

The Social Dimension of Structure: Otto Bartning's Steel Church

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Abstract

Departing from the focus upon architectural theory and its implementation that has characterized most accounts of the role technology played in the construction of meaning in the architecture of the modern movement, this paper examines the social components of that meaning. In a number of twentieth-century German buildings from the first third of this century, innovative engineering generated spaces intended to enhance empathetic experiences of community. This phenomena crossed stylistic boundaries in buildings which ranged from reworkings of historical in modern materials to utopian visions of mass production. The functions of these buildings were equally diverse, and included cinemas, exhibition halls, and churches. In all of them, meaning was displaced from ornament, now almost entirely eliminated, to the the rituals and performances that took place within. One of the least remembered, and in many ways most representative, of these buildings was Otto Bartning's Steel Church for the Pressa Exhibit held in Cologne in 1928, the subject of this paper.

Since the publication of *Learning from Las Vegas*, architects have explored the construction of meaning through motifs applied to rather than integral with buildings, drawing in the process upon a succession of literary theories, from semiotics through deconstruction.¹ At the same time, respect for the principles of "honest" construction espoused during the nineteenth-century by Augustus Welby Northmore Pugin and John Ruskin, has continued, and been supported by investigations into a larger body of related French and German architectural theory.² This body of ideas been enormously attractive to those of us who teach architecture, but much less popular with a public that often seems to revel in what are for many of us among the most repugnant, and culturally conservative, meanings attached to the skyscrapers and shopping malls built during the building boom of the 1980s. Adept at exposing those meanings, although for the most part through the use of arcane terms that limit our audience, we are less successful in proposing alternatives that transcend our own preference for adversarial positions, and address the larger world outside our classrooms and

journals, much less beyond the design professions.

As a historian, I can offer only precedents; I leave it to others to map new paths out of this dilemma. But precedents can be found, and in what may seem at first to be unexpected places, such as the modern movement in architecture that flowered briefly in Germany during the shortlived democracy known as the Weimar Republic. There the assumption that meaning was embedded in structure flourished, as I think we all know, in buildings whose vocabulary was often patently industrial, such as the Bauhaus. The formalist agendas of most of the art and architectural critics among the generation that sponsored the transferral to American soil of all that proved salvagable of this movement, have prevented us for many years, however, from appreciating the true complexity of this achievement, and above all of its attempt to create an architecture with many layers of popular appeal. I want to begin by examining that complexity through the analysis of a building that is as unfamiliar to most of us, as it was probably recognizable to large numbers of Germans in the late 1920s, Otto Bartning's prefabricated Steel Church in Cologne, built for the Pressa exhibition staged in that city in the summer of 1928, and quickly re-erected in a suburb of the nearby city of Essen, where it stood until its destruction during World War II.³

It is exactly the aspects of this building that have marginalized it in later histories that accounted, I would argue, for its favorable contemporary reception. This, I might add, extended well into the 1960s, when it was still credited with being among the small body of churches from the 1920s (along with Auguste Perret's Notre Dame de Raincy, and the work of Bartning's compatriot Dominikus Böhm) that were the point of departure for the innovations in postwar church architecture that included most famously the formally and structurally very different church Le Corbusier built at Ronchamp.⁴ Ducks rather than decorated sheds, according to the terminology of *Learning from Las Vegas*, the frankly exposed, unornamented structure of these churches was embedded not only in familiar theories of "truth to materials," but in a dense, and too often ignored, web of socially rather than entirely physically constructed

meanings.

First and most obvious of these was the correlation with Gothic architecture. Bartning's recasting of esteemed precedents, such as Notre Dame and the Ste. Chapelle, both in Paris, but also Germany's own tradition of late medieval hall churches, into modern materials, in this case a skeletal steel frame, copper infill panels, and expansive quantities of stained glass, all of it designed by Elizabeth Koester, would have been easily comprehensible to the general public. Visitors to the exhibition, as opposed to those who merely read about it in newspapers and illustrated magazines, would have seen the Steel Church in the almost literal shadow of Cologne's great gothic cathedral, whose completion in the nineteenth century had comprised an important chapter in German political as well as architectural history.⁵ And the fact that almost all nineteenth and early twentieth scholarship of Gothic architecture described its forms as carefully nuanced responses to the transfer of loads encouraged German architects — open, as many English theorists were not, to the possibilities of new materials — to believe that reinforced concrete and steel, and their new tectonic properties, were particularly appropriate for religious architecture.⁶

