

# SCIENCE, INDUSTRY AND ART: GOTTFRIED SEMPER'S SEARCH FOR THE *JUSTE MILIEU*

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**S**HORTLY after the fabled Great London Exhibition of 1851 closed its doors, the German architect and theorist Gottfried Semper (1803-79) published a critique of the exhibition in a slender volume bearing the rather unpromising title of *Science, Industry and Art*.<sup>1</sup> The author was a minor luminary in the galaxy of Crystal Palace patrons and planners. A refugee from the abortive Continental revolutions of 1848-49, having fled arrest for his activities on the Dresden barricades, he had found ready acceptance among the artists and engineers favored by Prince Albert, notably the designer Owen Jones and Henry Cole, advocate of the penny post and inventor of the Christmas card. According to its subtitle, Semper's pamphlet offered an agenda of "Proposals for the Stimulation of National Artistic Consciousness." More specifically, it outlined a curriculum for the Department of Practical Art which Cole and the Prince Consort were establishing in the new Museum of Manufactures to be located in South Kensington.<sup>2</sup>

With its chaotic profusion of designs and its earnest celebration of mid-Victorian virtues, the Crystal Palace understandably provoked widespread critical comment, and Semper's analysis was one of the most trenchant of the day. Semper himself enjoyed a fair degree of eminence during his lifetime and retains a respectable reputation among historians of art.<sup>3</sup> Beyond this, however, he is little known. Overshadowed by the

<sup>1</sup> Gottfried Semper, *Wissenschaft, Industrie und Kunst: Vorschläge zur Anregung nationalen Kunstgefühls* (Braunschweig, 1852). Subsequent references are to the reprint in *Wissenschaft, Industrie und Kunst und andere Schriften über Architektur, Kunsthandwerk und Kunstunterricht*, ed. Hans M. Wingler (Mainz, 1966); hereinafter cited as WIK.

<sup>2</sup> On Semper and the Crystal Palace circle see Nikolaus Pevsner, "High Victorian Design," in *Studies in Art, Architecture and Design* (2 vols., London, 1968), II, 90, 94-95. Pevsner speculates that the pamphlet, written in response to a "private request," may have been commissioned by Prince Albert himself; *ibid.*, II, 47.

<sup>3</sup> Pevsner, *ibid.*, calls Semper the "best German architect of the mid-nineteenth century" and an "eminently intelligent theorist of design." The principal treatments of Semper's thought are Leopold D. Ettlinger, *Gottfried Semper und die Antike* (Halle,

great men of his age, he takes his place in the second rank, relegated for the most part to footnotes and passing references. *Science, Industry and Art* appeared two years after Richard Wagner's *Art Work of the Future*; the same decade would see publication of Darwin's *Origin of Species* and Marx's *Critique of Political Economy*. Unlike these giants, Semper never founded a movement or gave his name to an era. Yet if he lacked the culturally formative genius of a Wagner or Marx, his career provides useful insights into the cultural currents surging across Europe at mid-century. As artist, teacher and social critic, he consistently sought to forge a fruitful bond between his art and his world, to reconcile aesthetic theory with economic reality, cultural ideal with social practice. His was the Apollonian vision of a liberal humanist in search of the elusive *juste milieu*. In his long and often turbulent career he confronted the primary aesthetic problems of Europe's first mature industrial generation, a generation for which escalating forces of change threatened to engulf cultural positions before they could be firmly established.

Both chronologically and conceptually, *Science, Industry and Art* lies at the heart of Semper's career. Consequently it provides an obvious point of departure for tracing the lineaments of his thought. It represents his most explicit attempt to articulate an aesthetic critique of the industrialization which promised to transform his world beyond recognition. Semper's analysis shared with others of its genre a concern to purge the industrial world of its prevailing ugliness but, unlike some, to do so without sacrificing the attractive advantages of the machine. The proposals he advanced were a bold if naive attempt to unite industry and art, science and society, by means of classical learning and tutored aesthetic sensibility. More broadly, the pamphlet was an important stage in Semper's lifelong intellectual struggle to reconcile the classic humanism of his training and temperament with the analytical positivism of his aesthetic theory-building. The former expressed itself in his tireless glorification of freedom and his quasi-historicist approach to architectural style, the latter in a growing emphasis on the functional character of art, the role of necessity in the establishment of new forms and styles, and a predisposition to affirm the world of science, technology and mass production. The former led him to idealize classical art, the latter to plumb the social and technical origins of artistic style. The former led him to

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1937), and Heinz Quitzsch, *Die ästhetische Anschauung Gottfried Sempers* (Berlin, 1962).

the barricades in 1849, the latter to Darwin and a *modus vivendi* with the imperfect order he had earlier sought to overthrow.

## I

From its founding until 1855, Semper served as director of the metal and woodworking division in Prince Albert's Department of Practical Art. But if *Science, Industry and Art* therefore had a specific pedagogical purpose, its focus was not limited to these immediate circumstances. Semper clearly assumed that his formulas had a more general applicability. As he wrote, "these [English] conditions will eventually assume universal significance, since they reflect relationships that are valid for every country."<sup>4</sup> Perhaps in confirmation, he published the treatise in his native language; it never appeared in English. A blueprint for South Kensington, it was at the same time a manifesto for an industrializing world.

