



Rudolf Wittkower and Architectural Principles in the Age of Modernism

Author(s): Alina A. Payne

Source: *The Journal of the Society of Architectural Historians*, Vol. 53, No. 3 (Sep., 1994), pp. 322-342

Published by: Society of Architectural Historians

Stable URL: <http://www.jstor.org/stable/990940>

Accessed: 15/10/2009 16:45

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/action/showPublisher?publisherCode=sah>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Society of Architectural Historians is collaborating with JSTOR to digitize, preserve and extend access to *The Journal of the Society of Architectural Historians*.

<http://www.jstor.org>

Rudolf Wittkower and Architectural Principles in the Age of Modernism

ALINA A. PAYNE University of Toronto

To date Rudolf Wittkower's Architectural Principles in the Age of Humanism of 1949 remains a fundamental evaluation of Renaissance architectural aesthetics. Although not unique in having achieved such paradigmatic status within its discipline, its simultaneous impact upon architectural production remains unprecedented. It is precisely the fact that this work captured the imagination of two traditionally distinct groups at a moment in history when exchanges between the two seemed least likely to occur that constitutes the starting point for this inquiry. Based upon an examination of Principles against the Renaissance literature it so categorically supplanted, against its art historical and broader intellectual context, as well as against contemporary architectural theory, the argument presented here proposes a deeper cultural continuity between the discourse of modernist architecture in the 1940s and 1950s and the readings of history that were conceived at the same time. In conclusion it is argued that beyond affording specific insight into the historicity of our constructions of the Renaissance, such a pattern of exchange between history writing and criticism/theory alerts us to the complex symbiosis that existed between these two reflective activities at the very heart of modernism itself.

This article is part of a larger investigation on the exchanges between historical narratives and architectural theory in the formative years of modernism. A version of this paper was read at the 1993 CAA meeting in Seattle. I am most grateful to Mrs. Margot Wittkower who graciously agreed to assist me in my work and answered many of my queries regarding events and issues raised here. I would also like to thank Joseph Connors, who most generously undertook to find answers to my questions related to Rudolf Wittkower's life. Finally, I would like to thank Hans-Karl Lücke and Rebekah Smick, whose comments on an earlier draft were most helpful.

1. Sigfried Giedion, *Space, Time and Architecture* (Cambridge, Mass., 1941), 5. This is a theme that preoccupied Giedion considerably and one he had already expounded on in his doctoral dissertation ("Spätbarocker und romantischer Klassizismus" [Munich, 1922]) for Wölfflin. That his position had not been the norm for art history writing as it constructed itself into an institution was acknowledged by Giedion himself: "Historians quite generally distrust absorption into contemporary ways of thinking and feeling as a menace to their scientific detachment, dignity, and breadth of outlook. . . . The historian must be intimately a part of his own period to know what questions concerning the past are significant to it. . . . But it is his unique and nontransferable task to uncover for his own age its vital interrelationships with the past. . . . To plan we must know what has gone on in the past and feel what is coming in the future. This is not an invitation to prophecy but a demand for a universal outlook upon the world." *Ibid.*, 6–7. On Giedion's polemic with established historical practice, see Spiro Kostof, "Architecture, You and Him: The Mark of

History is not simply the repository of unchanging facts, but a process, a pattern of living and changing attitudes and interpretations. As such it is deeply part of our own natures. To turn backward to a past age is not just to inspect it, to find a pattern which will be the same for all comers. The backward look transforms its object; every spectator at every period—at every moment, indeed—inevitably transforms the past according to his own nature. . . . History cannot be touched without changing it.¹

SO WROTE SIGFRIED GIEDION in 1941. Though intending to make an apology for the engaged reading of history that characterizes his *Space, Time and Architecture*, Giedion nonetheless points to a fundamental condition of history writing, namely to the relationship between past and present in the manufacture of historical narrative. The fact that his deliberate stance exceeds only in degree of self-consciousness that of any historian confronting the amorphous material that constitutes the past is accepted by now as an undisputed truth. The revisionist impetus behind the scholarship of the past two decades testifies to an increasing urgency to distinguish between history as an objective process within which we are located and historicity as a certain way of being aware of this fact.²

Sigfried Giedion, "Daedalus" 105 (1976): 189–203. On the same topic, see two essays in *Sigfried Giedion 1888–1968. Entwurf einer modernen Tradition* (Zurich, Museum für Gestaltung, 1 February–9 April 1989): Sokratis Georgiadis, "Sigfried Giedion und die Krise der kritischen Historiographie," 224–31; and Werner Oechslin, "Fragen zu Sigfried Giedions kunsthistorischen Prämissen," 191–205. For Giedion's intellectual profile, refer to Sokratis Georgiadis, *Sigfried Giedion. Eine Intellektuelle Biographie* (Zurich, 1989).

2. Though by now the literature on the problem of historicity and its impact upon the nature of interpretation is vast and ranges from the conceptual readings of Hayden White to the systematic cataloguing of historians by Heinrich Dilly or the philosophical investigations of Gianni Vattimo, the status of the discussion as a still-active debate is highlighted by a recent (and spirited) exchange published in *New Literary History* 17 (1986): Keith Moxey, "Panofsky's Concept of 'Iconology' and the Problem of Interpretation in the History of Art," 265–74; Arthur Danto, "Commentary," 275–79; David Summers, "Intentions in the History of Art," 305–21; Steven Z. Levine, "Moxey's Moxie and the Summers of '84: Intention and Interpretation in the History of Art—A Commentary," 323–31; David Summers, "David Summers Replies," 333–49. For examples of the synthetic approaches referred to above see Hayden White,

In architectural scholarship, modernism (and following from this, the nineteenth century, an area known to have been particularly affected by modernist orthodoxy) has claimed the lion's share of attention in this process of re- and self-examination. Official accounts such as Giedion's and Pevsner's, overtly proselytizing and deliberately seeking to participate in the then-current theoretical debates called for such a recharting.³ Less attention has been paid to histories of the more distant past effected in the years of high modernism: apparently removed from the crucible of modernist discourse due to their (historical) subject matter they seemed insulated from its issues. The fact that this period coincided with the consolidation of the craft of (art/architecture) history writing into an institution with a positivist orientation and programmatic separation from theory and criticism probably further reinforced such a view. On the occasions when creative exchanges and overlaps between architectural history and theory/criticism have been noted, it has been mainly with reference to the formative period of the discipline and of modernist discourse, which (though not coincidentally) coincided.⁴ For example, the later-nineteenth-century popularity

of Renaissance forms and culture on the Continent has been linked with the debate on *renouveau* in France, and, in Germany, with a nationalist political and cultural program and a drive towards an aesthetization of science and power.⁵

However, now that the architectural history of modernism is being rewritten and its dependence on nineteenth-century aesthetics laid bare, it seems appropriate to recognize that one dimension is missing from this revisionist project, namely the evaluation of the historical narratives modernism produced, or, in other words, of the exchanges between the present and the past that characterized this moment in history. In architecture where—witness Giedion—theory and history are uneasy albeit traditional bedfellows, such an evaluation of their reciprocal relationship should prove particularly welcome. Not only would it provide an opportunity to identify blind spots in our historical corpus but it would also reveal how the historical and theoretical imaginations overlap and thus offer insight into the broader intellectual configuration of modernism itself.

A particularly appropriate case study for such questions constitutes the Wittkower phenomenon. It is probably ironic that his work should not earn such an epithet for his monumental contribution in the area of baroque studies that amounted to a life-long project, but for the consequences of *Architectural Principles in the Age of Humanism* of 1949.⁶ Howard Hibbard voices the consensus when, in his obituary for Wittkower of 1972, he states: "Perhaps his most original single work, it is too well-known and too influential to need comment, save to remind art historians that it has had some influence on other disciplines, including architectural design."⁷ Hibbard thus records that it is Wittkower's

Metahistory (Baltimore and London, 1973); Heinrich Dilly, ed., *Altmeister moderner Kunstgeschichte* (Berlin, 1990); Gianni Vattimo, *The End of Modernity: Nihilism and Hermeneutics in Post-Modern Culture* (Baltimore, 1988). For a summary of the debate as it applies to architectural scholarship, see also Marvin Trachtenberg, "Some Observations on Recent Architectural History," *Art Bulletin* 70 (1988): 240–41. The most recent attempt to review more comprehensively the issue of historicity in architectural scholarship is Elizabeth B. MacDougall, ed., *The Architectural Historian in America* (Washington, D.C., 1990).

3. Nikolaus Pevsner, *Pioneers of the Modern Movement* (London, 1936); and Giedion, *Space, Time* (see n. 1). For a sample of recent scholarship concerned with a rereading of modernism and its key figures, see Demetri Porphyrios, ed., "On the Methodology of Architectural History," *AD* 51 (1981); Richard Pommer and Christian Otto, *Weissenhof 1927 and the Modern Movement* (Chicago and London, 1991); Giorgiadis, *Sigfried Giedion* (see n. 1); Fritz Neumeyer, *The Artless Word: Mies van der Rohe on the Building Art* (Cambridge, Mass., 1991); Francesco Dal Co, *Figures of Architecture and Thought: German Architecture Culture, 1880–1920* (New York, 1990); Marlite Halbertsma, "Nikolaus Pevsner and the End of a Tradition," *Apollo* (February 1993): 107–9. Another aspect of revision is the current expansion of the traditional canon. See in this context the Garland Archives documentation of the careers of such architects as Henri Sauvage and Richard Schindler and the current interest in the work of Otto Wagner that led to revisions of inherited modernist definitions and criteria. Particularly relevant are Harry Francis Mallgrave, ed., *Otto Wagner: Reflections on the Raiment of Modernity* (Santa Monica, 1993); and Otto Wagner, *Modern Architecture*, trans. Harry Francis Mallgrave (Santa Monica, 1988).

4. On the centrality of history to modernist thought and on the rise of historical disciplines in this period, see for example Vattimo, *The End of Modernity* (see n. 2), 1–13. For investigations of key turn-of-the-century figures (especially art historians) see for example the work focused on Warburg, Riegl et al., Henri Zerner, "Alois Riegl," *Daedalus* 105 (1976): 177–88; Willibald Sauerländer, "Alois Riegl und die Entstehung der autonomen Kunstgeschichte," *Fin de Siècle: Zur Literatur und Kunst der Jahrhundertwende* (Frankfurt, 1977); Margaret Iversen, "Style as Structure: Alois Riegl's Historiography," *Art History* 2 (March 1979); idem, *Alois Riegl: Art History and Theory* (Cambridge, Mass., 1993); Michael Podro, *The Critical Historians of Art* (New Haven and London, 1982); Silvia

Ferreti, *Cassirer, Panofsky, Warburg* (New Haven and London, 1989); Joan Goldhammer-Hart, "Heinrich Wölfflin, an Intellectual Biography" (Ph.D. diss., University of California Berkeley, 1981). Though Erwin Panofsky is of another generation, the investigation of his work (published to date) has also focused on the early writings. See especially Michael Ann Holly, *Panofsky and the Foundation of Art History* (Ithaca, 1984).

5. The intellectual context for Renaissance studies is examined in August Buck, ed., *Renaissance und Renaissancismus von Jakob Burckhardt bis Thomas Mann* (Tübingen, 1990). The French context is discussed by Christopher Mead, *Charles Garnier's Paris Opéra: Architectural Empathy and the Renaissance of French Classicism* (Cambridge, Mass., 1991). On the use of the Renaissance by Burckhardt and his contemporaries as a cultural model for *fin-de-siècle* Germany and the nationalist subtext implicit in this rejection of French decadence aesthetics, see Patricia Bermann, "The Renaissance Paradigm in German Modernist Culture," *Abstracts College Art Association 1992* (Chicago, 1992). For a discussion of the Burckhardtian Florentine model for the reconciliation of power and beauty and the contemporary call for a harmonious culture, see Dal Co, *Figures of Architecture* (see n. 3), 171–82.

6. Rudolf Wittkower, *Architectural Principles in the Age of Humanism* (London, 1949), hereafter cited as *Principles*. Unless different from the first edition, subsequent references in this article are to the Norton edition (New York, 1971).

7. Howard Hibbard, obituary for Rudolf Wittkower, *Burlington Magazine* 114 (March 1972): 175. This view is reiterated by James S. Ackerman, who describes Wittkower's book as having "sold more copies than any uncompromisingly scholarly study written on architecture since the first

engagement with the Renaissance that lays claim to exemplary originality, an originality that he attributes to Wittkower's having "radically changed our conception of what happened in Italian architecture from the fifteenth to the seventeenth centuries."⁸ That this should be so is noteworthy in itself. Although from the later twenties onwards new scholarship could be expected to produce greater impact in the study of the baroque, a relatively new area for serious consideration, it is in scholarship on the Renaissance, a distinguished and established field for over a century, that it occurred. However, what the impact noted by Hibbard measures is *change*: a new way of looking at architecture had relegated an old one into obsolescence; in short, one paradigm had succeeded another.

It is this categorical position it assumed that makes Wittkower's text particularly appropriate for our inquiry. In the first place *Principles* offers the opportunity to examine a paradigm in its formation, one that is additionally significant because it is still at work in, and central to, our conception of Renaissance architecture. Not only is *Principles* the only available (and unchallenged) comprehensive study of Renaissance architectural aesthetics, but it is still in many instances the standard classroom textbook on the subject. The fact that it requires no comment—and Hibbard's words still reflect the consensus twenty years later—reveals its transparency to current thinking that is due to its continuing presence within our discourse, submerged and unnoticeable because identical with it.⁹

century before Christ." James S. Ackerman, "Rudolf Wittkower's Influence on the History of Architecture," *Source* 8/9 (1989): 87–90.

8. Hibbard, obituary, 175.

9. My main concern is with Wittkower's characterization of the Renaissance, with the "principles" as such; his almost unprecedented attempt in architectural history at the time to explicate architectural production through a reading of theory, his concern with textual (and documentary) sources, with the relationship between architecture and society, all of which had fundamental implications for architectural history as a discipline, is not at issue here. For a discussion of these aspects of Wittkower's contribution, see Henry Millon, "Rudolf Wittkower, *Architectural Principles in the Age of Humanism: Its Influence on the Development and Interpretation of Modern Architecture*," *JSAH* 31 (1972): 83–91.

On Wittkower's seminal role for Renaissance scholarship see citations in the standard texts on Renaissance architecture such as Ludwig H. Heydenreich and Wolfgang Lotz, *Architecture in Italy 1400–1600* (Harmondsworth, 1974): 392 n. 1. In their respective overviews of the field both Trachtenberg and Summers discuss the centrality of Wittkower's (as yet unrivaled) contribution to Renaissance studies. Moreover, Summers sets up his own argument for an optical primacy in Renaissance aesthetics against the traditional (and hence established) view that he traces to Wittkower. Trachtenberg, "Observations" (see n. 2), 236. David Summers, *The Judgement of Sense* (Cambridge, 1987), 28–31. On Wittkower's seminal impact on American scholarship, see also Tod Marder, "Renaissance and Baroque Architectural History in the United States," in MacDougall ed., *The Architectural Historian* (see n. 2), 161–76. For an example of the continuous presence of Wittkower's paradigm as a starting point for scholarly work (even when it challenges his empirical results), see Deborah Howard and Malcolm Longair, "Harmonic Proportion and Palladio's 'Quattro Libri,'" *JSAH* 51 (1982): 116–43; Branko Mitrovic,

Yet this formulation assumed the role of paradigm within a very specific historical configuration that makes it relevant to consider Wittkower not only in relation to Gombrich, Panofsky, or Krautheimer, but especially in relation to Giedion and Pevsner, that is against the context of a formulation of a modern theory of architecture after several decades of conflict and debate.¹⁰ Placing the paradigm in such a historical perspective should therefore reveal the nature (or historicity) of our own (still-current) conception of the Renaissance.