These allusions to Gothic architecture were not adopted merely as a vehicle for showcasing industrial materials. The creation of spaces to engender community, often accompanied by a nostalgic view of preindustrial, and above all late medieval, social structures was older than Bruno Taut's proposals for glazed city crowns, and outlasted the fashion for crystalline faceted forms. A prominent facet of German political life from the moderate left to the far right by 1910, it found expression above all in centrally planned exhibition pavilions and patriotic monuments, and in religious architecture. Not surprisingly, the most important precedent for the exposed frame of the Steel Church was Bruno Taut's "Monument des Eisens," built fifteen years earlier for a Leipzig trade fair. As in Taut's more famous Glashaus, this advertisement for the German steel industry offered redemption from the crassness of capitalism, as I have argued elsewhere, through a shape which featured ennobling patriotic content.⁷ Bartning adopted a similar strategy in a building whose construction was also sponsored by the manufacturers of its materials.

Today we are still apt to accept too easily the modernists' own contention that the popularity of reinforced concrete, steel, and glass depended simply on their capacity to express the spirit of the times, in other words, that industrial materials were more appropriate to an industrialized society than historicist forms. This argument ignores the depth of intellectual as well as popular support that had existed since the turn of the century for staving off the architectural implications of industrialism and the consumer culture it had spawned through the cultivation of simplified, almost anti-materialist, versions of historical and vernacular forms, a tradition to which the Steel Church's historicist massing paid homage.⁸ Easily forgotten today as well is the specific context of the industrial imagery, which during the second

half of the twenties, partially displaced this earlier model. Grounded in the optimism of women and men from across the political spectrum that mass production offered the best hope for social harmony, one that was to be realized through improved living conditions and cheap consumer products for the masses (a situation indeed largely achieved, but with unanticipatedly intellectually and socially confining results, in the United States during the 1950s), it was simultaneously utopian and consumerist.⁹

Both approaches used light as an anti-material, and in the second case, at times a technologically generated and certainly low cost, alternative to architectural mass and decoration. Today when we look at the emphasis German architects placed in the first three decades of the century upon stark forms, whose drama came from pushing the technology of construction to its limits, we are apt, especially in the absence of the lively colors and patterns of Coester's stained glass for the Steel Church, to find banality; certainly the general public, who tend to view industry with wary distrust and are not attune to the subtle placement and shaping of piers, for instance, are even less apt to recognize these buildings as beautiful. During the fragile German economic boom that lasted from 1924 to 1929, however, this utopian-tinged consumerism brought a new visual drama to German downtowns. From department stores to cinemas, this lowcost alternative to ornament also replaced the vicarious thrill of a seeming elevation in social status achieved through the purchase of goods or entertainment that was a common dimension of palatial prewar department stores and early cinema environments, an illusion which flourished in many other countries, including our own, until the onset of the Great Depression.¹⁰ For his contemporaries Bartning's dematerialization of historical precedent was as important as his matter-of-fact use of steel and copper.

Bartning's emphasis on light was understood during the twenties as spiritual, as utopian, and, equally importantly, as theatrical. Today this may strike us as inappropriate for a religious setting, but during the twenties spectacle was an esteemed method of engendering political and religious community, as well as encouraging consumerism. Clergymen such as Johannes van Acken propounded the lighting techniques and seating arrangements pioneered by Expressionist theater directors like Max Reinhardt as a means for revitalizing religious architecture.¹¹ The floor of the Steel Church, for instance, sloped towards the front, in imitation of theater architecture, while Bartning raised the chancel to make it more visible.

With the authority of the state widely questioned by its many opponents on both the left and right, during the twenties the German Lutheran and Roman Catholic churches sought to cement their position as the country's most widely-respected institutions through liturgical and artistic reforms that brought a new clarity and focus to their fundamental dogmas. Both churches moved in particular towards a renewed focus upon liturgy — the rituals enacted in public by and for believers, as opposed, for instance, to private

activities like saying the Rosary or reading the bible.¹² Theologians like Romano Guardini emphasized shared and highly emotional congregational experiences.¹³ The attention they paid to space and light, rather than decoration had the additional benefit of creating effects more readily appreciated by working class audiences than the complex historical allusions common in nineteenth-century religious architecture and its ornament, which had been easily comprehensible to only a well-educated elite.