Its premise was far-reaching. Semper argued in effect for an organic and universal relationship between art and society; each, he held, closely reflected the virtues and vices of the other. Nowhere was this more evident than in the Crystal Palace itself. The exhibition may indeed have displayed, in Tennyson's oft-quoted words, "all of beauty, all of use / That one fair planet can produce," but at the same time it was an aesthetic bedlam, an exotic bazaar of styles and techniques devoid of any coherent controlling principles. To Semper, this wild eclecticism bespoke a more fundamental confusion in social conditions and artistic theories. Reform therefore must take both art and society into account. The elevation of artistic standards could not be achieved in isolation from the reform of society. The central problems of the industrial world, Semper held, stemmed from the uneven pace of recent progress. With the rapid scientific and commercial advances made possible by machines, technological capabilities had outstripped the human capacity to master and direct them. "I am in no way lamenting [this] general state of affairs," Semper averred. "On the contrary, I am certain that on every side there will sooner or later be auspicious developments for the welfare and the glory of society."<sup>5</sup> But if long-range prospects were bright, the immediate effect of technological progress was clearly to widen the fault lines already cleaving society and the arts. Art education could not be merely

<sup>4</sup> WIK, 42.

<sup>5</sup> *Ibid.*, 32.

a matter of training artists and artisans; it must also involve the most "practical and widespread possible *education of popular tastes*."<sup>6</sup>

To do so would require abolition of the prevailing dichotomy between "high" and "low" art, fine arts and handicrafts. As an architect Semper moved primarily in the world of the applied arts, but he held them to be intimately related, both technically and historically, to painting and the plastic arts. The industrial world, however, had lost sight of this fundamental unity. Economic progress had only served to aggravate the estrangement of academic and practical art with the result that neither had a proper functional conception of style. One art prevailed in the academy, which had too little sense of utility; another in the factory, which had too little sense of beauty.

This indictment was by no means unique to Semper. It bore considerable resemblance, for example, to that handed down in "Art and Revolution," the essay published in 1849 by Richard Wagner, a good friend and erstwhile colleague of Semper's in Dresden. Wagner too attacked the contradictions between art and artistry, contrasting the liberating creativity of the artist with the soulless practicality of the artisan. The latter, for Wagner, had become a mere slave of industry, reduced physically and spiritually to little more than the machine which threatened to replace him.<sup>7</sup> Both Semper and Wagner judged their world against the idealized vision of classical Greece as a model synthesis of art and society, individual and community. Unlike Wagner, however, Semper was reluctant to condemn industrial capitalism as an intrinsic arch-enemy of the good which sacrificed human and aesthetic values to the pursuit of profit. Wagner had raged against a denatured modern art whose "real essence is industry, its moral purpose to make money, its aesthetic pretext to provide diversion for bored minds."<sup>8</sup> Semper, however, took a more restrained view. For him the heart of the problem lay not in the power of Mammon but in the inadequacy of practical artistic standards. To be sure, the machine raised fundamental questions about the value of the human component in art. Comparing industrial society to a "Chinese trying to eat with knife and fork," Semper acknowledged

<sup>6</sup> *Ibid.*, 62; italics in original.

<sup>7</sup> Richard Wagner, "Die Kunst und die Revolution," *Gesammelte Schriften und Dichtungen* (9 vols., Leipzig, 1871-73), III, 31ff. For an illuminating portrait of Wagner as artist and social critic see Carl E. Schorske, "The Quest for the Grail: Wagner and Morris," in Kurt H. Wolff and Barrington Moore, Jr., eds., *The Critical Spirit* (pb. ed., Boston, 1967), 216-232.

<sup>8</sup> Wagner, "Die Kunst und die Revolution," 25.

the problems of a situation in which "the machine sews, knits, embroiders, carves, paints, reaches deep into the realm of human art and puts every human skill to shame."<sup>9</sup> But he was optimistic that with the elevation of standards and tastes these enormous new technological resources could be successfully exploited.

Artistic reform, however, was inconceivable in a social vacuum. The consumer society upon which mass production depended had brought the arts into the marketplace, forcing everyone to become his own critic as "speculation" flooded the market with new products. Since high art had hitherto failed to provide guidance, the artisan had inevitably fallen prisoner to the system of production in his search for appropriate styles, becoming a "slave of the employer and current fashion, which ultimately provides the market for his wares."<sup>10</sup> Society suffered no less than the artisan from this degeneration of aesthetic sensitivity. Democratization of tastes, in the absence of adequate standards of judgment, led ineluctably to the tyranny of fashion. Tastes became subject to manipulation by those who stood to profit. In architecture, for example, the designer's name promised to take precedence over the artistic quality of his work. The fashionable architect, Semper predicted, would eventually become little more than a businessman contracting out his designs. Fractionated between the conflicting conceptions of architects striving solely for outward effect and engineers concerned solely with practicality, architecture would lose its integrity. The typical product would be a "sham building" having no more aesthetic coherence than the canons of fashion by which it would be judged.<sup>11</sup>

How could these sorry conditions be remedied? For Wagner, still gripped by the spirit of 1848, the answer had rested in the radical transformation of society, a "revolution of humanity" overthrowing the tyranny of industry and allowing a purified art and its reformed institutions to become the "precursors and models for all future community institutions."<sup>12</sup> A chastened revolutionary, influenced perhaps by the apparently benign social compromise of Victorian England, Semper also sought the purification of art and its institutions, but essentially within the existing framework of society. Education, not revolution, was primary. Essential to the reform enterprise was the improvement of craft

<sup>9</sup> WIK, 31-32.

<sup>10</sup> *Ibid.*, 38.