It could be argued that Wittkower's interpretation based on solid factual foundations was successful because it responded to the scientific and objective agenda of art history in ascendance at the time.¹¹ The second reason this work deserves special attention, however, dismisses such an answer as an oversimplification. A decidedly scholarly piece and seminal for the Renaissance corpus, it also influenced contemporary architectural criticism and design. That Wittkower inscribed his work in a conception of history writing that did not attempt to affect current architecture—that in fact was antithetical to Giedion's—and that he was surprised at this sequel is well known.¹² Yet, the fact remains and requires explanation. And such an explanation seems particularly

"Palladio's Theory of Proportion and the Second Book of the 'Quattro Libri dell' Architettura,'" *JSAH* 59 (1990): 279–92; and George Hersey and Richard Friedman, *Possible Palladian Villas (Plus Some Instructively Impossible Ones)* (Cambridge, Mass., 1992). For a more general application of Wittkower's reading, see William J. Mitchell, *The Logic of Architecture* (Cambridge, Mass., 1990). For Wittkower's impact on both the history and theory of architecture see also Decio Gioseffi, "Palladio oggi: dal Wittkower al post-moderno" *Annali di architettura* 1 (1989): 105–21. Noteworthy for a challenge to some aspects of Wittkower's linear thesis is Manfred Tafuri, *La ricerca del rinascimento* (Turin, 1992), 3–32.

When Wittkower's thesis has been questioned it has been mainly as it applies to reconstructions of specific buildings. See, for instance, the new interpretation of the centrally planned church offered by Paul Davies, "The Madonna delle Carceri in Prato," *Architectural History* 36 (1993): 1–18; and the proposals for Alberti's San Sebastiano and Sant' Andrea by Howard Saalman, "Alberti's San Sebastiano in Mantua," in *Renaissance Studies in Honor of Craig Hugh Smyth*, ed. Andrew Morrrough et al. (Florence, 1985), 645–52; and Howard Saalman, Livio Volpi Ghirardini, and Anthony Law, "Recent Excavations Under the *Ombrellone* of Sant' Andrea in Mantua: Preliminary Report," *JSAH* 51 (1992): 357–76.

10. The intellectual formation of the three historians coincided in time. Giedion wrote his doctoral dissertation for Wölfflin at Munich in 1922, Wittkower completed his doctoral work for Adolf Goldschmidt at Berlin in 1923, and Pevsner received his doctorate in Leipzig from Wilhelm Pinder in 1924.

11. On the climate at the time and the reception of Wölfflin in North America, see Christine McCorkel, "'Sense and Sensibility' An Epistemological Approach to the Philosophy of Art History," *Journal of Aesthetics and Art Criticism* 34 (1974): 35–50.

12. Wittkower's reaction to this reception was most recently referred to by Trachtenberg, "Observations" (see n. 2), 239. Mrs. Margot Wittkower told me (telephone conversation 31 March 1994) that originally Fritz Saxl wanted to print three hundred copies and that it was at her insistence (based on her conviction that the architects would buy the book) that the figure was raised to five hundred (the original run). It seems that even after the first edition sold out Wittkower thought that Tiranti's subsequent run of fifteen hundred was too optimistic.

called for not only because this interaction with architectural practice in the early fifties alerts us to the presence of exchanges between historical scholarship and criticism within modernism itself, but also because it promises insight into the complex structure of architectural discourse at a moment when uncertainty in the tenets of modernism was beginning to give rise to its critique.¹³

Wittkower's paradigm

Architectural Principles in the Age of Humanism constitutes an explicit attempt on Wittkower's part to access the core of Renaissance architecture. Although developed from three articles on Alberti and Palladio respectively, the book aspires to broader conclusions.¹⁴ Wittkower's agenda is twofold: not only does he set out to identify the theory of architecture in the Renaissance, but he frames this attempt as a direct response (and rebuttal) to formalist strategies that customarily present Renaissance architecture as a matter of pure form. His footnotes to this statement clarify the aim of the attack: both Ruskin's *Stones of Venice* and Geoffrey Scott's *The Architecture of Humanism*, though antithetical to each other with respect to an appreciation of the Renaissance, are his foils. Specifically, Wittkower takes issue with that which they share: a hedonist interpretation of architecture that privileges the sensuous aesthetic reception by the viewer and projects it back upon the architect's intention.¹⁵ Instead, in a strategic move that

13. On the 1950s as marking the beginning of the critique of modernism for architecture, see Manfredo Tafuri, *History of Italian Architecture, 1944–1985* (Cambridge, Mass., 1989), 44–96.

14. "In order to avoid misunderstandings I should like to stress that this study is neither a history of Renaissance architecture nor does it contain monographic treatments of Alberti and Palladio. I am discussing the works of these architects only so far as they are relevant to my main topic, the illumination of architectural principles at the time of the Renaissance." Wittkower, introduction to *Principles* (see n. 6), n.p. The book is made up of the three articles on Alberti and Palladio that Wittkower had published in the early forties. Rudolf Wittkower, "Alberti's Approach to Antiquity in Architecture," *Journal of the Warburg and Courtauld Institutes* 4 (1940–41): 1–18; idem, "Principles of Palladio's Architecture," *Journal of the Warburg and Courtauld Institutes* 7 (1944), pt.1:102–22; 8 (1945), pt.2:68–106. The differences between the articles and the book are minute. The most significant change is the inclusion of chapter one, "The centrally planned church in the Renaissance," which was not part of the earlier Alberti article; the section on Palladio's optical and psychological concepts discernable in Il Redentore is also new. Mrs. Margot Wittkower told me that Wittkower had conceived of the book project from the beginning and that the articles were records of his work in progress.

15. Wittkower's selection of quotes from both authors is revealing of his attempt to situate his own argument. From Ruskin: "Pagan in its origin, proud and unholy in its revival, paralysed in its old age . . . an architecture invented as it seems, to make plagiarists of its architects, slaves of its workmen, and *sybarites of its inhabitants*; an architecture in which intellect is idle, invention impossible, but in which *all luxury is gratified* and all insolence fortified." From Scott: "The Renaissance style . . . is an architecture of taste, seeking no logic, consistency, or justification beyond that of giving pleasure" [my emphasis]. Wittkower, *Principles*, 1. With reference to his intentions, Wittkower states: "Sir Kenneth Clark wrote in the *Architectural Review* that the first result of this book was 'to dispose,

draws both on Panofsky's studies in signification and Goldschmidt's art historical *Sachlichkeit*, Wittkower posits a conscious intellect-driven will to form aimed at conveying meaning, and hence, aimed at the mind rather than the senses.¹⁶

In order to support this hypothesis, Wittkower focuses the investigation on four issues that he considers essential: symbolism, appropriation of forms, development of characteristic building types (the latter two subsumed under the heading of "the question of tradition"), and commensuration. In spite of this reduction and the concentration on Alberti and Palladio as representative for the period as a whole, the study nonetheless promises a comprehensive survey. Yet, although these issues appear to be distinct and seem to structure the book into four independent chapters, each chapter offers a further reduction to a few recurrent themes that imperceptibly lead to a synthesis. Alongside meaning and creative ("free and subjective") transformation of models, the central and most compellingly presented theme is that of the unity between art and science (mathematics).¹⁷ Explicitly stated it is the exclusive domain of the last chapter on harmonic proportions. Yet, by Wittkower's own admission, it runs like a red thread throughout the book and determines the direction along which the discussion principally unfolds.¹⁸ For example, in Part I, the discussion of the church plan is singled out as most significant for an understanding of a Renaissance conception of meaning in architecture, and offers Wittkower the opportunity to show a relationship between symbolism and geometry. The centralized plan, based on the circle and square, and developed from the Vitruvian *homo ad circulum* and *ad quadratum*, emerges both as a Renaissance ideal and as its "symbolic form." As "visible materialization of the intelligible mathematical symbols," it reveals the (Neoplatonic) Renaissance conception of a geometrical intersection between microcosm and macrocosm.¹⁹ In order to contextualize his interpretation, Witt-

once and for all of the hedonist or purely aesthetic, theory of Renaissance architecture, and this defines my intention in a nutshell.'" Introduction to *Principles*, n.p. For this comment, see Clark, "Humanism and Architecture," *Architectural Review* 107 (February 1951): 65–69.

16. On Goldschmidt's contribution to the discipline, see Marie Roosen-Runge-Mollwo, *Adolph Goldschmidt 1863–1944 Lebenserinnerungen* (Berlin, 1989).

17. Wittkower, *Principles*, 89 and 56 (with reference to Palladio and to Alberti respectively).

18. "The third problem that occupied Renaissance architects unceasingly was that of proportion. It turns up on many pages of this book and is discussed systematically in Part IV." Wittkower, introduction to *Principles*, n.p.

19. Wittkower, *Principles*, 29; Wittkower sees this Vitruvian concept embedded in a metaphysical context, *Principles*, 15. "We have an epitome of what Renaissance church builders endeavoured to achieve: for them the centrally planned church was the man-made echo or image of God's universe and it is this shape which discloses the unity, the infinite essence, the uniformity and the justice of God." On this basis he connects the design of the perfect church with Platonic cosmology and hence Neoplatonism; Wittkower, *Principles*, 23. This issue had already been raised in Panofsky's essay of 1921, "Die Entwicklung der Proportions-

kower points to contemporary philosophy, particularly to Cusanus's geometrical definition of God that he adopts from Cassirer.²⁰ He can thus conclude:

Architecture was regarded by them [Renaissance artists] as a mathematical science which worked with spatial units. . . . For the men of the Renaissance, this architecture with its strict geometry, the equipoise of its harmonic order, its formal serenity and above all, with the sphere and the dome, echoed and at the same time revealed the perfection, omnipotence and goodness of God.²¹

For Wittkower, this concern with geometry permeates all aspects of the Renaissance aesthetics of architecture: Alberti, Bramante, Leonardo, Palladio, all concurred in a mathematical definition of beauty manifested as "logic of the plan," "precision, geometrical economy," "symphonic quality,"²² "lucidity of the geometrical scheme," "evidence of the structural skeleton,"²³ a "crystalline vision of architecture" and "devotion to pure geometry."²⁴ In Wittkower's words, the effect is of a pure, simple, and lucid architecture of elementary forms. Similarly, in Part III, in which Wittkower focuses on Palladio's formulation of new building types from ancient models, and therefore turns to the Renaissance strategy for appropriation, he reaffirms the centrality of the mathematical theme. In the elevations and plans that he examines, Wittkower finds a fundamental Renaissance order that allows disparate ancient forms and quotations to be brought into homogenous wholes. Thus he finds a persistent intention to seek a congruity of parts by way of the Vitruvian *symmetria* encoded both in Palladio's villa plans and his church façades.²⁵ On this

lehre als Abbild der Stilentwicklung," reissued as Erwin Panofsky, "The History of the Theory of Proportions as a Reflection of the History of Styles," in *Meaning in the Visual Arts* (Garden City, N.Y., 1955), 88–89.

20. Wittkower, *Principles*, 27 n. 3.

21. Wittkower, *Principles*, 29.

22. Wittkower, *Principles*, 26 (with reference to Bramante). Wittkower continues: "The plan is, in fact, the supreme example of that organic geometry, that kind of proportionally integrated 'spatial mathematics,' which we have recognized as a driving feature of humanist Renaissance architecture." Ibid. See also his reference to Palladio's architecture: "It is orderly, systematic, and entirely logical." Wittkower, *Principles*, 84.

23. Wittkower, *Principles*, 20 (with reference to Giuliano da Sangallo).

24. Wittkower, *Principles*, 17 (with reference to Leonardo). On Alberti's churches he states: "In such centralized plans the geometrical pattern will appear absolute, immutable, static and entirely lucid." Wittkower, *Principles*, 7.

25. "Once he had found the basic geometric pattern for the problem 'villa,' he adapted it as clearly and as simply as possible to the special requirement of each commission. He reconciled the task at hand with the 'certain truth' of mathematics which is final and unchangeable. The geometrical keynote is, subconsciously rather than consciously, perceptible to everyone who visits Palladio's villas. . . . Yet this grouping and re-grouping of the same pattern was not as simple an operation as it may appear. Palladio took the greatest care in employing harmonic ratios not only inside each single room, but also in the relation of the rooms to each other, and it is this demand for the right ratios which is at the centre of Palladio's conception of architecture" [my emphasis]. Wittkower, *Principles*, 72. On Palladio's elevations: "Moreover, his structures also obey Vitruvius's

basis he can affirm that "Italian architects strove for an easily perceptible ratio between length, height and depth of a building."²⁶ Palladio's stated theoretical views, his planning strategy for the villas and his church elevations are shown to confirm the view that

Like Barbaro [he] regarded as the particular "virtue" inherent in architecture the possibility of materializing in space the "certain truth" of mathematics . . . it may be argued that from Alberti's day onwards architecture was conceived in terms of applied mathematics; but hardly ever before Barbaro was this subject submitted to such closely-knit logical analysis. Palladio's *Quattro Libri*, almost entirely concerned with practical issues, are similarly marked by acuteness, precision, and clear and rational arrangement.²⁷

Such a summing up at the midpoint of the book clearly builds up towards the last chapter where, after having repeatedly pointed to the importance of mathematics for Renaissance architecture, Wittkower can finally state his thesis forcefully and explicitly: "The conviction that architecture is a science and that each part of a building, inside as well as outside, has to be integrated into one and the same system of mathematical ratios, may be called the basic axiom of Renaissance architects."²⁸ With this statement Wittkower opens a discussion specifically devoted to the issue of harmonic proportions in architecture that will justify the strength of this assertion and confirm his previous findings. This chapter (by far the longest) constitutes the real center of gravity of the book, since its main object is to demonstrate the central role of mathematics for Renaissance theory by revealing a relationship that unites architecture and music (as "mathematical science") through an aesthetic of ratios.²⁹ In reviewing architectural texts with reference to the contemporary literature on art, music, and philosophy, Wittkower identifies a will to order in Renaissance architecture that manifests itself as a recurrent concern with systems for proportion and composition. In his narrative, a deliberately sought identity between these systems and musical harmony reveals the latter as the authority behind aesthetic judgements that performs the office of an external, rational, and

all-important postulate of *symmetria*, which is the fixed mathematical ratio of the parts to each other and to the whole." Wittkower, *Principles*, 96. Alberti receives a similar reading. Even when the problem at hand is the evaluation of his attitude to tradition, the emphasis on proportion is still at the heart of the argument: "All the new elements introduced by Alberti in the façade, the columns and the pediment, the attic, and the scrolls, would remain isolated features were it not for that all-pervading harmony which formed the basis and background of his whole theory . . . in fact, a single system of proportion permeates the façade, and the place and size of every single part and detail is fixed and defined by it." Wittkower, *Principles*, 45.

26. Wittkower, *Principles*, 74.

27. Wittkower, *Principles*, 69.

28. Wittkower, *Principles*, 101:

29. "Renaissance artists did not mean to translate music into architecture, but took the consonant intervals of the musical scale as the audible proofs for the beauty of the ratios of the small whole numbers 1:2:3:4." Wittkower, *Principles*, 116.

scientific guarantor for perfection. With such an approach Wittkower not only effectively rationalizes artistic will but he also offers a powerful alternative to the then-current argument in favor of the Golden Section, which he dismisses for leading to irrational, hence incommensurable numbers, alien to an “organic, metrical and rational” Renaissance mind-set.³⁰

Further, Wittkower aims to show that the aesthetic centered on the harmonic ratios that he proposes is not solely the domain of theory but finds its resolution in the practice of architecture itself. In the subsequent demonstration of this thesis Palladio once again takes on the role of the main protagonist.³¹ Educated in the circle of Trissino and Barbaro, a *uomo universale*, Palladio can be either documented or inferred to be familiar with both musical theory and a mathematical conception of aesthetics and thus participate knowledgeably in a discourse that unites architects, mathematicians, and music theorists: Alberti with Ficino and Pacioli; Palladio with Lomazzo, Gafurio, Zarlino, Belli, and especially Francesco Giorgi.³² Beyond contextual evidence, key to this interpretation is Barbaro’s insistence on proportion in his commentary on Vitruvius’s *De architectura*. Palladio’s own description of his architecture in the *Quattro Libri* is then read in this light. The measurements of the individual rooms inscribed on the plans

30. On Wittkower’s polemic on this score, see *Principles*, 108. The tone and thrust of his argument shows the impact of Nobbs’s rebuttal to “proportional astrology” and his emphasis on simple ratios and a dominant (or characteristic) recurring proportion as the source of aesthetic appeal (which Wittkower quotes). Percy E. Nobbs, *Design: A Treatise on the Discovery of Form* (Oxford, 1937), 123–51. A similar argument (though less polemical) and one that Wittkower also uses is made by Louis Hautecoeur, “Les proportions mathématiques et l’architecture,” *Gazette des Beaux Arts* 18 (December 1937): 263–74.

