of life itself and the means devised to achieve them."²⁴ In this stage, the subject has an understanding of the instrumental purposes of the objective elements of reality but not their formal properties.

In the third stage, the subject turns from the goals that have been set by the needs of living a life to a state free of these demands. This turning depends on two simultaneous conditions. One is "the human ability to act for something other than the ends of life itself," — other than for personal, subjective purposes.²⁵ The second is the availability or presence of objects characterized by knowable form. At some point, which cannot be specified in advance, an object's formal character appears as its instrumental purpose declines in importance.

If this emergence of objective knowability coincides with the subject's own turning from

a strictly teleological basis then, what Simmel calls the free or, the third stage has been reached. "... At first men know in order to live; but then there are men who live in order to know."²⁶ In this stage, the subject comes to grips with reality's abstract structures, forms and masters them intellectually and creatively in order to reproduce them in material reality. But for any subject, this free stage is not necessarily always reached. And every form may not emerge as knowable.

3. *The emergence of creativity* According to Simmel, at the highest use of their faculties, human beings transform their relationship to what is culturally given or provided in relation to their life work or purposes. In the early phases of development, individuals employ these culturally provided instruments to serve their own purposes. Eventually some individuals may realize these instruments are more than a means to an end, but the ends themselves, and they become the objects of a life's work.

"And so for all the areas of culture, there are moments in the lives of individuals when the nature of the action is determined, not by the needs of the individual, but the requirements of a form."²⁷

When action is determined by the requirements of a form, a twofold task results.

"First, action for the sake of a form requires that the form itself be refined The artist, scientist, or metaphysician must purify the formal principles with which he produces the objects of his field Second, the realm of contents formed in a particular way must be enlarged those ... who make a form the end of their action ... contribute ... to the already existing store of objects that embody the formal principles relevant to [their] specialty."²⁸

Once the experiencing subject has reached the capacity to understand form, two integral requirements result: one to refine the abstract; the other to produce a material reality embodying the form. But refining does not mean artists, scientists or metaphysicians are to engage in exegesis or interpretation of their work.

"The artist, scientist or metaphysician ... must

refine the mode of experiencing that pertains to his specialty. This does not mean that the artist is called upon to write treatises on the formal principles of art; nor is it the scientist's special task to make explicit the criteria of scientific truth."²⁹

Mies almost never explained his own work. Those around him at Crown Hall reported his saying, "Don't talk. Build." This statement is usually taken to be a simple pragmatic imperative, or an example of his taciturnity, but it would be consistent with Simmel (and with Goethe) and could be a reason that there is such difficulty interpreting Mies' work.³⁰ It reveals the real meaning of *baukunst*. It is not just architecture, nor just "building art," but the very refinement of the principles of building (construction + refinement), and the act itself of building.³¹ Furthermore, when he spoke of what is traditionally called design, Mies would instead use the word, *develop*, implying the opposite of *envelop*, that is, to reveal.

The Curriculum and Form

For Mies, Simmel's philosophy of culture erects a necessary intellectual link allowing him to describe how architects can move developmentally, but conditionally, from materials through function to form. This philosophy of experience enables Mies to address three levels of concern. The first and closest to the emergence of conscious activity, is his medieval, craft concern with the working of materials. The second, which enfolds the first, is a teleological or Aristotelian approach where function and purpose play primary roles. The third is a Platonic envelope wrapping material and function with cultural intelligibility. Once a form emerges it becomes part of culture whose agents have the task of retaining, understanding and reproducing it. Thus the emergence and refinement of form in civilization is bound up with the emergence of the fully developed self. To know form is important at two levels, the personal and the cultural, because as one develops, so does the other.

Emergence is like opening a series of Chinese puzzle boxes, except that we start from the innermost one, materials, which contains us proceeding outward from the subjective to the objective. But the progression to the outermost reality is not a deterministic one. Experience

is the vehicle for the development of the subject; material for the development of form. As a vehicle for the subject, experience itself follows a probable, though not certain, path to form. If appropriate material conditions are present, and if the subject is at the appropriate stage in an individual's natural history or life development, the path of experience may cross that material reality from which a knowable form may emerge.