<sup>11</sup> *Ibid.*, 59-61; cf. Werner Hofmann, *The Earthly Paradise*, trans. Brian Battershaw (New York, 1961), 408.

<sup>12</sup> Wagner, "Die Kunst und die Revolution," 49.

schools, which—at least in England—had previously been the poor relatives of academic art schools.<sup>13</sup> Apprentice architects and engineers, turners and designers, should receive a fully rounded education combining pertinent instruction, practical experience, and a keen focus on problems of style and technique. The liberal humanist in Semper insisted upon the primacy of classical learning. He rejected any system which, as he expressed it in a later work, merely trained specialists and ignored the “cultivation of the man as such.”<sup>14</sup> The liberal arts were therefore fundamental to the applied arts. Equally important, however, was practical experience. Semper attacked a pedagogy which stressed theoretical knowledge without subjecting it to the immediate test of the workshop. “From the beginning,” he asserted, “students must learn to realize that in most cases the drawing is a means to an end, not an end in itself.”<sup>15</sup> Nor should students pursue their specialities in isolation. Semper proposed that all make use of a common shop and share common equipment, a principle which he was to follow systematically at South Kensington. Perhaps harking back to the model of a Renaissance atelier, Semper recommended that students be given every possible opportunity to assist in executing projects on which their instructors were engaged.<sup>16</sup> He also prescribed frequent competitions, events restricted to students as well as general public competitions which matched students against established designers on an equal basis.<sup>17</sup> As a complement to the practical experience of workshop and competitions, students should receive lectures and readings which alerted them to common problems of aesthetics, style, and technique, thereby forging a unity of interests and perceptions among the various branches of applied art. Semper himself set the standard, using his inaugural lectures in the Department of Practical Art to discuss the relationships of the various applied arts to each other and to architecture.<sup>18</sup>

<sup>13</sup> WIK, 34, 48-49; cf. Hans Prinzhorn, “Gottfried Semper und die moderne Kunst,” *Süddeutsche Monatshefte*, V (1908), 544.

<sup>14</sup> Gottfried Semper, *Der Stil in der technischen und tektonischen Kunst* (2nd ed., 2 vols., Munich, 1878-79), I, viii, xii. The proposals outlined in the following discussion are summarized in WIK, 63-68.

<sup>15</sup> *Ibid.*, 67.

<sup>16</sup> Gottfried Semper, “Unterrichtsplan für die Abteilung für Metall- und Möbeltechnik am Department of Practical Art,” *Kleine Schriften*, ed. Hans and Manfred Semper (Stuttgart, 1884), 100-103; reprinted in WIK, 83-86.

<sup>17</sup> Cf. Otto Birkner, “Der Lehrer Gottfried Semper,” *Werk*, LIII, supp. 12 (December 1966), 297.

<sup>18</sup> G. Semper, “Bericht über die Abteilung für Architektur, Metall- und Möbeltechnik und praktisches Entwerfen, 1853-1854,” WIK, 89.

Empirical training on a humanistic foundation, then, was Semper's prescription for artistic reform. But for the new art to flourish and have the desired integrative effect on society, popular tastes would also have to be educated. Here too Semper shared Wagner's utopian vision but tempered his call for revolution. Increased sensitivity to style would ultimately benefit both art and society without resort to the barricades; social harmony would emerge from a community of aesthetic taste. To accomplish this, Semper looked to the public museum. The museum would provide a repository for superior examples of applied art, while its buildings would themselves provide object lessons in architectural style. Semper had great confidence in the efficacy of collections and monuments as "the true teachers of a free people,"<sup>19</sup> reinforced by regular public lectures explaining exhibits and the stylistic principles which they embodied. He himself was to offer several such lectures during his stay in London.

The capstone of Semper's edifice of reform could be found in the great public competitions which he advocated as the culmination of aesthetic training for both artisan and consumer. By making the public itself the jury which passed upon the merits of competitors, he suggested, the public and its artists could be brought closer together.<sup>20</sup> In this way industrial society might revive the unity embodied in the dramatic festivals of ancient Greece. Competitions would reconcile a democracy of taste with an aristocracy of standards, and by encouraging the public to exercise a growing aesthetic discernment they would liberate the artisan from his thralldom to industrial ugliness. The gaps between technological mastery and artistic sensitivity would gradually close, and a synthesis of material and social progress would be achieved under the aegis of a unified art.

## II.

Semper's formulas enjoyed a considerable vogue during the latter decades of the century. The Department of Practical Art became a model imitated by nearly two hundred art institutes in Britain alone, while the establishment of a Museum of Art and Industry in Vienna in 1863 provided a forum for Semper's adherents on the Continent until

<sup>19</sup> *Ibid.*, 63.

<sup>20</sup> This was a favorite idea of Semper's; cf. *Vorläufige Bemerkungen über bemalte Architektur und Plastik bei den Alten* (Altona, 1834), 6.

nearly the outbreak of World War I. As late as the 1920's, the guiding principles of the Bauhaus enunciated by Walter Gropius would bear a striking resemblance to those of Semper.<sup>21</sup>

But *Science, Industry and Art* was more than a statement of pedagogical theory. Its efforts to fuse empirical criticism with an idealistic vision of unity bespoke the complex mixture of humanism and positivism which shaped Semper's thought. On the one hand his pamphlet recapitulated the revolutionary idealism of *Vormärz* liberalism, with its yearning for the mutual transformation of art and society. On the other hand it adumbrated a new perspective in which the prophet would give way to the technician and revolution would yield pride of place to evolution as the motive force behind social and cultural unity. As he pursued the twin lodestars of social and artistic reform, Semper followed a course parallel to that of mid-century German liberalism, leading from the futility of 1848-49 to the great compromise between freedom and prosperity in the *Gründerjahre*, when the existing order became sanctified with the promises of progress held out by industrial technology and the national state. The Crystal Palace found Semper at mid-course. What were the other way stations on his odyssey?