The modern concern with the Golden Section can be traced back to ca. 1815–44. The principal texts that established the parameters of the discussion were J. Helmes, *Archiv der Mathematik*, vol. 4 of 1844; and A. Wiegand, *Der allgemeine goldene Schnitt und sein Zusammenhang mit der harmonischen Theilung* of 1849. Zeising develops the connection between the Golden Section and morphology in his *Neue Lehre von den Proportionen des menschlichen Körpers aus einem bisher unerkannt gebliebenen, die ganze Natur und Kunst durchdringenden morphologischen Grundgesetze entwickelt* (Leipzig, 1854); this view is absorbed into aesthetics by T. Fechner in his *Experimentelle Ästhetik* of 1871. Beginning with August Thiersch, *Handbuch der Architektur* (Darmstadt, 1883), 4: part one, there is a tradition of associating the Golden Section with classical and hence Renaissance architecture. Burckhardt devotes a chapter to it; the argument is picked up and amplified by Wölfflin. From then on the discussion becomes *de rigueur*. Jakob Burckhardt, *Architecture of the Italian Renaissance* (Chicago, 1987), 70–76 [1st ed. Stuttgart, 1867]; Heinrich Wölfflin, *Renaissance and Barock* (Munich, 1907), 48–51 [1st ed. Munich, 1888]. For further bibliography on the Golden Section, see Jay Hambidge, *Dynamic Symmetry* (New Haven, 1920); Wittkower, *Principles*, 162–66; Hermann Graf, *Bibliographie zum Problem der Proportionen* (Speyer, 1958); Paul H. Scholfield, *The Theory of Proportion in Architecture* (Cambridge, 1958); Werner Hahn, *Symmetrie als Entwicklungsprinzip in Natur und Kunst* (Königstein, 1989).

31. “It seems appropriate to inquire how far the harmonic ratios of the Greek musical scale influenced architectural proportions of the Renaissance in theory and practice. Alberti and Palladio are our main sources for an accurate estimate of Renaissance opinion on this subject.” Wittkower, *Principles*, 107.

32. Wittkower, *Principles*, 102–26.

testify to a particular emphasis on numerical relationships that turn out to be harmonic and disclose a sophisticated system for their generation. Wittkower can thus conclude: “The reader, we hope, will agree that Palladio, like Barbaro, firmly believed that proportion contained ‘all the secrets of the art.’”³³

While undoubtedly present, the concern with proportion is given here a categorical preeminence that alerts us to a reductive reading of Palladio’s aesthetics. Palladio’s definition of architectural beauty in Book I of the *Quattro Libri* involves *necessità* and *forma* as critical categories alongside proportion and thus suggests a more complex theoretical position albeit pithily stated. Similarly, the reasons for his deployment of ornamental forms, running a full spectrum from statuary to rustication, must be seen as an integral part of his theory of architecture rather than being attributed to a general manifestation of the mannerist *horror vacui* as Wittkower proposes.³⁴

However, this reading of Palladio’s aesthetics is pivotal for Wittkower because it allows him to demonstrate convincingly a fundamental link between science and architecture in Renaissance theory. Further, the emphasis on ideal numbers also allows him to place architecture, alongside the other arts, inside a common philosophical Neoplatonic discourse—a theme of some prominence in the then-contemporary readings of Renaissance culture by Panofsky, Wind, and Gombrich—and acquires an intellectual dimension for architecture that earlier interpretations had not accorded.³⁵ Interpreted thus, architecture takes a leading role amongst the arts in materializing a *Weltanschauung* rooted in a

33. Wittkower, *Principles*, 140. Barbaro’s statement on the role of number in architecture (“divina è la forza de’ numeri tra se ragione comparati”) allows Wittkower to attribute it also to Palladio; *Principles*, 138. He justifies such a transferral of Barbaro’s vision to Palladio by pointing to their close relationship: “Palladio’s work embodied for Barbaro his own ideal of scientific, mathematical architecture, and it may be supposed that Palladio himself thought in the categories which his patron had so skilfully expounded.” Wittkower, *Principles*, 68. On the relationship between Barbaro and Palladio, see *Principles*, 138–40.

34. On Palladio’s mannerist practices, see Wittkower, *Principles*, 86. These characteristics of mannerism had been partially established by Wittkower himself in his articles on Michelangelo of the 1930s. Rudolf Wittkower, “Zur Peterskuppel Michelangelos,” *Zeitschrift für Kunstgeschichte* 2 (1933): 348–70; and idem, “Michelangelo’s Biblioteca Laurenziana,” *Art Bulletin* 16 (1934): 123–218.

Palladio defines beauty as follows: “La bellezza risulterà dalla *forma* e dalla *corrispondenza del tutto alle parti*, delle parti fra loro, e di quelle all’ tutto: conciosachè gli edifici abbino da parrere uno intero e ben finito corpo, nel quale l’un membro all’altro convenga e tutte le membra siano *necessarie* a quello che si vuol fare” [my emphasis]. Andrea Palladio, *Quattro Libri* (Milan, 1981), 12. With reference to this passage, Wittkower states: “Like most Renaissance artists, Palladio, following Alberti, subscribed to the mathematical definition of beauty.” *Principles*, 20. For a different reading of Palladio’s aesthetics, see Alina Payne, “Between *giudizio* and *auctoritas*: Vitruvius’ *decor* and Its Progeny in Sixteenth Century Italian Architectural Theory” (Ph.D. diss., University of Toronto, 1992), Chapter 8.

35. See, for example, Frankl who under his category “purposive intention” posits a cultural intention but does not go beyond a broadly defined *Zeitgeist*. Paul Frankl, *Principles of Architectural History: The Four Phases of Architectural Style 1420–1900* (Cambridge, Mass., 1968), 156–61. [1st ed. *Die Entwicklungsphasen der neueren Baukunst*, Stuttgart, 1914].

mathematical conception of the universe: science (cosmogony), simultaneously absorbed and transcended, receives visible expression in architectural form. Even spatial configurations take an intellectual rather than experiential significance in this model: the characteristic Renaissance (spherical) domes over (square) crossings become symbols for the universal harmony and geometric configuration of the cosmos as intimated by science.³⁶

Not only does Wittkower bring architecture in line with the Panofskian theories of signification by signaling its debt to Neoplatonic philosophy, but he also participates in the Cassirer-Panofsky dialogue begun in the former's *Erkenntnisproblem* of 1906.³⁷ By confirming their conclusion that the "complete parallel" between the theory of art and the theory of science constitutes the most profound motif of Renaissance culture, he perpetuates their claims.³⁸ At the same time, while Wittkower deliberately inscribes his reading of architecture in a contemporary historical-philosophical dialogue, he also owes it a direct

36. Wittkower's series of articles concerned with symbol and sign in art from the 1930s indicates his sustained interest in the issue. The first part of *Principles* that he adds to the three articles on Alberti and Palladio published earlier, and that deals precisely with the symbolism of centrally planned churches, shows him translating this thinking into his work on architecture. It is true that in one instance Wittkower refers to "intuitive perception" when discussing the viewer's response to Renaissance spatial and plan configurations. *Principles*, 27. Yet by this he does not mean an a-perceptive intuition but an intellectual one: his reference to Gombrich's reading of the Neoplatonic theory of three-fold knowledge where true knowledge is defined as the consequence of a process of intellectual intuition of ideas and essences makes this quite clear. Ernst Gombrich, "Icones Symbolicae: Philosophies of Symbolism and Their Bearing on Art," *Journal of the Warburg and Courtauld Institutes* 2 (1948): 163–92. On these issues, see also Wittkower's indebtedness to a version of the then-current *Symbolbegriff*. Götz Pochat, *Der Symbolbegriff in der deutschen Ästhetik und Kunstwissenschaft* (Cologne, 1983). Relevant to this issue may also be Tod Marder's observation of the possible links between Heinrich von Geymüller's *Architektur und Religion* of 1911 and Wittkower's *Principles*. Marder, "Renaissance and Baroque in the United States" (see n. 9), 173 n. 30. On the conception of architecture as symbol in the formative years of modernism, see also Paul Zucker, "The Paradox of Architectural Theories at the Beginning of the Modern Movement," *JSAH* 10 (1951): 8–14.

37. Ernst Cassirer, *Das Erkenntnisproblem in der Philosophie und Wissenschaft der neueren Zeit*, 2 vols. (Berlin, 1906–8).

38. "It is worth dwelling upon this complete parallel between the theory of art and the theory of science, for it reveals to us one of the most profound motifs in the entire intellectual movement of the Renaissance." Ernst Cassirer, *The Individual and the Cosmos* (Philadelphia, 1963), 159 [1st ed., *Individuum und Kosmos in der Philosophie der Renaissance*, Studien der Bibliothek Warburg 10, (Leipzig, 1927)]. Later on in the text (when responding to Panofsky's *Idea*), Cassirer is even more specific: "For now [in the Renaissance], the mathematical idea, the 'a priori' of proportion and of harmony, constitutes the common principle of empirical reality and of artistic beauty." Cassirer, *The Individual*, 165 n. 65. For Panofsky's development of this issue, see Erwin Panofsky, "Die Perspektive als 'symbolische Form,'" *Vorträge der Bibliothek Warburg* 4 (1924–25) (also Leipzig and Berlin, 1927). Another source for Wittkower was the symposium on fifteenth-century Italian science (with participants such as Baron, Kristeller, Cassirer, and Thorndike et al.) published in *Journal of the History of Ideas* 4 (1943).

debt. Panofsky's "Die Entwicklung der Proportion als Abbild der Stilentwicklung" (The history of the theory of human proportions as a reflection of the history of styles) of 1921, in which he describes the theory of proportions as an empirical science in the Renaissance, provides Wittkower with a critical piece of evidence in the testimony of Francesco Giorgi's commentary on the façade for San Francesco della Vigna presented there for the first time.³⁹ With such appropriations Wittkower draws into the orbit of architectural scholarship current notions elaborated in art history and philosophy that lend his work the additional appeal of a synthesis reflective of the predominant aesthetics and methods of inquiry current at the time.

Beyond this tight relationship between art and science, probably the most significant aspect of Wittkower's thesis about the rudiments of Renaissance architecture is his focus on syntax. A natural extension of his emphasis on proportion and exchanges between art and science, syntax ultimately constitutes the key object of his investigation. Unlike his reading of broad compositional strategies, when he comes to reading the architectural form (or sentence) constructed from the available classical kit of parts (or vocabulary) he dissects it with respect to its structure rather than meaning: the recognition of the significance of placement relationships between component parts and the investigation of the rules that control those relationships is Wittkower's focus and probably his most original contribution.⁴⁰ In thus approaching form, Wittkower looks beyond its immediate physical presence to a primary structure and subordinates all other "principles" to that of an essential and willed, rather than intuitive, order that rests upon a scientific matrix. Ultimately, this explicit link between syntax and science via mathematics allows Wittkower to situate Renaissance formal practices within the objective and rational rather than subjective realm.

Wittkower's emphasis on a scientific Renaissance is further heightened by its obverse: the near absence of a discussion of ornament, of the actual forms put into the (architectural) sentences whose syntactic rules he identifies. The semantic implications of the sentence do not surface: the components themselves remain abstract entities, disembodied, characterized only by number (as dimension) and ratios.⁴¹ There is, to be sure, a facet to

39. Panofsky, "The Theory of Proportion" (see n. 19), 91. Wittkower acknowledges Panofsky's lead in the discussion of the unity of the cosmological and aesthetic aspect of proportion during the Renaissance in *Principles*, 102 n. 2.

40. That Wittkower thinks in terms of syntactical relationships is confirmed by his explicit reference to syntax in his 1959 adaptation of this argument for *Casabella*: "Negli edifici rinascimentali migliori, gli elementi derivati da differenti tradizioni venivano sottoposti alla disciplina di una 'sintassi' coerente" [my emphasis]. Rudolf Wittkower, "L'architettura del Rinascimento e la tradizione classica," *Casabella* 234 (1959): 43–49.

41. This position is already present in embryonic, though explicit, form in Burckhardt's treatment of Renaissance architecture. In his chapter on "Treatment of Form" (subsection "Proportion") he states: "Proportions in their relationship to forms, and the latter to the former, remained the subject of the highest and subtlest artistic efforts. The problem lay in a

Wittkower's argument that concerns forms directly. Primarily contained in chapters two and three, the discussion, however, focuses on the appropriation of plan and elevation configurations, especially of such meaning-laden types as the temple front, the Roman *thermae* hall, the triumphal arch, the forum, and the atrium. Again Wittkower's concern is with forms as generic entities, in this case as quotations and transformations of large typological units, that is with motifs whose component forms—the columns and architraves, friezes and cornices, acroteria and festoons—are treated as abstract entities ordering the larger aggregate. The same abstracting tendency is also at work in his analysis of Alberti's attitude to Antiquity, which he frames as a discussion on his use of the column. In spite of Alberti's definition of the column as "the principal ornament in all architecture," which almost amounts to an invitation to consider his conception of the aesthetic function of ornament, Wittkower concentrates on a reading of his architecture as a drive towards the rationalization of structure.⁴² The discussion aims to reveal Alberti's gradual realization of the implications of Roman wall architecture, his consequent probing of the relationship between column and wall, and finally his demand for a "logical wall-structure."⁴³ For Wittkower the analysis of Alberti's churches (the Palazzo Rucellai with its incised representation of pilasters is not discussed) reveals an intention to avoid "the compromise of joining the column and wall—the compromise of many a Renaissance architect—in favour of a uniform wall architecture."⁴⁴ In Wittkower's presentation not only is Alberti gradually moving away from the column as ornamental motif in spite of its usefulness in giving the façade a "powerful rhythmic accentuation," but he is also concerned with the continuity between interior and exterior "giving evidence [to] the homogeneity of his wall structure."⁴⁵

Notwithstanding this review of Renaissance formal practices then, the issue of ornamental form *as form* remains untouched. To justify such a reduction, Wittkower opens this discussion with a quotation of Alberti's definition of ornament as "a kind of additional brightness or improvement to beauty" and allows the matter to rest there: apparently conceived as a secondary aesthetic device by no lesser an authority than the first and possibly the greatest treatise writer of the Renaissance, ornament did not seem to warrant classification amongst fundamental principles at work

in Renaissance architecture aesthetics.⁴⁶ Thereafter, when considered at all, ornament for Wittkower is a matter of lines that "enhance the lucidity of the geometrical scheme." Even when he brings up Palladio's practice of "introducing figures silhouetted against the sky, figures and festoons as decorations of windows, and masks and keystones in the basement [that] gave his buildings a richer and more genial appearance," he does not take the observation farther to an inquiry into the reasons behind such presences.⁴⁷ Time and again the discussion returns to (perfect-because-they-are-square) plan configurations,⁴⁸ column ratios and rhythms, overall systems governing elevations,⁴⁹ and "orchestrations" of ornamental devices.⁵⁰ When, in the section devoted to Palladio's mannerist years, the discussion does address his approach to the ornament that ultimately makes up his façades into sculptural forms rather than outlines, it is either shown that "political actuality overruled considerations of artistic principle" calling for a narrative ensemble (for example, Loggia del Capitano) or, in the case of the Palazzo Valmarana where "the wall is almost eliminated and the surface is crowded with motifs," little is in fact said other than of Palladio's participation in a "Mannerist style."⁵¹ Palladio's move towards an increasingly sculptural vocabulary that encompasses all tectonic and ornamental components of his buildings is thus almost imperceptible in this discussion where form is primarily read in terms of [out]line and where ornament is either a syntactical or an iconographical device.⁵²

Wittkower thus presents a very convincing and tightly knit argument: the cosmological content and the cultural evidence he adduces, the gradual build up of essential Renaissance forms, his emphasis on geometry, science, on reduction of forms to almost abstract schemata, all converge towards making *commensuratio* the key instrument for conceptualizing form, the "symbolic form"—to borrow a Panofskian formula—for Renaissance architecture.⁵³ In

46. Wittkower, *Principles*, 33. That Alberti conceives of ornament as a principle is attested to by his use of the term *ornamentum*, otherwise not to be found in Vitruvius, who only refers to *ornamenta*. Hans-Karl Lücke, *Alberti Index*, vol. 2 (Munich, 1976): 944–49; Hermann Nohl, *Index Vitruvianus* (Leipzig, 1876): 89.