The elegant metal and glass architecture of the Steel Church thus existed within a matrix of contemporary assumptions about historical and industrial imagery, and about theatrical spiritualism, but perhaps the most important force driving Bartning's adoption and exposure of the steel frame was the German church's embrace, since the early years of the century, of innovative structural solutions, which became the most overtly architectural aspect of the creation of an empathetic sense of community among their congregations.¹⁴ Bartning's was just one of a number of churches in which architects like Theodor Fischer, Dominikus Böhm, and Rudolf Schwartz employed reinforced concrete and steel to achieve a new openness, which brought large numbers of people together with minimal architectural interruption. In the case of the Steel Church, a parabolic plan, which focused attention on the altar, added to the effect.

Indeed, the creation of community-inducing spaces was, far more than any industrial aesthetic, the principal stimulus for new tectonic solutions in Germany during the first three decades of the century. Fischer's Garrison Church set a new German record for a reinforced concrete span, one which was quickly surpassed by Max Berg's Centennial Hall in Breslau (now Wrocław, Poland), itself built in part to house a controversial anti-war political pageant written by Gerhart Hauptmann and staged by Reinhardt.¹⁵ Ironically, few of these technically innovative buildings were designed by prominent members of the modern movement. Thus it was Bartning rather than Ludwig Mies van der Rohe who received the commission for the Steel Church. It was apparently awarded to him because of his more than two decades of activity building and writing about religious architecture.¹⁶ His membership in the Ring, the group of architects, which included Gropius and Mies, that had been formed to defend the modern movement (or it was best known at the time, the New Building) appears to have been incidental.

Indeed, for all their rhetoric the architects included by Henry-Russell Hitchcock and Philip Johnson in the Museum of Modern Art Exhibition that introduced the International Style, as they termed it, to an American audience, were seldom in the forefront, even in Europe, of exploiting industrial materials, as opposed to their real contribution in correlating architectural form with new developments in the visual arts, above all De Stijl and Constructivism.¹⁷ Mies, for instance, would emigrate to the United States before matching the degree of metal framing or glazing Bartning achieved in the Steel Church. The degree to which buildings like the Steel Church, rather than the work of Le Corbusier, Gropius, and

Mies, set the tone for the more overtly technological character of postwar architecture in Europe and the Americas has largely been ignored by historians and critics familiar with only the work of the most famous modern architects, with the exception of specialist studies of religious architecture.

By mid-century these spaces and the spectacles they housed remained popular with the general public, but were distrusted by many intellectuals and architects, even as technology became crucial to modernist architectural practice as well as theory. From Clement Greenberg and Theodor Adorno to Louis Kahn and Mies, the upper intellectual echelons of the postwar era on both sides of the Atlantic were dominated by men who were profoundly uncomfortable with mass culture, although lively, populist buildings continued to be erected by well known architects like Eero Saarinen.¹⁸ This new elitism was largely a reaction against the unquestioned effectiveness in generating support for Hitler's brutal regime, of elaborately staged rallies, like the annual National Socialist party meetings in Nuremberg, and the distrust for the Expressionist component of the modern movement that resulted from this cooption of its tactics.¹⁹ From the Seagram Building to the Salk Laboratories, monumental abstraction, whether overtly and elegantly industrial or hauntingly spiritual, was denuded of the dynamism characteristic of the Weimar cityscape. When Pop art and architecture moved by the 1960s back towards a dialogue with mass culture, they veered between a too easy acceptance and a deeply cynical manipulation of capitalist consumerism.

I welcome the turn towards tectonics that seems to be beginning to replace the emphasis on literary theory, which for a generation has dominated the discussion of meaningful built form.²⁰ Personally, I think that this development plays to our particular strengths as a profession, to the things, that is, that architects understand best and most uniquely, rather than to second hand interpretive strategies that most of us deploy far less deftly. At the same time, as a historian of the modern movement, I want to warn against the easy nostalgia that I think has dominated earlier revivals of modernist forms, and even ideas. Today it is Le Corbusier whom we remember best, the member of the movement who most effectively targeted an audience composed of other architects.²¹ During the twenties, however, other members of the modern movement often addressed, and successfully engaged, large popular audiences. This was particularly true in Germany, despite the politicization there of almost all forms of artistic and intellectual endeavor; it was also true in the Netherlands and Czechoslovakia. I believe that this engagement, rather than the manipulation of structure for its own sake, accounted for much of the vitality of the architecture of those years. While it is inappropriate, of course, to mimic the strategies of the twenties, it is essential, I think, to remember their complexity as we embark on this attempt to create a new architecture, not only for ourselves, but also for those who will live and work in, and, one hopes, be intellectually and emotionally affected by our buildings.