A comfortable middle-class background and the classical humanism of the Gymnasium permeated Semper's early life and training. Born near Hamburg in 1803, the son of a prosperous merchant, he learned the rudiments of painting at an early age. His youthful studies also instilled in him a love for antiquity, including a special fondness for the works of the Roman poet and philosopher Seneca.<sup>22</sup> After first briefly taking up the study of mathematics he decided upon a career in architecture, and in the revolutionary year of 1830 he left for advanced study in Paris. While there he spent considerable time at the Jardin des Plantes, where Cuvier's botanical typology made a lasting impression, demonstrating "progressing nature, with all its variety and immense richness most sparing and economical in its fundamental forms and motives. . . ."<sup>23</sup> These visits instilled in him the notion of devising an

<sup>21</sup> See Peter Gay, *Weimar Culture* (Torchbook ed., New York, 1970), 96-101. On Semper's influence in general see Hermann Beenken, *Das neunzehnte Jahrhundert in der deutschen Kunst* (Munich, 1944), 73-74; Birkner, "Der Lehrer Gottfried Semper," 297-298; Alfred Lichtwark, *Der Deutsche der Zukunft* (Berlin, 1905), 149-243; Wilhelm Mrazek, "Gottfried Semper und die museal-wissenschaftliche Reformbewegung des 19. Jahrhunderts," WIK, 118; Hans Semper, *Gottfried Semper, ein Bild seines Lebens und Wirkens* (Berlin, 1880), 26; Wilhelm Waetzoldt, *Deutsche Kunsthistoriker* (2 vols., Leipzig, 1921-24), II, 138-139.

<sup>22</sup> H. Semper, *Gottfried Semper*, 2.

<sup>23</sup> *Ibid.*, 4; the English is Semper's.



analogous system of classification for the arts. He hoped to demonstrate, as he later expressed it, that "as with the works of nature, so also the works of our hands are connected with one another by a few basic ideas, and these find their simplest expression in certain original forms and types. . . ." <sup>24</sup>

This ambitious project did not immediately take shape. For the moment a greater influence was Semper's apprenticeship to Franz Gau, a German-born Parisian architect with a passionate interest in classical art. <sup>25</sup> It was at Gau's suggestion that Semper set out on what proved to be a four-year pilgrimage through Greece and Italy. These wanderings in the footsteps of Winckelmann and Goethe imparted a pervasive historical dimension to his social and aesthetic outlook. Like so many of the German intelligentsia, he fell under the spell of Athens. Greek art impressed him as the organic product of a unified people. <sup>26</sup> Semper's Mediterranean sojourn also launched his scholarly and professional career, since the copious archaeological research which he conducted provided the basis for a new theory of polychromy arguing that the architecture and visual arts of Greece, Rome, and the ancient Near East had been much more extensively colored than previously assumed. This theory brought the young architect to the attention of leading figures in the German art world. In 1834, as a direct result, the noted architect Karl Friedrich Schinkel secured for Semper the directorship of the architectural school in the prestigious Royal Academy of Art in Dresden. <sup>27</sup>

Semper took up his work in Dresden with the basic elements of his thought firmly rooted. Trained in both art and mathematics, he had immersed himself in antiquity and sampled the methods of the positive sciences. During the Dresden years, however, it was antiquity and the humanistic impulses which predominated. As a respected scholar and

<sup>24</sup> Semper, "Entwicklung eines Systems der vergleichenden Stillehre," *Kleine Schriften*, 261; translation quoted from Arnold Hauser, *The Philosophy of Art History* (New York, 1959), 145.

<sup>25</sup> On Semper and Gau see Joseph Gantner and Adolf Reinle, *Kunstgeschichte der Schweiz von den Anfängen bis zum Beginn des 20. Jahrhunderts* (4 vols., Frauenfeld, 1936-62), IV, 38; Cornelius Gurlitt, *Die deutsche Kunst seit 1800* (Berlin, 1924), 308; Nikolaus Pevsner, *An Outline of European Architecture* (7th ed., London, 1963), 261; Constantin von Wurzbach *Biographisches Lexicon des Kaiserthums Oesterreich und Wien* (60 vols., Vienna, 1856-91), XXXIV, 95.

<sup>26</sup> *Kleine Schriften*, 217-228; *Vorläufige Bemerkungen*, 9-10. See also Ettlinger, *Gottfried Semper und die Antike, passim*, and for the literary background E. M. Butler, *The Tyranny of Greece over Germany* (pb. ed., Boston, 1958).

<sup>27</sup> Constantin Lipsius, *Gottfried Semper* (Berlin, 1880), 3.

promising architect, busy with important commissions, Semper held a *passé-partout* to the highest circles in the cultural mecca of the German states. He frequented the cafés and soirées where the town's elite congregated to argue aesthetic theories, pass gossip and debate modest proposals to reform the world. Richard Wagner, then a frustrated second conductor of the Dresden Opera, whose new theater Semper had designed, found the architect to be a formidable conversationalist, and the two struck up a long-lasting friendship.<sup>28</sup> In this company cultural philhellenism went hand in hand with a naively optimistic liberalism, both arrayed against the existing Germany of petty princes and Biedermeier smugness. The confreres of Wagner and the fiery musician-revolutionary August Röckel were no less enthusiastic than Semper in celebrating the Greek fusion of art and freedom.