47. Wittkower, *Principles*, 78.

48. See, for example, the application of the atrium form to palace design. Wittkower, *Principles*, 79.

49. Wittkower, *Principles*, 92.

50. Wittkower, *Principles*, 99.

51. Wittkower, *Principles*, 84–88.

52. "Yet in contrast to Michelangelo's deeply disturbing Mannerism, Palladio's is sober and academic: it is hardly ever concerned with detailed forms; capitals, tabernacles and entablatures retain their classical significance, shape and ratio. It is the interplay of entire classical units that accounts for the Mannerist character of the whole." Wittkower, *Principles*, 93. For a different reading of Palladio's late, sculptural style, see James Ackerman, *Palladio* (Harmondsworth, 1977), 112–13.

53. The concern with proportion—undoubtedly a critical issue in Renaissance aesthetics—also affords other readings. See, for example, Christine Smith's observation that the Renaissance interpreted Cicero's *concinntas* as referring to an analogous sensory effect between words and music (rather than to their common intellectual source in numbers) and that it is this concept of aesthetic pleasure that is taken up by Alberti in his

style in which the real vitality was not in the design of individual forms (even if beautiful in themselves), but in their relationship to the whole." Burckhardt, *Architecture* (see n. 30), 76.

42. Wittkower presents Alberti's double reading of the column as ornament and residual wall (that is, structural member) as an "incongruous statement" and credits him with resolving this dichotomy in favor of a proto-structural rationalism. Wittkower, *Principles*, 34–35.

43. Wittkower, *Principles*, 37 and 47.

44. Wittkower, *Principles*, 47.

45. Wittkower, *Principles*, 56 and 44.

short, effecting a synthesis of various methodological orientations in contemporary scholarship as represented by Goldschmidt, Wölfflin, Cassirer, Panofsky, and Warburg, Wittkower ultimately defines a Renaissance style, constructs a Renaissance intention, and projects a Renaissance viewer who recognizes and abstracts essential form from its manifestation in built matter.⁵⁴

However, not only does Wittkower's argument fit into a current art historical and intellectual context as shaped by Cassirer and Panofsky, among others, but it presents a familiar facture: the reduction of form to syntactic relationships, the geometric grids, the emphasis on structure, on "white" and "cubic" forms, on the causal relationship between art and science (mathematics) and away from an understanding of architectural form as representational, the rejection of ornament from the core of "principles," the presentation of an architect actively shaping theoretical directions, in short all key aspects of Wittkower's construction of the Renaissance, echo the then-current tenets of victorious modernism.⁵⁵ Indeed, Giedion, Pevsner, and Hitchcock, the begetters of this orthodoxy, presented these same themes in their seminal validations for modernism that interpreted, edited, and institutionalized its discourse in the 1930s.⁵⁶ For example Pevsner

seminal statement on the analogy between things seen and heard. See Christine Smith, *Architecture in the Culture of Early Humanism* (Oxford, 1992), 94. For a more general argument on the primacy of the senses (especially of optical perception) for Renaissance aesthetics and his observation that Wittkower's Renaissance may be one of many, see Summers, *The Judgement of Sense* (see n. 9), 28–31.

54. "In analyzing the proportions of a Renaissance building, one has to take the principle of generation into account. It can even be said that, without it, it is impossible fully to understand the intentions of a Renaissance architect. We are touching here on fundamentals of the *style* as a whole; for simple shapes, plain walls and homogeneity of articulation are necessary presuppositions for that polyphony of proportions which the *Renaissance mind* understood and a *Renaissance eye* was able to see" [my emphasis]. Wittkower, *Principles*, 116. In an article of 1953, in which he revisits this argument, Wittkower states it with even greater emphasis: "I think it is not going too far to regard commensurability of measure as the nodal point of Renaissance aesthetics." Rudolf Wittkower, "Systems of Proportion," *Architects' Yearbook* 5 (1953): 16.

55. On this view, witness his description of S. Maria delle Carceri: "Its majestic simplicity, the undisturbed impact of its geometry, the *purity of its whiteness* are designed to evoke in the congregation a consciousness of the presence of God" [my emphasis]. Wittkower, *Principles*, 21.

56. Giedion, *Space, Time* (see n. 1); Pevsner, *Pioneers* (see n. 3); Henry-Russell Hitchcock, *Modern Architecture: Romanticism and Reintegration* (New York, 1929); Henry-Russell Hitchcock and Philip Johnson, *The International Style: Architecture Since 1922* (New York, 1932). For a contemporary testimony of the critical role played by these issues, and especially by science (mathematics) for architectural practice, see Le Corbusier's almost lyrical passage in his *Modulor*: "Mathematics is the majestic structure conceived by man to grant him comprehension of the universe. It holds both the absolute and the infinite, the understandable and the forever elusive. It has walls before which one may pace up and down without result; sometimes there is a door: one opens it—enters—one is in another realm, the realm of the gods, the room which holds the key to the great systems. These doors are the doors of the miracles. Having gone through one, man is no longer the operative force, but rather it is his contact with the universe. In front of him unfolds and spreads out the fabulous fabric of numbers without end. He is in the country of

(who had recently emigrated to London, as had Wittkower) lists explicitly its range of formal characteristics. For him Modern Architecture attempts to access an essential truth through architectural form and in doing so develops a language whose simplicity, clarity, lucidity, sparseness, severity, lightness (whiteness), and its heightened sense of geometry records this higher order.⁵⁷

For Giedion the principal characteristic of historical periods is the predominant space conception manifested in architecture, and it is true that this issue, though present, is secondary to Wittkower's main line of reasoning.⁵⁸ However, the real significance of his argument lies in the fact that in his definition of modernity Giedion allies this neo-Kantian tendency in contemporary thought that had been gaining momentum since Schmarsow's formulation of *Raumgestaltung* with the modernists' drive towards technology and science as paradigms for architecture, an alliance that he not only stresses but that he places in the domain of the inevitable.⁵⁹ For him the modern architectural formulation of a

numbers. He may be a modest man and yet have entered just the same. Let him remain, entranced by so much dazzling light." Le Corbusier, *The Modulor* (London, 1951), 51.

57. For example, see the parallel he draws between modern architecture and modern painting: "Cézanne despised such a superficial approach. The women in his *Bathers* are without any sensuous appeal. They act not on their own but on behalf of an *abstract scheme of construction which is the real subject of the picture*. His aim is to express the lasting qualities of objects; no transitory beauty occupies his mind. . . . By constructing his pictures with cylinder, sphere and cone, *Cézanne strove to paraphrase the eternal laws of Nature*" [my emphasis]. Pevsner, *Pioneers* (see n. 3), 70.

58. The introduction of a discussion of a Renaissance space-conception is in fact the most notable addition Wittkower makes to his original argument as published in his articles of the forties. The characteristics of this Renaissance space are for him its mathematical derivation and quasi-abstraction: "Architecture was regarded by them as a *mathematical science* which worked with spatial units: parts of that universal space for the *scientific* interpretation of which they had discovered the key in the laws of perspective. Thus they were made to believe that they could recreate the universally valid ratios and expose them *pure and absolute*, as close to abstract geometry as possible. And they were convinced that universal harmony could not reveal itself entirely unless it were realized in space through architecture conceived in the service of religion" [my emphasis]. Wittkower, *Principles*, 29.

59. Giedion initiates this science-and-technology-oriented strategy with *Bauen in Frankreich: Eisen, Eisenbeton* of 1928. The tradition of discussing architecture in terms of space goes back to Schmarsow and Ostendorf, but is developed in the 1920s by Herman Soergel, Paul Klopfer, Leo Adler, Fritz Schumacher, Paul Fechter, Otto Schubert, and Hermann Hinselmann. On this issue and on the distinction made between volume and space, see Zucker, "The Paradox" (see n. 36), 11–13. For the aesthetics background to Giedion's space-time conception, see Mitchell W. Schwarzer, "The Emergence of Architectural Space: August Schmarsow's Theory of 'Raumgestaltung,'" *Assemblage* 15 (1991): 50–61. Of specific importance to Giedion was Paul Zucker, "Der Begriff der Zeit in der Architektur," *Repertorium für Kunstwissenschaft* 44 (1923–24): 237–45. Zucker subsequently applies this approach to his reading of history (specifically Renaissance architecture) and characterizes historical periods by the prevalent conceptualization of space. Hans Willich and Paul Zucker, *Baukunst der Renaissance in Italien* (Wildpark and Potsdam, vol. 1, 1914; vol. 2, 1929). Though Giedion draws from Zucker the emphasis on space-time in architecture, his presentation of modern architecture as part of a historical stream on this basis is more directly anticipated by Frey.

space-time continuum is due to a spontaneous synthesis of *Denken* and *Fühlen*, that is to an expression of a new understanding of the cosmos afforded by physics and mathematics that is possible only through the use of modern technology, which, as product of the same spirit, alone allows it to take physical form.⁶⁰ To this end the (scientifically determined and technology based) structural framework of the building and its dialectic with nonstructure (the glass curtain wall) that heightens its presence necessarily become critical for Giedion: as essential and irreducible part of the building, structural members enter visibly into placement relationships that give form to the reality of space and motion as construed by modern science.⁶¹ Architectural narrative or semantics is thus inevitably displaced by syntax from the center of his attention: the “deep structure” that organizes form and corresponds to engineered structure takes precedence in his narrative because it is an instance of *Anschaulichkeit* overlapping with technology; that is, it re-presents, offers to view, the simultaneous physical product and insight offered by science.⁶²

Dagobert Frey, *Gotik und Renaissance als Grundlagen der modernen Weltanschauung* (Augsburg, 1929). For an even earlier attempt to use conceptions of space as historical ordering devices, see Arnold Spengler's *Untergang des Abendlandes* of 1918, to whom Zucker also refers. The perceptual implications in the space-time concept (most visibly exploited by Paul Frankl) is present, though underplayed, by both Giedion and Frey. Giorgiadis sees Zucker as instrumental in Giedion making this shift. On Giedion's debt to Zucker, see Sokratis Giorgiadis, *Sigfried Giedion* (see n. 1), 132.

60. “That there is a remarkable analogy between recent departures in philosophy, physics, literature, art and music is a fact which has been frequently commented on. In the light of the particular case we have just examined [Maillart], it is worth considering whether the field of structural engineering cannot be included as well. *New methods are new tools for the creation of new types of reality*” [my emphasis]. Giedion, *Space, Time* (see n. 1), 384. This strategy also gives him the key to a presentation of the nineteenth century (and simultaneously an opportunity of rescuing it) as a coherent step in the course of history unfolding towards modernity.

61. “Now those forms in concrete which ignore former conventions in design are likewise the product of a *process of resolution into elements* (for the slab is an irreducible element) that uses reconstruction as a means of attaining a more rational synthesis” [my emphasis]. Giedion, *Space, Time* (see n. 1), 383; “Le Corbusier was able—as no one before him had been—to transmute the concrete skeleton developed by the engineer into a means of architectural expression. . . . Borromini had been on the verge of achieving the interpenetration of inner and outer space in some of his late baroque churches. . . . This possibility was latent in the skeleton system of construction, but the skeleton had to be used as Le Corbusier uses it: in the service of a new conception of space.” Giedion, *Space, Time*, 416. Giorgiadis points out that in spite of the rationalist undertone these structural forms are nonetheless construed by Giedion as “symbolic forms.” Giorgiadis, *Sigfried Giedion* (see n. 1), 163.

62. On the formal characteristics that display the artist's formulation of scientific insight, the following list is revealing: “Interrelation, hovering, penetration . . . fundamental elements of pure colour, of planes, their equipoise and interrelation . . . pure interrelationships.” Giedion, *Space, Time*, 360. “[Mathematical physicists and cubists gave architects] the objective means of organizing space in ways that gave form to contemporary feelings.” Giedion, *Space, Time*, 26. In this context Giedion also recognizes a concern with syntax to be critical for modernist aesthetics:

For Giedion this drive towards *Anschaulichkeit*, though ideally spontaneous, is ultimately programmatic, for he promotes a militant modernism that also implies a militant architect, self-conscious about the aesthetic profile of the moment wherein he inscribes his work and about his own place in the march towards progress, neither a passive vehicle for a will to art, nor an unwitting seismograph of the cultural undertow, in short, an architect-theorist to whom Wittkower's Renaissance counterpart stands as a distant, though related, ancestor.

Not only does Giedion promote a new definition of architecture, but the Renaissance plays an important role in this formulation. In a move characteristic of modernist discourse that gives ontological weight to history, Giedion legitimates modernism by embedding it in history and presents the Renaissance as an origin that validates its aspirations.⁶³ Thus Giedion also picks up the Cassirer-Panofsky proposal of a modern and scientific Renaissance and explicitly makes use of this interpretation to promote the modernity he supports.⁶⁴ The synthesis between art and science that characterizes the Renaissance for him and constitutes it into an “*esprit nouveau*” manifests itself both in “the complete union of artist and scientist in the same person” and in the perspectival conception of space, the incipient pattern of a dialectic between structure and infill, between interior and exterior space, all of which validate the impulses within modernism and at the same time reveal it as an epiphany.⁶⁵

Seen in this company, Wittkower's Renaissance, though enriched by the historical apparatus he deploys for its explication, reveals its spiritual kinship with modernist architectural aesthet-

“In a modern work of art it is the relationship between the elements in the composition that are decisive in determining its character. Giedion, *Space, Time*, 21. “The human eye awake to the spectacle of form, line and colour—that is, the whole *grammar of composition*—reacting to one another within an orbit of hovering planes” [my emphasis]. Giedion, *Space, Time*, 382.

That this focus on syntax constitutes a key modernist phenomenon is confirmed by its broader relevance to other areas of artistic production. See, for example, the explicit formulation it receives in the later minimalist work of the sixties. On Michael Fried's seminal discussion of syntax with reference to Tony Caro's sculpture, and on Clement Greenberg's own formulation of the term “relationality” and the consequences for definitions of modernism of both these views, see Rosalind Krauss, “Using Language to Do Business as Usual,” in *Visual Theory*, ed. N. Bryson, M. A. Holly, and K. Moxey (New York, 1991), 79–100.

63. Giedion, *Space, Time* (see n. 1), 30–67. For the origins of this pattern in the exchanges between Burckhardt and Nietzsche, as well as the significant impact of the latter's championing of the Renaissance, see August Buck, “Burckhardt und die italienische Renaissance,” in Buck, *Renaissance und Renaissancismus* (see n. 5), 5–12. Like Giedion and Pevsner, though less polemical, Hitchcock also seeks a historical continuum for modernity. On this aspect of his work, see Helen Searing, “Henry-Russell Hitchcock: The Architectural Historian as Critic and Connoisseur,” in MacDougall, ed., *The Architectural Historian* (see n. 2), 251–63.

64. “Indeed one rarely sees so complete a unity of thinking and feeling as is to be found in the early 15th century. There was not only the important identity of method in these two spheres, but a complete union of artist and scientist in the same person.” Giedion, *Space, Time*, 31.

65. Giedion, *Space, Time*, 30 and 31.

ics. Moreover, it becomes equally clear that his conception of the Renaissance had already been intimated in broad terms and had been processed within the architectural discourse, albeit within the critical literature.