NOTES

- ¹ Robert Venturi, Denise Scott-Brown, and Steven Izenour, *Learning from Las Vegas* (Cambridge: MIT Press, 1972).
- ² See especially Wolfgang Herrmann, *Gottfried Semper: in search of architecture* (Cambridge: MIT Press, 1984); Heinrich Hübsch, et al., *In what style shall we build? The German Debate on Architectural Style* (Santa Monica: Getty Century for the History of Art and the Humanities, 1992); Augustus Welby Northmore Pugin, *The True Principles of Pointed or Christian Architecture* (1841. New York: St. Martin's Press, 1973); John Ruskin, *The Seven Lamps of Architecture*. (2nd edition, 1880. New York: Dover, 1989); Gottfried Semper, *"The Four Elements of Architecture" and Other Writings*, Harry Francis Mallgrave, ed., (Cambridge: Cambridge University Press, 1993); and Eugène-Emmanuel Viollet-le-Duc, *Discourses on Architecture*, trans. Benjamin Bucknell (1863. New York: Grove Press, 1959).
- ³ The best sources on the church are Otto Bartning, *Die Stahl Kirche* (New York: Copper and Brass Research Institute, 1930); Paul Girkon and Otto Bartning, *Die Stahlkirche* (Berlin: Furche-Kunstverlag, 1928); Barbara Kahle, *Rheinische Kirchen des 20. Jahrhunderts: Ein Beitrag zum Kirchenbauschaffen zwischen Tradition und Moderne* (Köln: Rheinland-Verlag, 1985), pp. 33 and 39-42; Karl Gabriel Pfeill, "Zur Neuen Religiösen Baukunst," *Die Christliche Kunst* 25 (1929), p. 278; Hugo Schnell, *Der Kichenbau des 20. Jahrhunderts in Deutschland* (München: Verlag Schnell & Steiner, 1973), pp. 34 and 45-46; and J. G. Wattjes, *Moderne Kerken in Europa en Amerika* (Amsterdam: N. V. Uitg.-Mij "Kosmos," 1931, figs. 54-60. For an overview of the exhibit, the first international one held on German soil after First World War see: Wulf Herzogenrath, ed., *Frühe Kölner Kunstaustellungen* (Köln: Wienand, 1981).
- ⁴ See especially Albert Christ-Janey and Mary Mix Foley, *Modern Church Architecture: A guide to the form and spirit of 20th century religious buildings* (New York: McGraw-Hill, 1962); 128 and Robert Maguire and Keith Murray, *Modern Churches of the World* (London: Dutton Vista, 1965) 18. Surveys of religious architecture were numerous in the first two decades after World War II. Richard Biedrzyński, *Kirchen Unserer Zeit* (München: Hirmer Verlag, 1958); Reihard Gieselmann and Werner Aebli, *Kirchenbau* (Zürich: Verlag Girsberger, 1960); Helmuth Odenhausen and Hans Gladischefski, *Stahl im Kirchenbau* (Düsseldorf: Verlag Stahleisen m. b. H., 1962); Ferdinand Pfammatter, *Betonkirchen* (Einsiedeln: Benziger Verlag, 1948); Joseph Pichard, *Modern Church Architecture*, trans. Ellen Callmann (New York: Orion Press, 1960); and A. Cassi Ramelli, *Edifici per il Culto* (Milano: Antonio Vallardi, 1949) also include the Steel Church.
- ⁵ Michael Lewis, *The Politics of the German Gothic Revival: August Reichensperger* (New York: Architectural History Foundation, 1993) 25-56.
- ⁶ The most prominent advocate of this position among scholars of the gothic was Eugène-Emmanuel Viollet-le-Duc. See also Kahle and Schnell.
- ⁷ Kathleen James, "German Expressionist Architecture: A Blueprint for Reform?," in *A Community of Diverse Interests: Proceedings of the 82nd Annual Meeting of the Association of Collegiate Schools of Architecture* (Washington: ACSA, 1994) 129-34.