The revolutions of 1848 consequently found vigorous support in the Dresden artistic community. For Semper, but even more for Wagner and Röckel, revolution appeared to be the only avenue by which the artist could hope to transform society. Art and revolution, declared Wagner, had a common goal: revolution would give the free man his strength, art his beauty.<sup>29</sup> If the art of the Greeks had been intrinsically conservative, since it sprang from a cohesive public consciousness, "our art must be *revolutionary*, since it can only exist in conflict with the prevailing state of affairs."<sup>30</sup> Only by eliminating the barriers of class hierarchy could society begin to revive that primal Greek unity which would permit the arts to flourish as a truly free and truly liberating force. Fired by their vision of Greece, many of Dresden's artists took to the streets when the revolution came to Dresden in May, 1849. For a time Semper literally joined art with revolution as he lent his technical expertise to Dresden's revolutionary defense committee, inspiring subsequent merriment over the town's "Corinthian barricades."<sup>31</sup>

The collapse of the Dresden revolt drove Semper into exile and sapped his enthusiasm for the revolutionary transformation of society.

<sup>28</sup> Carl F. Glasenapp, *Life of Wagner*, trans. Ashton Ellis (6 vols., London, 1900-08), II, 113-114, 171; Ernest Newman, *Life of Richard Wagner* (4 vols., London, New York, 1933-46), I, 423.

<sup>29</sup> Wagner, "Die Kunst und die Revolution," 40.

<sup>30</sup> *Ibid.*, 35.

<sup>31</sup> Newman, *Wagner*, II, 75, and 54-103 on the Dresden revolt in general. See also Walter Schinke, *Der politische Charakter des Dresdner Maiaufstandes 1849 und die sächsischen Parteien während des Aufbruchs und seiner unmittelbaren Folgen* (Halle, 1917); Friedrich Pecht, *Deutsche Künstler des neunzehnten Jahrhunderts*, Erste Reihe (Nördlingen, 1877), 149-194; Heinrich Porges, "Bei Richard Wagner in Triebtschen," *Süddeutsche Monatshefte*, XXX (1932), 308; Quitzsch, *Ästhetische Anschauung*, 9-11.

From 1850 to 1855 the Department of Practical Art provided him a settled position, but in other respects London failed to satisfy him. Architectural commissions were scarce, and he complained that his energies and talents were being frittered away on "odds and ends of furniture" rather than on important projects.<sup>32</sup> In 1855, therefore, he accepted a lucrative offer to join the faculty of Zurich's Polytechnic Institute. Here he remained until 1869. But the move to Zurich also failed to restore the success and personal satisfaction Semper had enjoyed in Dresden. Although he re-established ties with fellow political emigrés and joined a circle which met regularly at the Zurich home of Gottfried Keller, the Swiss poet and democrat,<sup>33</sup> he grew impatient with the academic routine at the Polytechnic and fretted about the continued scarcity of architectural work. In 1864, when Ludwig II of Bavaria, the added devotee of his friend Wagner, invited Semper to draw up plans for a Wagner Theater in Munich, he responded with alacrity. "What could be more desirable to an aspiring artist," he wrote of Ludwig, "than to dedicate his services to the noble plans of a young monarch enthused about matters of truth and beauty?"<sup>34</sup> The vision of revolution had faded; the patron-king would reconcile art and society. Stealing time from his teaching duties, Semper devoted an entire year to the theater project, only to see it fall victim to anti-Wagner intrigues at the Bavarian court. Once again all avenues to architectural influence and fortune appeared blocked, and Semper concluded a letter to a friend in 1868 with the doleful lament, "Alas! I have remained here [in Zurich] to die off . . . unnoticed and neglected."<sup>35</sup>

During this drought in architectural commissions the artist in Semper yielded to the scholar-theoretician. Research filled the void left by designs and construction. It was during these unhappy years in Switzerland that the positivism latent in Semper's earlier thought and fueled by his fascination with Cuvier surfaced as the controlling element of both aesthetic and social analysis. In the new outlook technological evolution subsumed political freedom as the touchstone of progress and source of social and artistic unity.

<sup>32</sup> H. Semper, *Gottfried Semper*, 23; the "odds and ends" included a funeral coach for the Duke of Wellington.

<sup>33</sup> Emil Ermattinger, *Gottfried Kellers Leben, Briefe und Tagebücher* (2 vols., Stuttgart, Berlin, 1916-19), I, 378, II, 460-461.

<sup>34</sup> Semper to Wagner, 16 Dec. 1864; in Manfred Semper, "Gottfried Semper und Richard Wagner in ihrem persönlichen Verhältnis," *Süddeutsche Monatshefte*, III (1906), 414.

<sup>35</sup> H. Semper, *Gottfried Semper*, 30; see also Gottfried Keller to Hermann Hettner, 18 Oct. 1856, in Ermattinger, *Kellers Leben*, II, 427-428.