The context for Wittkower's paradigm

Beyond this general kinship with modernism, the nature of Wittkower's paradigm comes into true focus, however, when examined against contemporary Renaissance studies, that is against the work of Wölfflin, Frey, Frankl, Scott, Giovannoni, Willich, and Zucker.⁶⁶ Of foremost importance amongst these is his chosen foil, Geoffrey Scott's *Architecture of Humanism* of 1914.⁶⁷ As such, this text requires a closer reading precisely because Wittkower singles it out and constructs his own argument in opposition to it. For Scott

Renaissance architecture in Italy pursued its course and assumed its various forms rather from an aesthetic, and so to say, internal impulsion than under the dictates of any external agencies. The architecture of the Renaissance is pre-eminently an architecture of Taste. The men of the Renaissance evolved a certain architectural

66. When Wittkower turned to his synthesis in the forties the seminal treatments of the Renaissance that attempted such a reading were still those formulated in the late nineteenth and early twentieth centuries. Such works were: Burckhardt, *Architecture* (see n. 30); Wölfflin, *Renaissance and Baroque* (see n. 30); C. v. Stegmann and H. v. Geymüller, *Die Architektur der Renaissance in Toscana*, 11 vols. (Munich, 1885–1908); Frankl, *Principles* (see n. 35); Willich and Zucker, *Baukunst der Renaissance* (see n. 59); Frey, *Gotik und Renaissance* (see n. 59). Even though these syntheses address architectural aesthetics they are not, strictly speaking, histories of theory as is Wittkower's *Principles*. The majority of these works reflect the current readings of art and architecture as *Stilgeschichte*, *Geistesgeschichte*, and/or *Kulturgeschichte*. The works by Geymüller, and Willich and Zucker, albeit more *sachlich*, fall more readily in the category of *Baugeschichte* than in that of histories of theory. Wittkower's attention to texts as historical documents and as vehicles to the intellectual horizon of the period was groundbreaking. From the 1920s, to Wittkower, scholarship had increased substantially, yet the period had not known of additional proposals for a comprehensive interpretation. For example, notwithstanding its title, Giovannoni's book does not offer a comprehensive picture of Renaissance architecture. Gustavo Giovannoni, *L'architettura del Rinascimento: Saggi*, 2d ed. (Milan, 1935). With the generation coming to maturity in the 1920s—Pevsner, Giedion, Kaufmann, and Wittkower—the pendulum of attention was swinging from synthetic readings that processed the period as a whole based on its formal unity (the classical vocabulary), to readings that privileged the Renaissance's structuring and recognized its diversity. For example, see Sigfried Giedion, "Late Baroque and Romantic Classicism" (Ph.D. diss., Munich, 1922); Nikolaus Pevsner, "Gegenreformation und Mannerismus," *Repertorium für Kunstwissenschaft* 46 (1925): 259–85; Emil Kaufmann, "Die Architekturtheorie der Französischen Klassik und des Klassizismus," *Repertorium für Kunstwissenschaft* 44 (1923–24); Rudolf Wittkower, "Zur Peterskuppel Michelangelo" (see n. 34); and idem, "Michelangelo's Biblioteca Laurenziana" (1934).

67. On the history of the publication and Scott's criticism activity, see David Watkin's introduction to *The Architecture of Humanism*, by Geoffrey Scott (London, 1980), ix–xxix. Subsequent references are from Geoffrey Scott, *The Architecture of Humanism* (Gloucester, Mass., 1965), based on the 2d edition of 1924.

style, because they liked to be surrounded by forms of a certain kind.⁶⁸

In Scott's definition, taste is "the disinterested enthusiasm for architectural form," and stands outside race, politics, societal change, geological facts, and constructional practice.⁶⁹ By focusing the discussion on taste-that-begets-style, Scott aims to reestablish the independence of the aesthetic and develop a critical framework for its evaluation. Ultimately his argument, like Wittkower's, is polemical in nature: beyond the Renaissance and his intended *apologia* for classicism, Scott is concerned with the definition of architecture itself. In line with this goal, before he attempts to define the character of Renaissance forms, Scott reviews contemporary interpretative strategies and finds them fundamentally flawed. They are flawed because they transfer modern definitions of architecture to an evaluation of the past. It is precisely because these modern definitions are themselves flawed—and Scott identifies several fallacies at their root—that the resulting interpretations are unacceptable.⁷⁰ In a lengthy review, the literary, scientific, ethical, and biological models for architecture are dismissed one by one. Instead, for Scott, "architecture is a humanised pattern of the world"; it stirs our physical memory and causes an aesthetic reaction that he defines elsewhere as pleasure.⁷¹ We, the viewer, transcribe ourselves into terms of architecture as it comes into sight and invest it with human movement and human moods. This is the humanism of architecture, he concludes.⁷²

Scott's subsequent reading of Renaissance architecture reflects his apperception-based aesthetics. For example, the traditional debate over the relationship between wall and column is dismissed by him as confused thinking:

In Renaissance architecture, one might say, the wall becomes articulate and expresses its ideal properties through its decoration. . . . The classic orders, when applied decoratively, represented for the Renaissance builders an ideal expression of these qualities, stated as generalities. The fallacy lies with the scientific prejudice which insists on treating them as particular statements of constructive fact wherever they occur.⁷³

Unlike Wittkower, who sees structural rationalism at work in Alberti's buildings, Scott argues against a concern with the

68. Scott, *Architecture of Humanism*, 36.

69. Scott, *Architecture of Humanism*, 28–35.

70. The romantic literary fallacy and the cult for nature and the picturesque, the mechanical fallacy or the cult for scientific logic in construction, the ethical fallacy or the cult for truth and morality, and finally, the biological fallacy, centered on the pattern of growth and decay exhibited by organisms, are systematically defined, examined, and demolished by Scott one by one. Structured into individual chapters, the discussion of the fallacies makes up two-thirds of the book. Scott, *Architecture of Humanism*, 40–141.

71. Scott, *Architecture of Humanism*, 178.

72. Scott, *Architecture of Humanism*, 159.

73. Scott, *Architecture of Humanism*, 92.

coincidence of constructional appearance and fact, and praises the appeal to psychology rather than to abstract logic in the use of the orders. For him the scientific view fails adequately to distinguish between fact and appearance, between feeling and knowing: "The art of architecture studies not structure in itself, but the effects of structure upon the human spirit."⁷⁴ Once Scott vindicates fictive or virtual structure, all the components of the columnar orders—that is the capitals, bases, plinths, and cornices—can be rescued from the incidental and given an essential role in the reception of the building by the viewer:

Thus, for example, the curves of the volutes are recognized as bold or weak, tense or lax, powerful, flowing, and so forth. But we must recognise them as having these qualities by unconscious analogy with our own movements, since it is only in our own bodies that we know the relation of the line—or movement—to the feeling it denotes. . . . The cornices and the other devices tie elements together to force a single impression of mass upon the eye; the orders, the use of rusticated bases and battered plinths speak to our sense of powerfully adjusted weight.⁷⁵

Such a conception of ornament as form is radically opposed to Wittkower's, for whom ornament does not take on a determining role either in the conception or the reception of architecture. Instead, for Scott, it constitutes an essential psychological bridge between object and subject.

Once Scott takes aim at the fallacy that links science and art with his body-centered conception of architecture, his reading of proportion—the other traditional *topos* in discussions of Renaissance architecture—must necessarily follow. As writer and dilettante architect himself, he is particularly sensitive to the architectural object as the end product of an artistic process.⁷⁶ As such Scott recognizes the choices that have to be made in the course of that process and identifies the origin of these choices as the key problem. For him the issue is not the presence of a proportional coherence, which he accepts as essential for architecture because it is essential for nature, but the aesthetic basis for the choice. Thus he turns the discussion to that which lies beyond the use of proportions and in doing so again sets himself poles apart from Wittkower:

The intervals of a vulgar tune are not less mathematical than those of nobler music. . . . It was realised that "proportion" is a form of

74. Scott, *Architecture of Humanism*, 96.

75. Scott, *Architecture of Humanism*, 165. That this conception of ornament is a critical aspect of Scott's discussion is confirmed by Rhys Carpenter, who develops the idea and presents the columnar orders as the imitation "of familiar realities of world sense, . . . an artificial language which communicates architectural emotion." Rhys Carpenter, *The Aesthetic Basis of Greek Art* (London, 1921), 118–19.

76. Scott worked with Cecil Pinsent on renovations for the Villa I Tatti for Bernard Berenson; in fact, *The Architecture of Humanism* is dedicated to Pinsent. On Scott's relationship with Berenson, see Ernest Samuels, *Bernard Berenson: The Making of a Legend* (Cambridge, Mass., 1987), 103 and 126.

mathematics. But it was not realised that the word has a different bearing in the two cases. Our aesthetic taste is partly physical; and, while mathematical "proportion" belongs to the abstract intellect, aesthetic "proportion" is a preference in bodily sensation.⁷⁷

Thus Scott associates numerical order with states of being and with making nature intelligible as an organic system through an act of apperception. For him architecture and science do not interact; architecture does not embody scientific truth, but, privileging vision in the act of comprehension, presents a deeply resonant *metaphor* for order.⁷⁸ Whereas for Wittkower aesthetic judgment devolves from an explicit intellectual intention, for Scott it is ultimately dependent on an intuitive, physically driven will to form.

Wittkower's humanism is therefore not Scott's, and his choice of title when read in light of his polemical stance must be seen to point deliberately to this difference. For Wittkower, humanism is an intellectual configuration based on an appropriation of ancient thought, that is, of Platonic philosophy, Pythagorean mathematics, and Euclidian geometry, at the hands of humanists, that is absorbed by an act of cultural osmosis into architectural theory. For Scott, on the other hand, humanism describes the body-consciousness of Renaissance artistic production, the preeminence of the physical/perceptual moment over the rational/intellectual one.⁷⁹ In the context of their concern with humanism,

77. Scott, *Architecture of Humanism*, 155.

78. "Thus in making the masses, spaces and lines of architecture respond to our ideal stability, a measure of symmetry and balance are constantly entailed. . . . Nature, it is true, is for science an intelligible system. But the groups which the eye, at any one glance, discovers in Nature are not intelligible. . . . Thus Order in Nature bears no relation to our act of vision. It is not humanised. It exists, but it continually eludes us. This Order, which in Nature is hidden and implicit, architecture makes patent to the eye. It supplies the perfect correspondence between the act of vision and the act of comprehension." Scott, *Architecture of Humanism*, 175–76. Compare with Le Corbusier, who in his *Modulor* states: "I agree, he replied to the Professor [mathematician and historian Andreas Speiser, participant at the 1951 Congress on Proportion] nature is ruled by mathematics, and the masterpieces of art are in consonance with nature; they express the laws of nature and themselves proceed from these laws. Consequently they too are governed by mathematics, and the scholar's implacable reasoning and unerring formulae may be applied to art." Le Corbusier, *Modulor* (see n. 56), 29–30. In fact Le Corbusier brought his scale to Einstein at Princeton for verification, and paraphrases his response: "The scientist tells us: 'This weapon shoots straight: in the matter of dimensioning, i.e. of proportions, it makes your task more certain' [my emphasis]." Le Corbusier, *Modulor*, 58.

79. Even if Scott describes forms in terms of their most abstract rather than mimetic components, his reading is apperception-oriented and he sees form arising from body consciousness rather than from an intellectual effort to grasp fundamental and universal laws. This recognition of an overlap between abstraction of form and psychological/physiological reception in architecture goes back to Schmarsow and Wölfflin, and is conceded even by Worringer in acknowledging their work, though he otherwise attempts to identify the two impulses—towards abstraction and towards empathy—as polar opposites (in which he follows a Wölfflinian model). Heinrich Wölfflin, "Prologomena," in *Kleine Schriften*, ed. J. Gantner (Basel, 1946), 13–47; August Schmarsow, *Unser Verhältnis zu den bildenden Künsten* (Leipzig, 1903); Wilhelm Worringer, *Abstraktion und*

both recognize the human analogy as significant for Renaissance theory, and both draw Michelangelo's "Letter to an Unknown Prelate" into their argument as a critical piece of evidence. Yet their handling of the text reveals their fundamental divergence:

Architecture, to communicate the vital values of the spirit, must appear organic like the body. And a greater critic than Vasari, Michel Angelo [*sic*] himself, touched on a truth more profound, it may be, than he realised, when he wrote of architecture: "He that hath not mastered, or doth not master the human figure, and in especial its anatomy, may never comprehend it" (Scott).⁸⁰

Michelangelo, in a letter of about 1560, wrote that "there is no question but that architectural members reflect the members of Man and that those who do not know the human body cannot be good architects" (Wittkower).⁸¹

Wittkower clearly avoids the reference to anatomy in the closing of the sentence that suggests Michelangelo's concern to go beyond placement of members (and hence syntax) and to recognize the physicality of bodies as fundamental to architecture. Thus reduced the passage can then be used as evidence to support a critical aspect of his thesis for a mathematical basis to Renaissance architecture aesthetics.⁸²

Beyond its historical garb, Scott's argument is ultimately structural in nature, since in reviewing Renaissance architecture he attempts to extract principles of general validity referable to form making and form reception and more generally to the nature of being. As he defines it, the aesthetic response elicited by architecture involves "a process of mental self-identification with the apparent physical state of the object and a sympathetic activity of the physical memory."⁸³ With these words Scott explicitly places himself within the empathy (*Einfühlung*) discourse current at the time on the Continent.⁸⁴ Indeed, he openly acknowledges

Einfühlung: Ein Beitrag zur Stilpsychologie (Munich, 1919 [1st ed. 1908]), 30 and 85. On the opposition between Wölfflin's emphasis on body masses and Schmarsow's on space as perceptually processed, see Schwarzer, "Architectural Space" (see n. 59), 50. On the impact of the empathy-theory on the rise of abstraction, see David Morgan, "The Idea of Abstraction in German Theories of the Ornament from Kant to Kandinsky," *The Journal of Aesthetics and Art Criticism* 50 (Summer 1992): 231–42.

80. Scott, *Architecture of Humanism*, 164–65.

81. Wittkower, *Principles*, 101. The final two sentences of Michelangelo's letter to which both authors refer runs as follows: "Because it is a certain thing, that the members of architecture derive from the members of man. Who has not been or is not a good master of the human body, and most of all of anatomy, cannot understand anything of it." As translated in David Summers, *Michelangelo and the Language of Art* (Princeton, 1981), 418 and 573 n.1.

82. "As man is the image of God and the proportions of his body are produced by divine will, so the proportions in architecture have to embrace and express the cosmic order." Wittkower, *Principles*, 101.

83. Scott, *Architecture of Humanism* (see n. 67), 196.

84. Some of the critical texts for the development of this theory and the debate surrounding it were: Friedrich Th. Vischer, *Ästhetik oder Wissenschaft des Schönen*, 4 vols. (Reutlingen and Leipzig, 1856–58); Hermann Lotze, *Geschichte der Ästhetik in Deutschland* (Munich, 1868); idem, *Mikro-*

his debt both to Theodor Lipps and Bernard Berenson.⁸⁵ Yet, more than to either, his reading of architectural aesthetics is indebted to Wölfflin's *Renaissance und Barock* and to the earlier "Prologomena." In the latter, his doctoral dissertation of 1886, Wölfflin takes on the materialist approach to the interpretation of architecture and attempts to demonstrate the validity of a psychology-based architectural aesthetics. His focus is the subject-object relationship, not the making of the object as such. For him the corporeality (*Körperlichkeit*) of architectural (or tectonic) forms, is the real vehicle of their expressive power that elicits an aesthetic response from the viewer, which he defines as "a state of organic well being" (*organisches Wohlbefinden*).⁸⁶ This is so because architectural forms draw on the *Körpergefühl*, that is, the perceptual sympathy that exists between two body masses, the viewer's and the building's. Taking issue with Schopenhauer's definition of architecture as a dialectic between *Starrheit* and *Schwere*, Wölfflin defines it in more dynamic terms as the representation of the opposition between a force to form (*Formkraft*), an immanent will within matter, and matter itself that longs (*sehnt sich*) to become form.⁸⁷ For him, to cause a significant aesthetic impact, architec-

kosmos: Ideen zur Naturgeschichte und Geschichte der Menschheit (Leipzig, 1856–65); Robert Vischer, *Über das optische Formgefühl* (Leipzig, 1872); Johann Volkelt, *Der Symbolbegriff in der neueren Ästhetik* (Jena, 1876); Wölfflin, "Prologomena" (see n. 79); Adolf Göller, *Zur Ästhetik der Architektur* (Stuttgart, 1887); idem, *Die Entstehung der architektonischen Stilformen* (Stuttgart, 1888); Theodor Lipps, *Raumästhetik* (Leipzig, 1897); idem, *Ästhetik: Psychologie des Schönen und der Kunst*, 2 vols. (Hamburg and Leipzig, 1903–6); idem, *Zur Einfühlung* (Leipzig, 1912); Paul Stern, *Einfühlung und Association in der neueren Ästhetik* (Hamburg and Leipzig, 1898). August Schmarsow, "Vierter Vortrag," in *Unser Verhältnis* (see n. 79), 78–107; Worringer, *Abstraktion und Einfühlung* (see n. 79); Rudolf Metzger, *Die dynamische Empfindung in der aufgewandten Kunst* (Jena, 1917). For a selection and commentary of relevant texts related to this issue, see Henry Francis Mallgrave's recently released *Empathy, Form and Space: Problems in German Aesthetics 1873–1893* (Santa Monica, 1994). This work was not available to me at the time of writing this article.