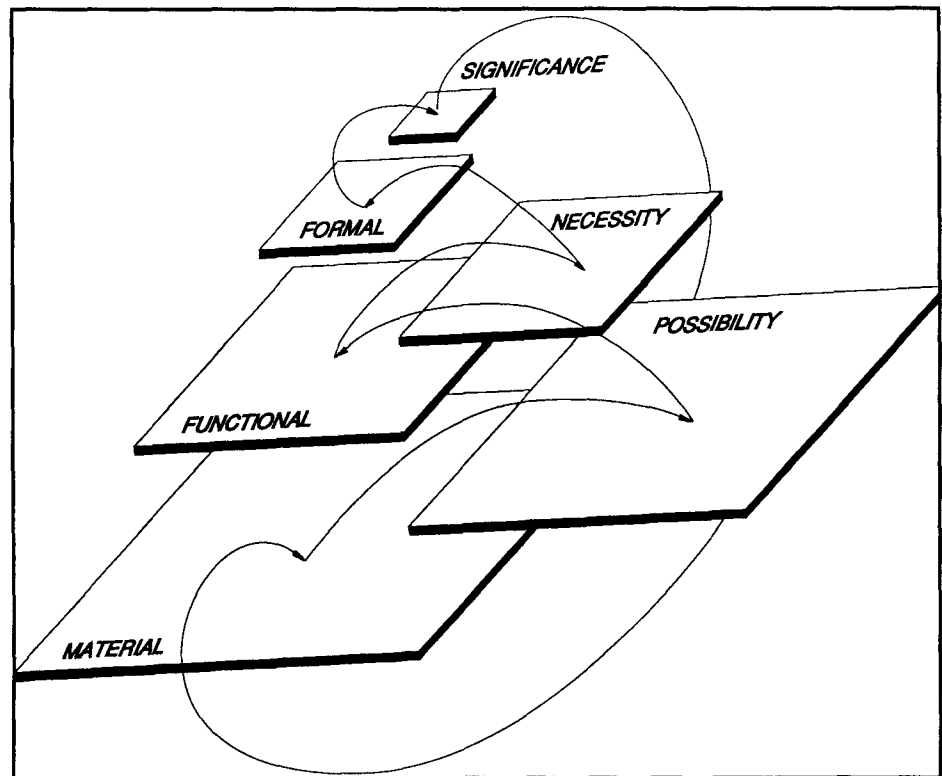
What Mies must have had in mind was a curriculum and a faculty to orchestrate and, as much as possible, ensure this process and, in so doing, replicate and compress this natural history of a subject's experience. The individual, as a student, must go through the same progression of emergence. For example, the learning progression of Mies outlines in his Armour Institute inaugural address seems clearly to derive from Simmel.

"We must make clear, step by step, what things are possible, necessary and significant Therefore let us guide our students over the road of discipline from materials, through function, to creative work."³²

Mies could have said "... from materials, through function, to form," but as he said, "Form is not the aim of our work, but only the result."³³

In materials lies possibility; in function; necessity; and in creative work, significance. The IIT curriculum makes clear the inseparable step by step progression from one to the other. The three stages are important not just in themselves but for the individual capacities they define: first activity that gives rise to consciousness then conscious activity that gains clarity with purpose, and finally purposive activity that yields to creative significance. The curriculum is intended not only to develop each stage but to make transitions from conscious to purposeful activity and from purposeful to creative activity. These transitions involve the following propositions:

- 1) The mere presence of materials constitutes no more than a set of possibilities.
- 2) These materials or content cannot be realized as a unity until human action addresses them.
- 3) Once material has unity and identity,



2 Realities (left side) and the conditions (right side) they yield. The path to significance is depicted as a sequence of planes or levels. The decreasing size of each successive plane in the illustration indicates the diminishing certainty of reaching each successive level. Once significant objects have been created, they become part of the material for another generation.

human action can employ it purposefully to perform tasks. Material possibilities (or what might be) are thus transformed into necessities (or what must be).

4) Finally, what the subject recognizes as an individual necessity can be recognized as an object in itself, a cultural object.

Here, for it to be refined and reproduced, the object's form, its intrinsic, abstract structure, must be first understood. From the point of view of a culture, the Chinese puzzle boxes, with all their hidden insides, must be reproduced.