Central to this change of emphasis was Semper's longstanding postulate that a natural "necessity" of development linked society, the arts and the sciences. Semper had long assumed an environmental explanation for the origins of art. Architecture, he argued, sprang from the human urge for protection against the elements, the visual arts from the urge for self-adornment which differentiated man from animal. In the confluence of these primal urges lay the beginnings of ancient art, which reached its acme in religious and communal monuments.<sup>36</sup> Subsequent advances were essentially accretive developments of certain basic forms which could be identified, classified and analyzed. These *Urformen*, moreover, emerged from the same root forces which produced societal structures: climate, geography, and heredity. Aesthetic instincts were therefore human impulses of the same order as self-preservation. Art necessarily reflected both the natural forces and the human ideals from which civilizations emerged.

Building on such concepts, Semper formulated a functionalistic criterion for style, which he saw as "the conformity of an artistic phenomenon with the history of its origin and growth, with all the preconditions and circumstances of its development."<sup>37</sup> Art was not generically different from science. "Art knows only one master: necessity," wrote Semper as early as 1834, the same "necessity" which in 1852 he termed the "mother of science."<sup>38</sup> To confront and express the demands of nature and of his age was the artist's foremost function, as it was the scientist's. This functionalistic view had little room for the fashionable historicism of much nineteenth-century architecture, with its imitation of picturesque bygone styles for their own sakes. In his early essay on polychromy Semper had ridiculed architects who "[stuffed their] herbarium full" of whatever struck their fancies. "Thanks to them," he charged, "our major cities are blooming as genuine *extraites de mille fleurs*, the quintessences of every land and century, so that in our comfortable delusion we finally forget which century is our own."<sup>39</sup> If art arose out of "aesthetic necessity," then it followed that styles would be subject to evolutionary development as a function of their technical and social roots. Each age would require new forms and styles expressive of its own human and material "necessities."

Taken to its deterministic conclusion, this interpretation received its

<sup>36</sup> *Vorläufige Bemerkungen*, 7, 27-28; "Über Baustil," WIK, 108.

<sup>37</sup> *Ibid.*, 107.

<sup>38</sup> *Vorläufige Bemerkungen*, viii; WIK, 30.

<sup>39</sup> *Vorläufige Bemerkungen*, vii-viii.

fullest exposition in the major work of Semper's later career, a projected three-volume analytical history of "Style in Technical and Tectonic Art," the two completed volumes of which appeared in Zurich in 1860 and 1864. A later edition<sup>40</sup> underscored the evolutionary implications of Semper's outlook, paying explicit homage to Darwin and recapitulating three decades of research within a quasi-Darwinian theory of development which subordinated creative imagination to environmental necessity in the evolution of artistic styles.<sup>41</sup> Good art, the theory implied, must reflect inner laws of function. These laws would exert the primary influence on an object's style, although it would also depend upon the materials and techniques employed in its production as well as specific environmental and social influences. Only in the last instance did it reflect the personal ideas of the artist. Since in this formulation advances in materials and techniques would normally precede advances in artistic mastery, the development of appropriate styles was essentially a cyclical process of adaptation. Every society would face, in some form, the difficulties of the "Chinese trying to eat with knife and fork" reflected for Victorians in the eclecticism of the Crystal Palace.

In 1869 unexpected new opportunities opened for Semper the artist. The Saxon assembly, which had meanwhile granted him amnesty for his revolutionary activities, invited the now aging architect to supervise reconstruction of his Dresden theater, recently a victim of fire. Almost simultaneously came the invitation to take part in a more ambitious enterprise: construction of the proposed Imperial Forum and Burgtheater on the Vienna Ringstrasse. The planning committee, unable to choose between the designs of two competing young architects, asked Semper to assume control of the project and name one of the two as an assistant. Entrusting the Dresden work to his son, also an architect, Semper bade farewell to Zurich and plunged into the work in Vienna.

The Ringstrasse project in one sense continued what the aborted Wagner Theater began in reconciling the ex-revolutionary with the existing order. One interpretation suggests that Semper's labors in Vienna were inherently anachronistic, celebrating a Hapsburg absolutism which not only violated his basic liberal tenets but had itself entered a state of decline by 1870.<sup>42</sup> A recent observer, stressing the importance of Semper's evolutionary positivism, holds that the journey to Vienna marked

<sup>40</sup> See note 14.

<sup>41</sup> *Der Stil*, I, xxii, 1-2, 6; "Über Baustil," 106; cf. Gurlitt, *Deutsche Kunst*, 312; Quitzsch, *Ästhetische Anschauung*, 41.

<sup>42</sup> Beenken, *Das neunzehnte Jahrhundert*, 29.

his conclusive abandonment of a critical social consciousness and his acceptance of a capitalist mentality shaped by technology. This Marxist view argues that Semper, "the political opponent of monarchy, which he remained . . . , resigned and reconciled himself to capitalism."<sup>43</sup> Neither view is entirely accurate. The Ringstrasse was as much a monument to liberalism ascendant as to monarchism regnant; it reflected both Hapsburg pretensions and bourgeois aspirations. As his critique of the Crystal Palace showed, Semper was never an implacable foe of capitalism as his friend Wagner had once been. Reform of art required reform of society, but both depended upon a proper understanding of aesthetics and necessity. In his magnum opus on style Semper illuminated this position by means of his favorite Hellenic metaphor, arguing that the peculiar unity of Greek culture derived not from art or freedom alone but from an accommodation to the demands of nature on both. The "organic life of Greek art [flourished] only in the soil of necessity and under the sun of freedom,"<sup>44</sup> he wrote, and it was this principle which, in the intersection of the patron-king and the free bourgeois, Semper sought to monumentalize in the Ringstrasse.