85. Scott, *Architecture of Humanism* (see n. 67), 159. His debt to Berenson for whom he acted as both secretary and architect in Florence is referable to the latter's concept of "tactile forms" developed in *The Florentine Painters* of 1896. Scott also acknowledges the one isolated English attempt at importing these notions; Vernon Lee (Violet Paget), *The Beautiful, An Introduction to Psychological Aesthetics* (Cambridge, 1913).

86. Wölfflin, "Prologomena" (see n. 79), 21.

87. "Der Gegensatz von Stoff und Formkraft, der die gesamte organische Welt bewegt, ist das Grundthema der Architektur. Die ästhetische Anschauung überträgt diese intimste Erfahrung unseres Körpers auch auf die leblose Natur. In jedem Ding nehmen wir einen Willen an, der zur Form sich durchzwingen versucht und den Widerstand eines formlosen Stoffes zu überwinden hat. . . . Nach all dem Gesagten kann kein Zweifel sein, dass Form nicht als etwas Äusserliches dem Stoff überworfen wird, sondern aus dem Stoff herauswirkt als immanenter Wille. . . . Der Stoff sehnt sich gewissermassen der Form entgegen." Wölfflin, "Prologomena" (see n. 79), 22–23. Scott also takes over from Wölfflin the concept of *Formgeschmack* (Scott's taste) and *Formgefühl* (elsewhere, *Formphantasie*) that he opposes to the materialist view, traditionally ascribed to Semper (starting with Riegl) of the origin of architectural form in the technical reality of building: "Eine technische Entstehung einzelner Formen zu leugnen, liegt mir natürlich durchaus fern. Die Natur des Materials, die Art seiner Bearbeitung, die Konstruk-

ture must draw on the “deeply human experience of the forming of unformed matter” that underlies the operation of nature itself.⁸⁸ In this model ornament plays an essential role as rhetorical device precisely because it is superfluous: resulting from an excess of energy (*Formkraft*), it manifests visibly this force at work. Proportion, symmetry, harmony, and the Golden Section, that is, all number-based categories are treated in a similar way. Though he recognizes them as essential criteria for organizing form, for him they do not testify to a mathematical conception of the universe, but to a sensual conception of mathematics: proportions reflect breathing rhythms, and the Golden Section triggers a deep consciousness of physical condition.⁸⁹ It is an architectural vocabulary that enhances the essence of the opposition between *Formkraft* and inert matter and makes it psychologically resonant to a viewer, that is it elicits empathy, that ultimately attracts Wölfflin’s interest and attention and is explicitly addressed by him in his *Renaissance und Barock* of 1888. From the general and abstract “Prologomena,” that in itself draws on and synthesizes the available literature on empathy, the psychology-based and body-centered architectural aesthetics he promotes is thus appropriated within the mainstream of architectural history by Wölfflin himself.

Seen from this perspective then, Scott’s reading of the Renaissance as an example of good architecture in general indicates that he offers an argument that stands at a midway point between Wölfflin’s historical account and his broader reflection on architecture initiated in the “Prologomena.” Where he exceeds Wölfflin, however, is in his more polemical position towards contemporary practices, which clearly grounds his argument in current criticism. Scott’s object, first and foremost, is to make a strong case for *Einfühlung* while couching it in an argument about Renaissance architecture. Indeed the *Einfühlung* discourse, with roots in nineteenth-century formalist aesthetics and the budding new science of perceptual psychology substantially affected architectural criticism and production and fed the argument in favor of will-to-art and against standardization, mass production, and the rationalization of the artistic process.⁹⁰ This confrontation is a *locus*

tion werden nie ohne Einfluss sein. Was ich aber aufrecht erhalten möchte—namentlich gegenüber einigen neuen Bestrebungen—ist das, dass die Technik niemals einen Stil schafft, sondern wo man von Kunst spricht, ein bestimmtes *Formgefühl* immer das Primäre ist. Die technisch erzeugten Formen dürfen diesem *Formgefühl* nicht widersprechen; sie können nur da Bestand haben, wo sie sich dem *Formgeschmack*, der schon da ist, fügen.” Wölfflin, *Renaissance und Barock* (see n. 30), 57. This passage is also picked up as significant by Worringer, *Abstraktion und Einfühlung* (see n. 79), 11–12.

88. Wölfflin, “Prologomena,” 24.

89. Wölfflin, “Prologomena,” 32.

90. For the absorption of perceptualist concepts (associated to tectonics, experience of space, organic analogies for form, and abstraction) developed in the field of aesthetics into architectural discourse, see particularly the expressionist position and the tradition going back to August Endell (especially his series of articles for *Dekorative Kunst* of 1897 and 1898) and Van de Velde (especially *Kunstgewerbliche Laienpredigten*, *Die*

classicus for the period as it constitutes one of the debates that characterize the early modernist phase.⁹¹ Almost three decades after Wölfflin’s formulation, what had started as conceptual options within the field of aesthetics had heated up into a full-fledged confrontation and warranted a partisan stance such as Scott’s. It is a measure of the prominence of these issues to current architectural discourse that Scott’s polemical *Architecture of Humanism* should come out in 1914, the same year that saw the destabilization of the Deutscher Werkbund as the result of the clash between the two factions.⁹²

Unlike Scott’s, the other available syntheses of Renaissance architectural thought took less partisan positions, though these

Renaissance im modernen Kunstgewerbe; and idem, “Die Belebung des Stoffes als Prinzip der Schönheit,” in *Essays* [1910]) at the beginning of the twentieth century. Endell may have derived his views from attending Theodor Lipps’s lectures in Munich and from Wölfflin. This is related by Fritz Schmalenbach, *Jugendstil: Ein Beitrag zu Theorie und Geschichte der Flächenkunst* (Würzburg, 1953) as cited in Morgan, “The Idea of Abstraction” (see n. 79), 241 n. 68, who also discusses the debates within the ranks of promoters of *Einfühlungstheorie*. On the impact of empathy-theory on expressionist aesthetics, see, for example, Ian Boyd White, introduction to *The Crystal Chain Letters: Architectural Fantasies by Bruno Taut and His Circle*, ed. Ian B. White (Cambridge, Mass., 1985). For an even earlier overlap between empathy aesthetics and architectural production in the nineteenth century, see also Mead, *Charles Garnier’s Paris Opéra* (see n. 5), 253–59. For a very useful insider’s evaluation of the relationship between German aesthetics and architecture, see Zucker, “The Paradox” (see n. 36), 8–14.

The intellectual context surrounding the formulation of the *Einfühlung* theory and its intersections with architectural theory and design is particularly complex and only partially charted to date. See particularly Harry F. Mallgrave’s, introduction to Wagner, *Modern Architecture* (see n. 3); Mallgrave, “Adolf Loos and the Ornament of Sentiment,” *Midgard* 1 (1987): 85; idem, review of Francesco Dal Co, *Figures of Architecture and Thought*, *JSAH* 51 (1992): 336–38; Mallgrave, ed., *Empathy, Form and Space* (see n. 84). For other discussions of these issues and their roots in nineteenth-century aesthetics, see most recently Mitchell Schwarzer, “Ontology and Representation in Karl Bötticher’s Theory of Tectonics,” *JSAH* 52 (1993): 267–80; and Dal Co, *Figures of Architecture* (see n. 3), 182–97. Relevant to this discussion are also the questions proposed most recently by Barry Bergdoll for the session, “Theories of Visual Perception, the Body, and Architecture in the Age of Historicism, 1750–1920,” at the forty-seventh annual meeting of the Society of Architectural Historians, Philadelphia, Penn., April 1994.

91. See the 1914 *Werkbund* exhibition debate between Muthesius (upholding *Typisierung* and rationalization) and van de Velde (upholding expression and hence the will-to-art) as a manifestation of the schism. For the statements made by the two opponents, see Tim and Charlotte Benton, with Sharp, Dennis, eds., *Form and Function: A Source Book for the History of Architecture and Design: 1890–1939* (London, 1975). The divergence in approach was commonplace enough to be referred to by Dagobert Frey in his reading of Renaissance art and architecture. Frey, *Gotik und Renaissance* (see n. 59), 292. For the frequently blurred boundaries between the two camps see, for example, Peter Behrens’s shift from a functionally expressive and organismic conception of form to an emphasis on stereotomical assemblies in the context of his involvement with the industrial world of the AEG. Stanford Anderson, “Modern Architecture and Industry: Peter Behrens, the AEG, and Industrial Design,” *Oppositions* 21 (1980): 79–97.

92. For a synopsis of the implications of this clash for the *Werkbund* (and for modernism), see Pommer and Otto, *Weissenhof* (see n. 3), 5–15.

too absorbed current architectural issues and responded to contemporary trends in aesthetics.⁹³ For example, in his *Entwicklungsphasen der neueren Baukunst* of 1914 Frankl attempts to bridge Burckhardt's cultural history with Wölfflin's autonomous object in an effort to reconcile form with content, artistic will, and intellectual inquiry. The four categories with which he proposes to analyze architectural form, that is spatial form, corporeal form, visual form, and purposive intention, testify to this attempt at synthesis. Under *spatial form* Frankl identifies syntactic relationships between individual volumetric cells that result in the overall spatial experience. Since for him space is experienced through movement, and movement occurs in plan, his syntactical laws are illustrated as plan relationships. With his second category, *corporeal form*, Frankl posits a narrative about the dialectic between load and support enacted by the walls and columns, which, as the tactile fabric of the building, define space and act as anthropomorphic devices; he stops just short of describing them as empathy bridges.⁹⁴ Finally, with *visual form* he addresses the reception of form by the viewer as a seeing subject who synthesizes (and interprets) an optical form (or mental image) from the variety of information provided.⁹⁵ While his first three categories are perception-related—spatial, tactile, and visual—and draw from the then-current physiological aesthetics of both Wölfflin and Schmarsow, the last category, *purposive intention*, addresses content as intended meaning and places it in a cultural context.⁹⁶ Yet this argument for signification that points to a kinship with Wittkower's *Principles*, as did his syntactic reading of plans, is neutralized by a perceptual one: the agent through whom Frankl effects his syntactical analysis is the moving viewer; the mental image synthesized by this viewer reveals a form of impressionism, and the tectonic fabric is apprehended through empathetic response. Equally divided between the rational and the perceptual, Frankl's strategy is one of reconciliation of what, by 1914, had become

increasingly divergent conceptions of art making. Thus conceived and coming as it does at a moment when this cleavage is heightened, his argument is neither strong enough to be the purveyor of a new Renaissance paradigm nor useful as a foil for Wittkower, who inherits a definition of architecture developed in the subsequent decades and that reflects a changed aesthetic horizon.⁹⁷

Like Frankl's *Entwicklungsphasen*, Dagobert Frey's *Gotik und Renaissance* of 1929, a relatively forgotten text today, presents points of contact with Wittkower's *Principles*. It is Frey who makes a strong case for a kinship between music and architecture—with specific reference to harmony and space conception—on the basis of a common approach to proportion; it is Frey who brings up Gafurio and Zarlino in this context as well as Alberti's "musical proportion"; and it is still Frey who, like Wittkower himself, avoids ornament and reduces forms to elemental geometrical configurations (cube, prism, cylinder, sphere) testifying to a current tendency towards abstraction evident in this heightening of geometry.⁹⁸ Though broadly conceived, Frey's primary issues are, like Wittkower's, mathematical space, perspective, and the harmonic tonal system. Also like Wittkower, he turns to Cassirer, from whom he borrows the main premise for his argument. Unlike Wittkower, however, his emphasis is not on the overlap between art and science but on Cassirer's neo-Kantian reading of Renaissance conceptualizations of space (and hence of the self in the universe) and on Panofsky's seminal presentation of perspective construction as their tangible manifestation in art.⁹⁹ Frey's emphasis on space conception as a taxonomic device for his history is substantially different from Wölfflin's (and from Scott's) who focuses on the tectonic-tactile aspect of building and its empathy-generating capacity, on form in its physicality (*Kör-*

93. See particularly the works by Burckhardt, Geymüller, Willich and Zucker, Frey (see n. 66), and Frankl (see n. 35).

94. "The tectonic shell, which forms a continuous boundary for the enclosed spatial form, a skin so to speak, is so thoroughly modeled that it is possible to sense tactually everywhere beneath the skin the solid skeleton with all its joints. Continuing the metaphor, I must add that it is not the skeleton itself that is present—not the prepared bones—but the firm articulated structure, including the muscles that are connected to the bones and that make the members actively movable. We cannot see the thin bones themselves; we can only sense them beneath the musculature." Frankl, *Principles* (see n. 35), 112.

95. "Not only the frontality of all individual views, but also the character of their synthesis—what I call the architectural image—ensues from this. The architectural image [or mental image] is not conceived from fixed viewpoints but remains the unique three-dimensional conception of the whole." Frankl, *Principles*, 146. James Ackerman notes the connection between Frankl's mental image and the contemporary development of Gestalt psychology. James Ackerman, introduction to Frankl, *Principles* (see n. 35), viii.

96. "The formal elements are changed by internal causes, then, and this change is sealed by external causes, by the new intention." Frankl, *Principles*, 190. See also Schwarzer, "Architectural Space" (see n. 59), on Frankl's relationship to Schmarsowian aesthetics.

97. Although Frankl's emphasis on space conceptions affected Giedion, he used (and transformed) the argument to his own to different ends. On Frankl and Giedion, refer to Georgiadis, *Sigfried Giedion* (see n. 1), 131–32; and Kostof, "The Mark of Sigfried Giedion" (see n. 1), 195.

98. Frey, *Gotik und Renaissance* (see n. 59), 76. Not only does he alert us to the issue of musical proportions, but he states unequivocally that "all Renaissance aesthetics is based on proportion, on the relationship between the spatial dimensions to each other" (thus stating with greater force a position already encountered in Burckhardt and Wölfflin), and thereby anticipates Wittkower's emphasis on proportion as the issue of Renaissance theory. Frey, *Gotik und Renaissance*, 79. For another precedent, see also Hautecoeur's argument that focuses on this issue (though not on music) in an article highly praised by Wittkower. Hautecoeur, "Les proportions" (see n. 30).

99. Although in general terms Frey's *Geistesgeschichte* reading of the Renaissance is indebted to Max Dvorák—a fact Frey pointedly acknowledges—his specific frame of reference is Cassirer's *Das Erkenntnisproblem* (see n. 37), and *Individuum und Kosmos*. By his own admission, his interpretation is also influenced by Schopenhauer's *Die Welt als Wille und Vorstellung*, especially by his concept of *Anschaulichkeit*, of *forma substantialis* as ultimate knowledge (*Erkenntnis*); Frey, *Gotik und Renaissance* (see n. 59), 266. Frey also draws on Paul Zucker (whose work he cites), who had been working with the neo-Kantian concepts of space and time since the early twenties and applied them to Renaissance architecture in a contemporary work to Frey's. Zucker, "Der Begriff der Zeit" (see n. 59).

perlichkeit), in short on the *Formgefühl*, rather than on abstract configurations and relationships that engender a *Raumgefühl*.¹⁰⁰ Although like Wittkower, Frey rejects perceptual readings of form, his main argument is not one that Wittkower supports since his own emphasis is not on experience (of space) but on intellect. Even though he subsequently works out the Cassirer-Panofsky-Frey proposal for architecture as a manifestation of “being-in-the-cosmos” in his article on Brunelleschi and perspective published in 1953, his concern is ultimately with intellectual instruments, not with architecture-as-event.¹⁰¹

Read against his foils, Wittkower’s construction achieves a crisper contour. Firstly, while Wittkower responds to Frankl’s syntactical analysis, he elects to leave the perceptual concerns to one side, as he did with Scott’s, and pursues a rationalist course. For him syntax is not a matter of experience (through movement) but of rational awareness: his viewer responds to form intellectually rather than perceptually, abstracting its essential or deep structure. Shifting the center of gravity of the discussion of Renaissance aesthetics away from the physiological and perceptual towards proportion, Wittkower thus offers a link between humanism and abstraction. Secondly, this form (and structure) is two-dimensional and is manifested either as plan or elevation: neither space (hence movement) nor the sculptural presence of the wall (hence the tactile or haptic) is at issue. In fact, for Wittkower, the masonry shell as sculptural and rhetorical instrument dissolves into a site for the expression of actual structure. Thirdly, Wittkower makes proportion almost his single issue and in doing so ties art and science into a single epistemological undertaking. Borrowing selectively from Cassirer (and possibly Frey) he achieves a subtle redirection of emphasis from characteristic space conceptions to the underlying scientific matrices that inform them. Fourthly, unlike his predecessors, Wittkower concentrates on the intention of the architect, on deliberate and purposeful artistic action, not on a passive (and hence anonymous) subject through whom, as if through a conduit, the will to art manifests itself. Finally, with his approach he endorses an attitude toward ornament that helped determine the path of later scholarship: not only does he relegate ornament to a secondary

100. An example of Frey’s approach is the following evaluation of modern architecture with which he brings his text to a close: “Der künstlerisch gestaltete Raum, gleich viel ob Körper oder Hohlraum, zeigt sich als Durchdringung und Verschneidung ideeler prismatischer Gebilde, die gleichsam die Realisation der dem Raume an sich eigener kristallinischer Struktur darstellen.” Frey, *Gotik und Renaissance* (see n. 59), 288.