At IIT, the first courses in this sequence, construction, were 'materials' courses in which students virtually grasped the materials of architecture through a series of disciplined

exercises. The visual training courses, which had a similar purpose, were added later. Following these were the planning courses that addressed functional arrangement. And finally were courses called architecture. As should be well known, the IIT architecture curriculum had no courses called design.

Simmel's philosophy articulates the steps or the process by which the architect develops a capacity to address the question of form.³⁴ In Mies' scheme, the architect cannot transcend the need to come to grips with material and functional issues without failing to learn and grow as a human being. This is why form does not "naturally" grow from function; it is a result of human effort at its highest level of significance. Second, the philosophy gives a rationale for the architect's work and social role: to

leave behind the physical embodiment of the forms that a society uses to develop its culture.

Conclusion: Significance without Design

Form-making, however interpreted, is the *sine qua non* of architecture. The IIT curriculum sought consciously to integrate, in a strictly defined learning progression, the development of form with the development of the individual and a culture. In Mies' absence this unity, which enlivened the program and took it beyond a mere professional/technical approach during his time, seems to have decayed.

Yet could such an approach work today in other contexts? For it to work would require the difficult, but not impossible task of imagining the disciplined learning progression without the characteristic Miesian built result. It would also require understanding that the emergence of consciousness is a crucial first step that demands great care in selecting the materials involved in its orchestration. Beyond purpose, it would require an attitude toward the significant that accepted its creation as a process of natural selection. It cannot be forced.

Today's world has given architects — and many have sought it — a different point of view. Indeed, the tools of form-making, as regarded by Mies, may no longer be necessary or even interesting. One recent longitudinal study showed that, among architecture students since the 1970s, "literary" interests appear to have increasingly displaced "scientific" and "mechanical" interests and were firmly in second place behind "aesthetic" interests.³⁵ In many programs, form interpretation, a more literary pursuit under whatever guise — semiotics, deconstructivism — seems to be the norm, making design the logical inversion of interpretation.

Of special importance in the IIT scheme is the absence of design courses. The construction and architecture courses were not just other names for design; there were fundamental differences. Coming to terms with Mies' educational philosophy means reevaluating the notion of design and the status of experience in the education of the architect. For Mies, design merely represents, and is there-

fore only a possible world, whereas buildings constitute the actual world. With this in mind, three questions arise. Can one know what is possible without firmly grasping the material content of the actual world? Can one clarify what is actually necessary in the absence of purpose? Can one create the significant without the freedom that comes from knowledge?