Despite his great expectations for the project, Semper tarried only briefly in Vienna. Stricken by a severe asthmatic attack and wounded by repeated quarrels with his headstrong assistant, Karl von Hasenauer, he soon abandoned the work to his junior collaborator and retired to the Italy of his *Wanderjahre*. Here, honored with the Prussian *Ordre pour le Merite*,<sup>45</sup> he died in 1879. His personal synthesis of art and society, freedom and necessity, beauty and utility, died with him.

### III

During his stay in Zurich, Semper once remarked to Wagner that he felt "doomed to play the schoolmaster forever."<sup>46</sup> The classroom afforded him little satisfaction, and it is ironic that his theoretical activity had a more lasting effect than the architecture which was his first love.<sup>47</sup> In the last analysis, however, it was the image of the educator which gave coherence to Semper's work as both theorist and practicing artist. Throughout his career he sought to balance a mechanistic conception of develop-

<sup>43</sup> Quitzsch, *Ästhetische Anschauung*, 37.   <sup>44</sup> *Der Stil*, I, viii-ix.

<sup>45</sup> Cf. *Zeitschrift für bildende Kunst*, IX (1874), 610.

<sup>46</sup> Richard Wagner, *My Life* (2 vols., New York, 1911), II, 641.

<sup>47</sup> Arnold Hauser, *The Social History of Art* (2 vols., New York, 1952), I, 475. Followers of Semper's theory on the origins of art included Emmanuel Loewy, Wilhelm Wundt, and Karl Lamprecht.

ment, in which human invention was secondary, with his guiding vision of a society in which the artist—specifically the architect—would be the choragus, the cultural voice of the community. All architecture, he argued, expressed cultural ideals and symbols which transcended a cold formula of necessity. Spiritual elements were integral to the evolution of styles, as witnessed by his conception of architectural *Urformen*. In *The Four Elements of Architecture*,<sup>48</sup> a preliminary application of Cuvier to the applied arts based upon the research of his Dresden years, he argued that all architecture had evolved from four primal forms: hearth, mound, fence, and roof. Of these the hearth—the source of light and heat—was central, while the others resulted from the need to enclose and protect it. While these latter had structural functions, the hearth or altar—that around which the family or community gathered—was social and symbolic. The “embryo of social settlement,”<sup>49</sup> it was a symbolic expression of family, community, religion. Architecture thus evolved from a social core, a symbol of unity, and by expressing human ideals in monumental form it performed the “highest artistic task.” Its history was that of the “successive work of individuals who understood their age and discovered the structural expressions of its demands.”<sup>50</sup> Because he dealt with these primal forms and symbols, the architect stood between history and his own society.

Here lay the confluence of Semper’s artistic and social concerns. Nikolaus Pevsner has concluded that Semper and others in the Crystal Palace enterprise ultimately failed because they saw the problem of design as purely aesthetic rather than as a reflection of a larger social problem.<sup>51</sup> In Semper’s case at least the judgment is not entirely fair. He was no less ready than craftsmen-theorists like William Morris to insist on the interconnectedness of art and society. While Morris would eventually find his linking agent in a personal brand of rustic socialism, Semper held true to the dictates of his educative ideal. If science and industry assured quantitative progress, public art must encourage and cultivate the qualitative. But for the architect-choragus to speak intelligibly to his society, the ideals reflected in his monuments must be ideals generally shared and understood. Here Semper the practicing artist confronted the problems of style raised by Semper the theorist. His opti-

<sup>48</sup> *Die vier Elemente der Baukunst* (Braunschweig, 1851).

<sup>49</sup> “Über architektonische Symbole,” *Kleine Schriften*, p. 297; see also *Der Stil*, II, 335-338.

<sup>50</sup> “Über Baustil,” 107-108. This theory extended to the other applied arts as well, as witness Semper’s praise for the “spiritual clarity” of Greek vases; *Der Stil*, II, 4.

<sup>51</sup> Pevsner, “High Victorian Design,” 95.

mistic view of progress, whether socio-political or technological, told him that every society would eventually find its requisite cultural styles and forms, but in his own architectural designs he grappled with the confusion of an age which still possessed no readily apparent common ideals. A new style waited upon external formative factors—industry and science—and Semper's theory did not admit of a style *sui generis*, floating free of its social context. After the disaster of 1849 destroyed optimistic hopes for a natural alliance between social and artistic reform, "necessity" in effect consigned the artist to passivity. "How unfair," Semper wrote in 1851, "to reproach us architects for poverty of invention when there is no universal and vigorous idea anywhere manifest. First provide a new conception, then we will find the architectural expression for it."<sup>52</sup>

As a result Semper the critic of historicism, whose doctrines of function adumbrated the skyscraper aesthetics of a future generation, became identified in his own designs with the styles of the past. Of all the varieties in the architect's herbarium, Semper found Renaissance styles most congenial to his sense of architectural function. He did not share the enthusiasm of many contemporaries for things neo-Gothic, finding the "translation of . . . scholastic philosophy into stone"<sup>53</sup> to be not only technically inadequate but spiritually alien to the highly secular concerns of an industrial era. The Renaissance, in contrast, had to his mind creatively mastered both the technical and symbolic problems of architecture, prefiguring liberal notions of the proper relationships between individual and community. Both aesthetically and as social symbol, Renaissance style successfully represented "a principle of coordination and subordination in which everything was mutually supported and maintained, each component necessary to the whole. . . ."<sup>54</sup> The fusion of the best elements in the Greco-Roman heritage, it represented a superior adaptation of ideal forms to practical demands and a creative compromise of ancient forms with modern spirit: in short, a model for contemporary efforts.<sup>55</sup>

Whether this labored rationalization did justice to either the historical reality of the Renaissance or the technical and social problems of Semper's own day is doubtful at best. But it comported well with Semper's Apollonian conception of architecture as symbolic education and cultural synthesis. The latter, not surprisingly, found practical ex-

<sup>52</sup> *Die vier Elemente*, 103.