101. Rudolf Wittkower, “Brunelleschi and ‘Proportion in Perspective,’” *Journal of the Warburg and Courtauld Institutes* 16 (1953): 275–91. Wittkower expands on an argument formulated, albeit in more general terms, by Giulio Carlo Argan, “The Architecture of Brunelleschi and the Origins of Perspective Theory in the Fifteenth Century,” *Journal of Warburg and Courtauld Institutes* 8 (1946): 96–121. Apart from the characterization of Renaissance architecture, in which Wittkower ultimately differs from Frey, Mrs. Wittkower recalls that at a methodological level he rejected the latter’s philosophical approach for an interpretation of art.

role but his emphasis on Alberti and Palladio as paradigms shows a conception of Renaissance architecture that is “white” (or at least mainly monochromatic), of “tooled,” precise, and few stone contours.¹⁰² The colorful, exuberant, multi-material architecture of Bologna, Milan, Venice (with the exception of Palladio), and Naples then, is constructed by implication into the heterogenous, the “other,” that falls outside the definition of the Renaissance.

Though alongside Wölfflin both Frankl and Frey bring something that Wittkower also uses, be it syntax, proportion, musical theory, or signification/intentionality, their arguments are neither singled out by him nor do they survive as part of the reference corpus for Renaissance studies. In selecting Scott—whose direct and polemical acknowledgement of allegiance to the *Einführung* tradition places his argument squarely within that debate—as his foil, Wittkower then sets himself apart from a specific and significant line of thinking that affected both architectural history and theory in the early years of modernism. Wittkower’s debate is neither with Wölfflin and his concept of style nor with Frankl and Frey, though his reading supplants theirs as categorically as it supplants Scott’s. Wittkower’s debate is with the perceptual readings of architecture because he works with a “will to truth” that originates in a conception constructed in antithesis to that represented by Scott. And though Wittkower keeps his historical distance from contemporary debates and does not see them impinging upon his interpretation and hence upon his historical objectivity, the polemical frame within which he places it nonetheless declares his bias. Thus Wittkower’s rhetorical opposition to and victory over Scott’s hedonism ultimately indicates that the succession of constructions for Renaissance architecture follow the pattern of succession of paradigms for modernism, for the rational triumphs over the subjective, *Typisierung* over *Einführung* and other organicist positions, and, for all intents and purposes, the latter options are erased from the official accounts of modernism.¹⁰³

102. Though the use of ornament by Renaissance architects—especially the orders—has emerged as a recurrent concern in the scholarship of the past fifteen years, a synthetic charting of the theory of its deployment has not been attempted. For exemplary ground work on the orders by a community of scholars, see Jean Guillaume, ed., *L’Emploi des ordres à la Renaissance* (Paris, 1992). To date there exists no work that reexamines comprehensively the aesthetics of Italian Renaissance architecture. One notable exception—though focused more on the social implications of art than aesthetics—is John Onians, *Bearers of Meaning: The Classical Orders in Antiquity, the Middle Ages and the Renaissance* (Princeton, 1988). For a recent reading of Renaissance aesthetics with a focus on ornament, see Payne, “Between *giudizio* and *auctoritas*” (see n. 35).

103. Scott’s rejection of the predominant modernist emphasis on actual structure as expressive language in favour of the virtual structure of the classical vocabulary was immediately noted by the profession. J. L. Ball, review of Scott, *The Architecture of Humanism* (see n. 67), in *RIBA Journal* (November 1914–October 1915): 3–6. It is indeed this empathy-oriented aspect of his thesis that met with the most resistance: in 1915 the reviewer for *The Builder* finds it hard to understand; in 1925 the reviewer for *Architectural Review* states that in the intervening years questioning of this thesis has been confirmed and that the dispute is still active. Anonymous, review of Scott, *The Architecture of Humanism*, in *The Builder*

In 1929 Frey recognized two opposed camps in the modern production of architecture: on the one hand, those concerned with the geometrical rationalization of space (he lists Le Corbusier, Oud, and Mallet-Stevens as examples) and those concerned with the treatment of space as cellular structure, as body, on the other (exemplified by Scharoun, Häring, and De Klerk). Though antithetical, he puts them down to a manifestation of the same *Grundanschauung* of space-time.¹⁰⁴ In his 1938–39 Norton lectures (later published as *Space, Time and Architecture*), seeking to demonstrate a well-defined rather than dialectical modernity, Giedion does not take this approach and privileges the anorganic over the organic stream as he presents abstract configurations entered into by structural elements that manifest the deeper structure of space itself as the *only* language of modernism. Although within architectural criticism and production the antithesis between rationalist and subjectivist definitions of architecture had therefore worked itself out by the late forties in favor of a unilateral ideology for modernism—the latter having been discarded—this had not yet happened within a historical synthesis. Between Scott (and Wölfflin, Frankl, and Frey) and Wittkower no new synthesis had been offered. It is this gap that he fills and that raises his argument to the status of paradigm.

In offering alternatives or attempting a reconciliation, and hence not explicitly placing themselves in either one camp or the other, Frankl and Frey stand outside this ideological dialectic that ultimately shaped the agenda of mature modernism and within which there is a necessary place for the Renaissance. Though Frey offers a neo-Kantian reading of architecture by focusing on conceptualizations of space-time, as does Frankl (albeit to a lesser degree), and although these applications are appropriated into

criticism by no lesser a figure than Sigfried Giedion, the absence of a context for science in these discussions, the most significant concept galvanizing modernist thought, necessarily placed these readings outside the main arena upon which architecture received a (new) definition.¹⁰⁵ The fact that it required Wittkower's more single-minded position to gain the status of a paradigm indicates paradoxically that it confirmed, stated explicitly and crisply something that was already there, ready to receive it. And this has to do with the historical and theoretical project within which *Principles* and its reception is inscribed. This reception proves its rootedness in the contemporary situation of a final rejection of the *Einfühlung* and other body-grounded approaches over the *Typisierung* lines of thinking of victorious modernism. As such, Wittkower's is a post-Giedion argument; it absorbs Frey and Frankl into a position that is part of the prevalent definition of architecture, of the current paradigm.¹⁰⁶

105. On Giedion, Zucker, and Frey, see n. 59.

106. Mrs. Wittkower told me that while Wittkower did not approve of Giedion's—and often neither of Pevsner's—methodological orientation, he had read their books and was well acquainted with the issues of emerging modernism. Wittkower had always been deeply interested in architecture, both modern and historical. Originally he had intended to study architecture, but, disappointed by the curriculum at Berlin, had transferred to Heidelberg to study psychology, and, since it was too late to register, he moved to Würzburg for a semester of archeology and finally settled on art history (for a short while at Munich with Wölfflin, with whose teaching he was dissatisfied, and then at Berlin with Goldschmidt). Even if his early writings do not display this interest, Mrs. Wittkower (who herself was trained as an interior decorator and had intended to go and study at the Bauhaus in the 1920s) told me that it came through in all his letters and comments, and that they were both familiar with modernist publications and debates, Le Corbusier's et al., (“we read it all”), and had even gone to see the *Weissenhof Siedlung* in 1927 (“the only art historians to do so”). This interest in modern art and criticism is also evident in Wittkower's early work. See, for example, Rudolf Wittkower, “Die dritte römische Biennale,” *Kunstchronik und Kunstmarkt* 59, n.f. 35 (1925): 138–39; and idem, “Die Städtebauliche Zukunft Roms im 20. Jahrhundert,” *Kunstchronik und Kunstmarkt* 59, n.f. 35 (1926): 673–77. Although this interest did not lead him to enter the arena of modernist debates as it did Pevsner, he continued a dialogue with the profession to which his later (and famous) lectures at the Liverpool School of Architecture, his awareness of contemporary concerns with the fourth dimension and non-Euclidian geometry (evident in his paper delivered at the Congress on Proportion of 1951) and his (few) book reviews for *Architectural Review* (which show familiarity with current architectural curricula) bear witness. Rudolf Wittkower, “Safety in Numbers,” review of R. W. Gardner, *A Primer of Proportion in the Arts of Form and Music*, in *Architectural Review* 100 (1946): 53; for a synopsis of Wittkower's paper, “Su alcuni aspetti della proporzione nel medioevo e nel Rinascimento,” given at the congress, see “Il primo convegno internazionale sulle proporzioni nelle arti,” *Atti e rassegna tecnica della società degli ingegneri e degli architetti in Torino* 6 (1952): 119–35; Wittkower, “Subjectively Speaking,” review of Miloutine Borisavliévitch, *Les théories de l'architecture*, in *Architectural Review* 111 (1952): 265. However, Wittkower apparently did not meet Le Corbusier when he lectured on the *Modulor* on 18 December 1947 at the Architectural Association in London (on the occasion of the AA Centenary). It is also significant that the observation—which amounts to a public accolade—that *Principles* and the *Modulor* were the most discussed books at MIT and Zurich in 1950 (reported by the Smithsons and noted by Millon) should come from none other than Giedion himself. Alison and Peter Smithson, letter to the editor, *RIBA Journal* 59 (1952): 140.

108 (1915): 25–26; Lionel Budden, review of Scott's, *The Architecture of Humanism*, in *Architectural Review* 58 (1952): 207–8.

On the modernist orthodoxy with respect to expressionism and other alternatives tributary to the empathy and organicist discourse, see Giedion, *Space, Time*, who does not include Scharoun, Mendelsohn, Gropius's early work, and Bruno Taut (who is given only a brief mention). Though rejection characterizes Giedion's position from the twenties into the forties, the later editions of *Space, Time* (especially the 1956 edition) show a gradual acceptance of the expressionist contribution. On this pattern in Giedion's reading of expressionism, see Giorgiadis, *Sigfried Giedion* (see n. 1), 14. Though Pevsner includes the work of Poelzig his evaluation of the expressionist contribution is negative: “The real solid achievement had its source not in Sant'Elia, not in Poelzig and Mendelsohn, but in Behrens and his great pupil Walter Gropius.” Pevsner, *Pioneers* (see n. 3), 211. Hitchcock is less polemical yet his selection is ultimately no less partisan, since his modern pantheon is also focused on Le Corbusier, Oud, Gropius, Mies, and Rietveld, and he presents the expressionist position as lateral to the formation of a “New Pioneer Manner.” Hitchcock, *Modern Architecture* (see n. 56), 158–62. Unlike these later writers, and although he too supports a *sachlich* and *ingenieurgemäss* architecture, Gustav Adolf Platz allows a much broader representation of modern idioms. He includes many more countries and architects that do not appear in the reduced palette of the forties: Theodor Fischer, Taut, Poelzig, Höger, Mendelsohn, Tessenow, Schumacher, and others receive significant coverage. Gustav Adolf Platz, *Die Baukunst der neuesten Zeit*, 2d ed. (Berlin, 1930).

104. Frey, *Gotik und Renaissance* (see n. 59), 288.

The reception of Wittkower's principles

That Wittkower applies a modernist matrix to his reading of the Renaissance is made additionally evident by its reception. However, in this instance it is not the reception within the institution of art history, though in itself overwhelming, that calls for comment, but the reception within the contemporary critical literature.¹⁰⁷ The absorption of *Architectural Principles* into architectural criticism took essentially two forms: on the one hand, Wittkower's argument was appropriated by others in the development of new critical perspectives and on the other it was popularized as such through architectural journals and symposia. Thus it surfaced in *Architectural Review* as part of Colin Rowe's "The Mathematics of the Ideal Villa"; it also became available to the profession at large in Wittkower's own contributions to the interdisciplinary Congress on Proportion in the Arts of 1951 (sequel of the 1951 Milan Triennale), for the *Architects' Yearbook* in 1953, for *Casabella* in 1959, and for *Daedalus* in 1960.¹⁰⁸ Thus Wittkower took his place in the forefront of criticism alongside designers such as Ove Arup, Joseph Samonà, Patrick Heron, Giancarlo de Carlo, Alison and Peter Smithson (*Architects Yearbook*), in journals edited by Pevsner (*Architectural Review* under J. M. Richards's general editorship), and Ernesto Rogers (*Casabella*), in direct dialogue with Giedion, Corbusier, Bruno Zevi, Max Bill, and Gino Severini (1951 Congress).¹⁰⁹ Beyond suggesting that Wittkower's issues were in the air, this reception indicates

107. On the reception of Wittkower's *Principles* within art history, see n. 9. The most important study (with exhaustive bibliography) on the impact of Wittkower's thesis on the architectural profession is Millon, "Rudolf Wittkower" (see n. 9). Not mentioned by Millon, but related to me by Mrs. Margot Wittkower, is the extraordinary popularity of the book in the fifties and its absorption within mass culture: *Principles* was required reading for the adult education course on architectural history offered by the BBC for two years running. Alongside the enthusiastic reception by the young generation of architects (to whom Wittkower had lectured at Liverpool), such as the Smithsons and Voelcker, whom Millon records, it is a testament to the relevance of the book that even a less-than-sympathetic reviewer such as A. S. G. Butler saw *Principles* as a potentially salutary and hence relevant contribution to contemporary design. In fact, his recommendation for a simplified version for architectural journals (and hence for the practitioners) is exactly the path that the reception of Wittkower took. A. S. G. Butler, review of Wittkower, *Architectural Principles in the Age of Humanism*, in *Journal of the Royal Institute of British Architects* 59 (1951): 59–60.

108. Colin Rowe, "The Mathematics of the Ideal Villa," *The Mathematics of the Ideal Villa and Other Essays* (Cambridge, Mass., 1976): 1–28 [1st publ. *Architectural Review* (1947)]; Rudolf Wittkower, "International Congress on Proportion in the Arts," *Burlington Magazine* 94 (1952): 52–53; idem, "Systems of Proportion" (see n. 54); idem, "L'architettura del Rinascimento" (see n. 40); idem, "The Changing Concept of Proportion," *Daedalus* (Winter 1960): 199–215; idem, "Le Corbusier's *Modulor*," in *Four Great Makers of Modern Architecture* (New York, 1963), 196–204. For a nearly complete list of Wittkower's publications up to June 1966, see "The Writings of Rudolf Wittkower," in *Essays in the History of Architecture Presented to Rudolf Wittkower*, ed. D. Fraser, H. Hibbard, and M. J. Lewine (London, 1969), 377–81. For an updated list, see Donald M. Reynolds, ed., *The Writings of Rudolf Wittkower: A Bibliography* (New York, 1989).

109. On 25 March 1994 James Ackerman told me that the congress, at which he also participated, received so much attention that it seemed

more positively a common intellectual ground within which such exchanges could occur. Further, since like Rowe's early essays *Casabella* played an important role in the subsequent development of a critique of modernist tenets, the fact of this absorption into precisely these two contexts and at precisely this time raises the question of Wittkower's role at this juncture and offers the potential of insight into a complex period in the history of modernism.

In his "Mathematics of the Ideal Villa," Rowe seizes the most salient aspect of Wittkower's thesis, his identification of a syntax-based discourse in the Renaissance, and uses it to arrive at a new reading of Le Corbusier's architecture. Struck by the presence of similar syntactical devices in the work of (Wittkower's) Palladio and Le Corbusier, Rowe draws together the Villa Malcontenta with the Villa Stein and evaluates their respective compositional strategies. This concentration on syntax allows him not only to bring Palladio within the orbit of modern criticism, but, more generally, to offer implicitly a strategy for appropriating historical exemplars into modernist design without openly questioning its programmatic rejection of such borrowing.¹¹⁰ Even if he follows Wittkower's lead and attributes differences in the two designs to culturally specific causes, the very fact of his joining them into one discussion suggests a community of problems that transcends historical periods and that makes the past relevant for the present. In explicitly presenting syntax as that common concern and denominator he offers a viable formal strategy for communication between a contemporary abstraction-based aesthetic and the historical tradition. Once this is accepted as a viable premise—and the reception of Rowe's reading testifies to this effect—the past becomes indeed Giedion's "eternal present" and can be reprocessed as such. Both the subsequent relevance of Palladio (in particular) and of classicism (in general) to the formulation of a postmodern vocabulary and the syntactic reinterpretations of the Corbusian vocabulary of the sixties that eventually lead to a linguistic formulation of architecture—as in the work of Peter Eisenman—find their origins here.¹¹¹

more like a glamorous film opening with Wittkower and Le Corbusier in the role of the two stars.