- ⁸ At the time the most famous of these was Alfred Messel's Leipzigerplatz addition, completed in 1904, to the Wertheim Department Store in Berlin. The phenomena is far better described, however, in relation to Peter Behrens' AEG turbine factory. See see Stanford Anderson's three articles "Modern Architecture and Industry: Peter Behrens and the AEG Factories," *Oppositions* 23 (1981), pp. 53-77; "Modern Architecture and Industry: Peter Behrens and the Cultural Policy of Historical Determinism," *Oppositions* 11 (1977), pp. 52-71; "Modern Architecture and Industry: Peter Behrens, the AEG and Industrial Design." *Oppositions* 21 (1980), pp. 78-97.
- ⁹ Jost Hermand and Frank Trommler, *Die Kultur der Weimarer Republik* (München: Nymphenburger, 1978) and Helmut Lethen, *Neue Sachlichkeit 1924-32, Studien zum Literatur des "Weissen Sozialismus"* (Stuttgart: Metzheersche, 1978).
- ¹⁰ Kathleen James, "German Expressionist Architecture," 132, and "Erich Mendelsohn: The Berlin Years, 1918-1933," University of Pennsylvania diss., 1990, 212-312.
- ¹¹ Johannes van Acken, *Christozentrische Kirchenkunst: Ein Entwurf zum Liturgischen-Gesamtkunstwerk* (Gladbeck i. W.: A. Theben, 1923, 2nd ed.). See also Otto Bartning, *Von neuen Kirchenbau* (Berlin: Cassirer, 1919).
- ¹² In addition to Kahle and Schnell, see Ernest Benjamin Koenker, *The Liturgical Renaissance in the Roman Catholic Church* (Chicago: University of Chicago Press, 1954) and Ferdinand Kolbe, *Die Liturgische Bewegung* (Aschaffenburg: Paul Pattloch Verlag, 1964) pp. 36-62.
- ¹³ Romano Guardini, *The Spirit of the Liturgy*, trans. Ada Lane (London: Sheed and Ward, 1937).
- ¹⁴ Kahle and Schnell. For an account of the development of the concept of empathy in relationship to architecture see Harry Malgrave, *Empathy, form and space: problems in German aesthetics, 1873-1894* (Santa Monica: Getty Center for the History of Art and the Humanities, 1994).
- ¹⁵ Winfried Nerdinger, *Theodor Fischer, Architekt und Städtebauer 1862-1938* (Berlin: Ernst, 1988), pp. 103-12, 233-38. For details of its engineering and its importance see Spangenburg, "Zwei monumentale Hallenbauten in Eisenbeton," *Deutsche Bauzeitung, Mitteilungen über Zement-, Eisen- und Eisenbeton* 44 (1910), p. 162. The importance of the church for later reformers is described in Walter Distel, *Protestantischer Kirchenbau seit 1900 in Deutschland* (Zürich: Orell Füssli Verlag, 1933) 7; Pfammatter, *Betonkirchen*, 36; and Schnell, 12. For the Centennial Hall see Kathleen James, "An Organic Modernism," *Proceedings of the 81st Annual Meeting of the Association of Collegiate Schools of Architecture* (Washington: ACSA P, 1993) 307-11.
- ¹⁶ Bartning, *Von neuen Kirchenbau*; Hans K. Mayer, *Der Baumeister Otto Bartning und die Wiederentdeckung des Raumes* (Heidelberg: Verlag Lambert Schneider, 1951); and Jürgen Bredow and Helmut Lerch, *Materialien zum Werk des Architekten Otto Bartning* (Darmstadt: Verlag das Beispiel GmbH, 1983).
- ¹⁷ Henry Russell Hitchcock, and Philip Johnson, *The International Style* (1932. New York: Norton, 1967).
- ¹⁸ Buchloh, Benjamin H. D., Serge Guilbaut, and David Solkin, eds. *Modernism and Modernity: The Vancouver Conference Papers*. Halifax: the Press of the Nova Scotia College of Art and Design, 1983.
- ¹⁹ James, "German Expressionist Architecture," 133.
- ²⁰ See, for instance: David Leatherbarrow, *The Roots of Architectural Invention: Site, Enclosure, Materials* (Cambridge: Cambridge UP, 1993) and Kenneth Frampton, "Louis I. Kahn and the New Monumentality, 1944-1972," *Design Book Review* 28 (1993), pp. 6-13.
- ²¹ Beatriz Colomina, *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge: MIT P, 1994).