<sup>53</sup> *Der Stil*, I, xx.

<sup>54</sup> Quoted in Wurzbach, *Biographisches Lexicon*, XXXIV, 97.

<sup>55</sup> *Der Stil*, I, 457; cf. Lawrence Harvey, "L'architecture Semper: Sa Theorie sur l'origine des styles," *Revue générale de l'architecture et des travaux publics*, 4ième série, XIV (1887), col. 200, for the interpretation of a former student and uncritical admirer.



pression in Semper's own predilection for the monumental. In monumental designs the schoolmaster almost inevitably dictated to the theorist, and this may explain in part Semper's willingness to crib from the historicists' book at the risk of violating his own doctrine of function. As he argued at mid-career, monumental architecture would always be rooted in historical reference, since "the impression which a building makes on the people is based in part on reminiscence."<sup>56</sup> This concern with the "impression" made by a building infused Semper's work on the ill-fated Wagner theater. Wagner himself was primarily interested in questions of internal design, particularly the relationship of the stage to the audience, which he felt Semper's plans did not completely resolve. In contrast, Semper concentrated his energies on the theater's facade and the structure's physical location, arguing that the stage facilities would be used only infrequently and would affect only a limited number of people, while the exterior, because open to public view at all times, must be planned with care to make the optimum educative impression.<sup>57</sup>

The clearest expression of Semper's vision of architecture as unifying social symbol was his repeated recourse to the concept of the forum, the dynamic space in which a populace could congregate surrounded by the monuments of its cultural heritage. The forum figured in major plans at every stage of his career, from the heady years in Dresden to the culminating work on the Ringstrasse. In 1845, for example, he drew up plans for a royal gallery complex in Dresden, the central focus of which was to be a vast plaza enclosed on three sides by museums and opening out, by means of a Venetian wharf, to the Elbe River. An analogous conception marked his proposals for the museum group on the Ringstrasse. Here the royal palace and court theater were to be flanked by two great museums, creating a square bounded on three sides by the linked symbols of cultural and imperial power.<sup>58</sup> Similarly, for the public design competitions proposed in *Science, Industry and Art* he envisioned the Crystal Palace itself as a permanent public forum merging industrial and cultural symbols, providing free access to both artisan and consumer

<sup>56</sup> *Romburgs Bauzeitung*, 1847, quoted in Gantner and Reinle, *Kunstgeschichte der Schweiz*, IV, 10.

<sup>57</sup> Franz Bierman, *Die Pläne für Reform des Theaterbaues bei Karl Friedrich Schinkel und Gottfried Semper* (Berlin, 1928), 79, 82-85. To compound tragedy with irony, from Semper's viewpoint, the architect of Wagner's theater in Bayreuth later incorporated much of the interior design from the Munich project but scrapped the plans for the facade.

<sup>58</sup> See Camillo Sitte, *City Planning According to Artistic Principles*, trans. George R. Collins (New York, 1965), 114-118; Hofmann, *Earthly Paradise*, 181.

and a setting where an enlightened public could gather, as long before in Athens, to evaluate its artists and reward the most deserving.<sup>59</sup>

It is appropriate, perhaps, that none of these projects ever saw final construction in the form Semper intended, and that his completed buildings have often been dismissed as pompous and uninspired.<sup>60</sup> His own works, like the world to which they spoke, never fully achieved his high ideals of harmony and utility. A perceptive critic of style, he failed to forge his own. It remained for a French engineer, a decade after Semper's death, to devise the monument which would serve the new age as architectural symbol. But what the Eiffel Tower ultimately celebrated was the centrifugal power of progress, not the Apollonian synthesis of Semper's vision. The liberal humanism of mid-century became tempered by the harsher accents of mass society. Cultural homogeneity became an increasingly illusory ideal in an era of *Realpolitik*, dynamos and the illustrated weekly. If science and industry joined forces in the outpouring of new consumer goods, art began to go its own way. With increasing frequency the choragus left the forum; art abandoned exterior social reality to explore the rarefied world of the senses or the tangled fabric of the psyche. When the artist did reappear in the role of cultural preceptor, as in Julius Langbehn's eccentric book of 1890, *Rembrandt as Educator*, it was as custodian not of a high aesthetic vision but of an irrational, mystical primitivism, lashing out at the entire modern world with a destructive gospel of heroism and charisma.<sup>61</sup> Semper was no such prophet of cultural pessimism. Far from wishing to destroy the modern world, he affirmed and sought to refine it. But his heart lay in an idealized past, the imagined world of Athens and Florence. He vainly sought a golden age of harmony in an age of rampant pluralism, an age of blood and iron, an age in which the lamps would flicker out.

<sup>59</sup> WIK, 68-69.

<sup>60</sup> Most recently by Leopold Ettlinger; see "On Science, Industry and Art: Some Theories of Gottfried Semper," *Architectural Review*, CXXXVI (1964), 57-60.

<sup>61</sup> Cf. Fritz Stern, *The Politics of Cultural Despair* (Anchor ed., Garden City, N.Y., 1965), 131-227.