110. Following the direction he identified here, Rowe himself pursued his investigations on the reciprocal illumination that modernist architecture and historical forms cast upon each other in a subsequent essay where he explores the problem of signification (and takes on Giedion). Colin Rowe, "Mannerism and Modern Architecture," *Architectural Review* 107 (1950): 289–99.

111. See especially the work of the so-called New York Five: Eisenman, Hejduk, Meier, Gwathmey, and Graves. For an example of the linguistic probings by Eisenman, see Peter Eisenman, *House X* (New York, 1982). On the relationship between Eisenman and Rowe and on syntax as the departure point for Eisenman's postmodern linguistic explorations, see Rosalind Krauss, "The Death of a Hermeneutic Phantom: Materialization of the Sign in the Work of Peter Eisenman," *Architecture and Urbanism* (January 1980): 189–219. In his article of 1972 Millon argues that Wittkower and Rowe galvanized the subsequent (short-lived) Palladian (and classical) interest and studies. Though this is

What makes the apparent paradox of a reabsorption of history within modernism possible, and what allowed Rowe to make use of Wittkower's Renaissance in the first place, is due to the ontological premise that informs both their arguments and that constitutes a familiar modernist matrix. In his reformulations of *Principles* for architectural journals, Wittkower makes this ontological aspect of his thinking explicit when he states: "Nobody will deny that our psycho-physical make-up requires the concept of order, and, in particular, of mathematical order. . . . Modern psychology supports the contention that the quest for a basic order and harmony lies deep in human nature."¹¹² With this opening statement that introduces his book to an audience of architects, Wittkower asserts a will to order and openly posits permanently valid and hence metahistorical conditions that lead to form making. Such practice and such emphasis was common to, and in fact characterized, modernist discourse. It is on this basis that in *Space, Time and Architecture* Giedion achieved his own seminal synthesis of philosophy, art history, and science, and historicized modernity.¹¹³

certainly true, what is significant for this discussion is the (implicit) fact that the distant past, history, became relevant again to architectural discourse through their mediation. The fact that this relevance would mark more deeply the trajectory of the slowly developing postmodern vocabulary could not have been noted from the vantage point of 1972. Millon, "Rudolf Wittkower" (see n. 9), 89–90; for an early assessment of Wittkower's impact on the formal practices of the New Brutalists and their interest in the architecture of the Mediterranean basin (albeit focused on the vernacular), refer to Reyner Banham, *The New Brutalism* (New York, 1966), 15, 19, and 41–46.

112. Wittkower, *Architects' Yearbook* (see n. 54), 9. On Wittkower's structural reading, see also his contemporary article on Brunelleschi and perspective where he reasserts the psychological dimension of architecture: "Thus the architecture of the period, if viewed like buildings in Renaissance pictures, produces a psychological situation in which proportion and perspective are felt as compatible, or even identical realizations of a metrical and harmonic concept of space." Rudolf Wittkower, "Brunelleschi and 'Proportion in Perspective'" (see n. 101), 291. Wittkower had already made passing mention of these issues in *Principles* when he described the experience of Palladio's architecture as an "instinctive reaction to geometry," though, as noted above (see notes 36 and 58), for him this response is elicited by geometry, not tectonic form, and it does not originate with body consciousness as argued by Wölfflin and Scott. In this context, see also Marder, who notes Wittkower's references to "feeling for proportion," and Mitrovic, who points to his ambiguous position on subjectivity. Marder, "Renaissance and Baroque in the United States" (see n. 9), 173 n. 30; and Branko Mitrovic, "Objectively Speaking," *JSAH* 52 (1993): 59–67. Nonetheless, Wittkower's position on this issue may have shifted over time; on 13 April 1994 Mrs. Margot Wittkower recalled that he had been opposed to psychological readings of art.

113. Giedion's rejection of style as a taxonomic category in favor of *Strukturanalyse* is a corollary of this orientation. "In the arts periods are differentiated by the 'styles' which become fixed and definite in each stage of development. And the study of the history of styles was the special work of nineteenth-century historians, a work most skilfully carried through. But it may be that the links and associations between periods—the constituent facts—are more important to us than self-enclosed entities such as styles." Giedion, *Space, Time* (see n. 1), 21. For a commentary of the tension between Giedion's attempt at a metahistory and his ahistorical

Although he deploys the scholarly apparatus of art history and inscribes his argument within its institutional boundaries, Wittkower therefore processes history—specifically the Renaissance—from within the same horizon as Giedion's. His essential principles of Renaissance theory and *mutatis mutandis* production confirm Giedion's metahistorical links that place modernism in a continuous stream and give it an ontological validation. In this way, Giedion's privileging of classicist architecture over Gothic (which he doesn't even mention), particularly of the Renaissance as *esprit nouveau* because it is rational, because it is scientific, and because it provides a discipline that brings order, receives the *imprimatur* from historical scholarship. In thus offering the possibility of a homogenous architectural discourse by implicitly bestowing the authority claimed by his craft upon such readings as Giedion's, Wittkower ultimately rescues the Renaissance and hence classical architecture as a viable thinking ground for the further development of contemporary discourse.

However, it seems legitimate to ask at this point why this imbrication with mainstream modernism should be at work primarily in Wittkower's treatment of the Renaissance and not of the baroque. Though the question of the construction of the baroque deserves attention in its own right, it is useful to note here that the Renaissance paradigm that Wittkower inherits is already permeated by a modernist sensibility. Wittkower was working within an aesthetic horizon that had turned to the Renaissance—central to historical inquiry at least since Burckhardt, and to architectural discourse from Semper and Schinkel to Behrens and Le Corbusier—to work out modern issues and forms for well over a hundred years.¹¹⁴ As such, the Renaissance

categories, see Giorgiadis, "Sigfried Giedion und die Krise" (see n. 1), 231. On Giedion's uses of historical exemplars, see also Oechslin, "Fragen" (see n. 1).

114. On the Renaissance in nineteenth-century architectural discourse, see Robin Middleton "The Rationalist Interpretations of Classicism of Leonce Reynaud and Viollet-Le-Duc," *AA Files* 11 (Spring 1986): 29–48; Eva Börsch-Soupan, "Der Renaissance Begriff der Berliner Schule im Vergleich zu Semper," in *Gottfried Semper und die Mitte des 19. Jahrhunderts* (Basel, 1976), 153–74; Mead, *Charles Garnier's Paris Opéra* (see n. 5), 221–52; Wolfgang Herrmann, ed., *In What Style Should We Build? The German Debate on Architectural Style* (Santa Monica, 1992). For an acknowledgement of the relevance of classicism to the objectivist agenda of modernism, see Adolf Behne, the apologist of expressionism: "Technizismus und Klassizismus sind einander keine Feinde, im Gegenteil, sie sind zusammengehörig. Der Technizismus ist die geistige Verfassung, der Klassizismus ist sein künstlerischer Ausdruck. Sie hat uns das Vorbild aller modernen Reissbrettarchitektur beschert und uns verleitet, alle Architektur als glatt unmöglich zu verdächtigen, die kreuz und quer, quellend, bunt, dithyrambisch ist." Adolf Behne, *Die Wiederkehr der Kunst* (Berlin, 1919; repr. 1973), 73–74. For a contemporary testimony on the initial resistance to the Renaissance and its subsequent relevance to contemporary interest, see Cornelius Gurlitt, *Geschichte des Barockstiles in Italien* (Stuttgart, 1887), vii–viii. Gurlitt was in a position to comment since his own activity involved him in criticism and hence afforded him knowledge of the current issues. For example, see his review of Adolf Göller's *Die Entstehung der architektonischen Stilformen*, discussed in Harry Francis Mallgrave, "From Realism to *Sachlichkeit*: The Polemics of

he inherited was too laden with motives embedded in a dense fabric of scholarship and theory for Wittkower, notwithstanding his detachment, to be unaffected by this tradition. Working within the contemporary orthodoxy, this implicitly meant distancing subjectivism from its center and retaining its rationalism, precision, and commitment to abstraction. A more recent arrival on the scene of historical inquiry and hence less involved with the slow process of maturation of a modernist aesthetic and theory, the baroque could more readily absorb this discussion without internal tension. That the baroque should rise to notice at the close of the nineteenth century is certainly a measure of the simultaneous rise of the *Einfühlung* theory and its corollaries, and hence suggests that its formulation is also tied into the contemporary context. The pattern of Wölfflin's own scholarship makes this connection quite clear. However, as far as the modernist debate went, it is classicism (with the Renaissance as a significant mediator) and the Gothic, traditional sparring partners in the debate pitting objectivism against subjectivism, that were cast as principal protagonists, leaving the baroque on the periphery of this sensitive area for contemporary theoretical discourse.¹¹⁵

That Rowe's essay became as seminal to subsequent practice as

Architectural Modernity in the 1890s," in Mallgrave, ed., *Otto Wagner* (see n. 3): 292–93.

115. In his very perceptive reading and periodization of the baroque, Cornelius Gurlitt recognizes the role of the present in the contemporary rise of interest in this historical period. Cornelius Gurlitt, *Geschichte des Barockstiles in Italien* (see n. 114), viii. Though not itself a protagonist, the baroque was often drawn alongside the Gothic (on both aesthetics and/or political/nationalist grounds) into the debate against the classical. See, for example, Karl Scheffler, who in his *Geist der Gotik* not only draws the baroque and rococo into his definition of the Gothic spirit, but brings the argument into the present by concluding with images of the same grain elevators published in the *Werkbund Almanach* (and that were the basis for Le Corbusier's later and more celebrated images for his own *Towards a New Architecture*) and with images of Van de Velde's and Poelzig's work. Karl Scheffler, *Der Geist der Gotik* (Leipzig, 1919). Scheffler's contribution to the debate on empathy in an earlier article on ornament for *Dekorative Kunst* of 1901 testifies to the overlap between the pro-Gothic (and baroque) and empathy-theory discourses. A similar parallelism may be inferred from the interest in the baroque shown by August Schmarsow who in his *Barock und Rokoko* of 1897 responds to Wölfflin's "painterly" with his own category "plasticity." Worringer also brought the Gothic, which he promotes particularly on nationalist grounds, into the foreground within this debate. Wilhelm Worringer, *Formprobleme der Gotik* (Munich 1910). For a similar nationalist reading of the baroque as a significant German contribution (unlike the Renaissance) and its absorption into mass culture, see Paul Zucker, *Deutsche Barockstädte*, Quelle & Meyer Wissenschaft und Bildung Series (Leipzig, n.d.), 3–5. For a reading of the Renaissance as negatively influencing German culture, see Richard Benz, *Die Renaissance, das Verhängnis der deutschen Kultur* (Jena, 1915). For a history of baroque readings, see Hans-Harald Müller, *Barockforschung: Ideologie und Methode. Ein Kapitel deutscher Wissenschaftsgeschichte 1870–1930* (Darmstadt, 1973); and Werner Oechslin, "Barock: zu den negativen Kriterien der Begriffsbestimmung in klassizistischer und späterer Zeit," in *Europäische Barock-Rezeption*, ed. Klaus Garber (Wiesbaden, 1991), 1225–54. For an analysis of political motives at work in German attitudes to the Gothic, see Michael J. Lewis, *The Politics of the German Gothic Revival* (New York and Cambridge, Mass., 1993).

Wittkower's did in its field, and that it played a part in the eventual rejection of modernist antihistoricism, constitutes more than a historical footnote. Similarly, the presence of Wittkower's concept of appropriation as a recurrent cultural strategy within the early criticism of modernism fostered by *Casabella*, indicates both that *Architectural Principles* appears at a moment of warp in the self-construction of modernism and that it makes this warp evident.¹¹⁶ Historically, Wittkower's *Principles* is poised on the one hand between the *Einfühlung* debate that was essentially resolved by the later thirties, when modernism formulates its agenda explicitly, and the problems current in the late forties and early fifties on the other. Whereas the enthusiastically promoted International Congress on Proportion of 1951 ultimately has a short-lived sequel (as does Le Corbusier's *Modulor*), because it comes virtually at the end of a period privileging control, regulating lines, essentialism, and abstraction, Wittkower's *Principles*, equally tributary to this spirit, feeds the emerging discourse that turns to history with a new perspective.¹¹⁷ This is so because his argument is historical in nature and thus allows something to surface from within modernism itself, namely its unresolved position and ambivalence toward history, toward the memory of forms, accretion, and recollection. Compatible with the discourse of modern architecture, his historical application of its definition allows architects access to a past no longer foreign and disconnected, but familiar and recognizable, and therefore useable. As such, the reception of Wittkower within architectural practice reveals history to be the Albertian fig tree that, paradoxically built into the wall of modernist discourse by Giedion himself so as to buttress it firmly, finally breaks up the edifice.

116. On the editorial policies of Vittorio Gregotti and Ernesto Rogers and the role of *Casabella* in the critique of modernism in the fifties and its spearheading of "neo-liberty," see Tafuri, *History of Italian Architecture* (see n. 13), 54–55. Stirrings to this effect are also discernible in the *Architecture Review*: alongside the historical articles by Pevsner (as F. R. Donner) under the rubric "Treasure Hunt," J. M. Richards's editorial "The Next Step?" shows both the dissatisfaction with the functionalist dogma and the general uncertainty in the 1950s. J. M. Richards, "The Next Step?" *Architectural Review* 107 (1950).

117. Le Corbusier's *Modulor* (focused on an application of the Golden Section and a key work for the congress), published in 1948 after years of research, belongs effectively to the world of Borissavliévitch, Ghyka, Hambidge, Ozenfant, and the Section D'Or, that is to a discourse current in the earlier part of the century. Of particular importance is the concentration of activity on the Golden Section in the first half of the twentieth century. Eugène Grasset, *Méthode de composition ornementale* (Paris, 1905); Le Corbusier, *Vers une architecture* (Paris, 1923); Jay Hambidge, *The Parthenon and Other Greek Temples. Their Dynamic Symmetry* (New Haven, 1924); Matila C. Ghyka, *Esthétique des proportions dans la nature et dans les arts* (Paris, 1927); idem, *Le nombre d'or. Rites et rythmes pythagoriciens* (Paris, 1931); Amedée Ozenfant, *La peinture moderne* (Paris, 1925). Miloutine Borissavliévitch, *Prolégomenes à une esthétique scientifique de l'architecture* (Paris, 1923). Part of the heightened activity surrounding this issue is also the formation of the important cubist group, La Section D'Or, in 1912. On the receding discourse on modular construction and proportion in the 1950s see also Millon, "Rudolf Wittkower" (see n. 9).

Coda

“The innermost structures of the past only reveal themselves to any present in the light produced by the white heat of their relevance now.”¹¹⁸ Walter Benjamin’s issue here is the critic, as Giedion defines himself, and the production of meaning achieved through critique: for him the reciprocal illumination between past and present is provoked by the critic who focuses not on the *Ding an sich*, but on the object as permeated by “error.” Since the

118. Walter Benjamin, *Gesammelte Schriften*, 3:97, as quoted in Peter Bürger, “Walter Benjamin’s ‘Redemptive Critique’: Some Preliminary Reflections on the Project of a Critical Hermeneutics,” in *The Decline of Modernism* (University Park, Penn., 1992), 19–31.

obvious consequence of such illumination is shadow, such a model draws attention to the fragmentary aspect of any explication. Yet at the same time it draws attention to the fact that unique *insight* into the structure of the past can only be achieved from the vantage point of the present. Thus, it is Wittkower’s great merit to have raised to prominence an issue not evident either to historians from other generations nor to the Renaissance architects themselves, albeit latent in their practice. Interacting with contemporary discourse, his historical construction, insight, blind spots and all, ultimately testifies to the active role of history writing in the construction (and demise) of modernism and more generally to the place of historical reflection in the definition of any present.