NOTES

- 1 Robert Venturi, *Complexity and Contradiction in Architecture* (New York: The Museum of Modern Art, 1966). Venturi's notion of complexity, contradiction, ambiguity, incongruity seem to come from Burke and Empson.
- 2 Fran Leonicchia, *Criticism and Social Change* (Chicago: The University of Chicago Press, 1983), p. 55.
- 3 Gerald McSheffrey, "Mies's greatest bequest," *Architectural Education* 3 (1983), p. 108.
- 4 E. V. Walter, "Simmel's Sociology of Power: The Architecture of Politics," in Kurt H. Wolff (ed.), *Essays on Sociology, Philosophy and Aesthetics* (Columbus: Ohio State University Press, 1959), p. 152.
- 5 Georg Simmel, *Philosophische Kultur* (Leipzig: W. Klinhardt, 1911).
- 6 Georg Simmel, "The Ruin" in Wolff, op. cit., p. 261.
- 7 Martin Filler, "Building and Nothingness," *The New York Review of Books* (V. 33, N. 10, June 12, 1986), p. 26.
- 8 Ulrich Conrads, *Programs and manifestoes on 20th century architecture* (Cambridge, Mass.: MIT Press, 1970), p. 102.
- 9 Ludwig Mies van der Rohe, "19 pages of an unpublished lecture manuscript of an address (event and date unknown) Mies gave in German in Chicago," *Domus* (No. 674, August, 1986).
- 10 Ludwig Hilberseimer, *Contemporary Architecture: Its Roots and Trends* (Chicago: Paul Theobald and Company, 1964), p. 129.
- 11 Kevin Harrington, "Order, Space, Proportion — Mies' Curriculum at IIT," in Rolf Achilles, Kevin Harrington and Charlotte Myhrum (eds.), *Mies van der Rohe: Architect as Educator* (Chicago: Mies van der Rohe Centennial Project, Illinois Institute of Technology, 1986), p. 56.
- 12 Adrian Stokes, "Greek Culture and the Ego," in Lawrence Gowing (ed.), *The Critical Writings of Adrian Stokes*, Volume III (London: Thames and Hudson, 1978), p. 101.
- 13 Eric Havelock, *Preface to Plato* (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1963), p. 264.
- 14 Hilberseimer, op. cit., p. 129.
- 15 F. H. Tenbruck, "Formal Sociology," in Wolff, op. cit., p. 79.
- 16 Fritz Neumeyer, "Mies as Self-Educator," in Achilles et al, op. cit., p. 27.
- 17 Harrington, op. cit., p. 56. See Wolfgang Peht, "Wall and Crystal: Mies van der Rohe and German Expressionism," *Inland Architect* (March/April 1986, Vol. 30, No. 2), p. 20. This translation by Franz Schulze and Robert A. Benson discusses the early 20th century German Expressionist fascination with crystal as a unification of physical structure and moral structure.
- 18 Charles Coulston Gillispie, *The Edge of Objectivity* (Princeton: Princeton University Press, 1960), pp. 193-201. A reading of Gillispie's discussion of *naturphilosophie* shows how its tenets could have influenced Louis Sullivan's functionalism.
- 19 Gertrud Kantorowicz, "Preface to George Simmel's 'Fragment, Posthumous Essays and Publications in His Last Years,'" in Wolff, op. cit., p. 3.
- 20 Rudolph H. Weingartner, "Form and Content in Simmel's Philosophy of Life," in Wolff, op. cit., p. 54.
- 21 Weingartner, op. cit., p. 41.
- 22 Weingartner, op. cit., p. 41.
- 23 Simmel's argument may indeed be seen as attempt to combine Platonic being and Goethe's becoming by incorporating elements of Stoicism. See Gillispie, op. cit., pp. 182-4.
- 24 Weingartner, op. cit. p. 46.
- 25 Weingartner, op. cit. p. 48.
- 26 Weingartner, op. cit. p. 49.
- 27 Weingartner, op. cit. p. 49. It's worth distinguishing a specific form that has emerged as the end of an action from the category of form itself.
- 28 Weingartner, op. cit., p. 50.
- 29 Weingartner, op. cit., p. 49.
- 30 Mies van der Rohe, op. cit., Mies crossed out an addition to the rough manuscript of his talk: Goethe meant this when he said "Artist create, don't talk."
- 31 David Spaeth, "Ludwig Mies van der Rohe: A Biographical Essay," in *Mies Reconsidered: His Career, Legacy, and Disciples* (Chicago: The Art Institute of Chicago in association with Rizzoli International Publications, Inc., 1986), p. 14.
- 32 Alfred Swenson, and Pao-Chi Chang, *Architectural Education at IIT, 1938-1978* (Chicago: Illinois Institute of Technology, 1980), p. 26-7.
- 33 Hilberseimer, op. cit., p. 129. The form follows function progression suggests an analogy with Sullivan's notion and a justification for arguing Mies' was a second Chicago school following the first. But Mies clearly set himself apart from functionalism. He said, "We ... make a practical and satisfying shape, and then fit the functions into it." This quote is in Hugh Dalziel Duncan, *Culture and Democracy* (Totowa, New Jersey: The Bedminster Press, 1965), p. 326. Simmel's (and Mies's) notion of form development is definitely not morphogenetic. If form followed function, it was not as an inevitable consequence of natural evolution or of working through the design process. It came only as a result of reaching and realizing the limits of functional, teleological thinking — through disciplined and committed intellectual mastery.
- 34 In some ways, these ideas of development are similar to the developmental philosophy of Melanie Klein, to Abraham Maslow's theories of self-actualization and to the development of cognitive structures hypothesized by Jean Piaget from his research on children.
- 35 Byron Mikellides, "Some Questions Concerning the Interest Profiles of Prospective Architects," *Journal of Architectural and Planning Research* (Vol. 6, No. 3, Autumn, 1989), p. 246.