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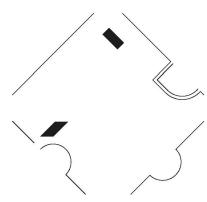
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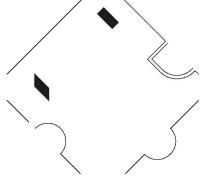
## S-399390: Challenging the Museum with Sarah Oppenheimer Jacqueline Maurer

In the Grand Hall of the Musée d'Art Moderne (Mudam) on the Kirchberg in Luxembourg: depending on the weather and the time of day, grids composed of trapezoids, parallelograms, and rectangles cast shadows of varying intensity on the honey-colored limestone walls and floors. It was in this location roofed by a geometrically latticed glass pyramid, and in light of the wider exhibition context, that the US-American artist Sarah Oppenheimer staged an operation in winter and spring 2016. In this work Oppenheimer departed from the motif she had pursued since 2002 in *Typology of Holes*: her piercing of museum walls with openings, a procedure based on the contingencies of the spatial matrix or, to use the artist's own term for these, "the array." Instead, at the invitation of Mudam, two walkable and movable spatial elements – so-called "switches" – were created for the Grand Hall. As with her previous work, this new category of spatial manipulation bears an alphanumeric title: "S" stands for "switch" while the subsequent series of digits is generated from the type and composition both of the space housing the exhibit and the rooms adjacent to it.

S-399390 is based on two primary grid systems in Mudam: the building structure and the planimetric organization of the building. The ground plan of the expansive museum, opened in 2006 and designed

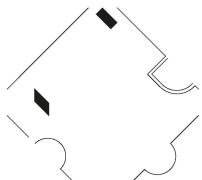
by the Chinese-American architect I. M. Pei, engages with the arrowhead plan of the eighteenth-century Fort Thüngen, thereby responding abstractly to the historical context of the site. The spatial axes already shift repeatedly, by 45 or 90 degrees, before visitors reach the main hall via a ramp and the reception area. Mudam's Grand Hall – the central point of orientation in the museum, and simultaneously an imposing space in which to linger and to exhibit – has been rotated 45 degrees from the primary axis of procession. Visitors are accordingly able to enter and exit the Grand Hall at three of its four corners. Coming from the reception area, the first entrance to the Grand Hall is audaciously mediated: a first-floor balcony projects diagonally into the 43-meter-high hall, delaying experience of the latter's impressive height and the rotation of its axis. This is a moment of transition or a threshold. The balcony is skewed 45 degrees above the hall's square-shaped ground plan. Extending over two stories the walls are clad with Magny Doré limestone, pierced with crystalline, triangular, or vertical skylight openings, the last of these dissolving entire walls. The Grand Hall is topped by a towering, stepped glass pyramid that echoes – like the limestone – Pei's design for the





Louvre, but is crowned in this case by a glazed lantern. The fenestration connects the interior and the exterior, establishing precisely selected references to the architectural and landscape surroundings while simultaneously exposing the space to the shifting natural light of the sky.

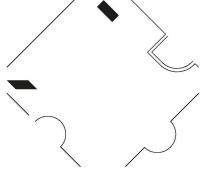
In February 2016 Oppenheimer placed within this given architectural constellation two glazed walkways as spatial thresholds that formally correspond to the order of Pei's building. One of these "switches" has a transverse-rectangular base and a parallelogram as its counterpart ceiling profile; its companion's elements are arranged in exact reverse. Mirroring the dark coloration of the glazing framework, the dimensions of the profiles of the floor and ceiling panels are reminiscent of H-beams. Nevertheless, an impression of lightness is created, deriving from the large lateral glass walls, whereby one from each consists of a transverse rectangle and its oppo-



site of a parallelogram. By means of the oblique walls on one of their sides the "switches" take on a rotational impulse and a directional momentum. They invoke the various grid arrangements both inherent to and produced by the architecture of the Grand Hall while simultaneously challenging them. Furthermore, the "switches" react to the existing and the newly staged threshold areas. There is a visual ambiguity about where the rooms extending from the hall, the steps

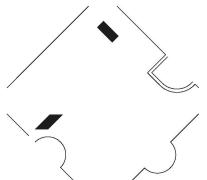
to the upper story, and the spiral staircase to the basement actually lead. For the duration of the exhibition, the “switches” were relocated twice a week within the transitional verges of these spaces—or, in their own terminology, were “switched over”—and they thereby intervened in the existing threshold situations, highlighting, redirecting, transforming, and multiplying them.

Oppenheimer always aims to heighten the spatiotemporal perception of the spaces in which her interventions are staged. To this end, she investigates the way the existing spaces are visited and used by different publics, and the way in which the location influences the movement both of visitors and internal and external employees. In S-399390 the artist explores how the positions of the “switches”—which themselves contain a threshold effect—affect the succession of thresholds in the museum, as well as the direct routes that visitors so often seek to take. The precise design, principally consisting of glass, aluminum, and plywood, coupled with these varying positions, is the result of an elaborate preparation process that is a general hallmark of the artist’s work. The system involved is by no means simply a negotiation of the formal architectural circumstances; rather, it consists to a far greater extent in tracing the unnoticed codifications of the respective exhibition locations in order to make them perceptible. Oppenheimer



examines the various prevailing circumstances: the architectural conventions, the industrial and material norms, as well as the ideological implications to which exhibition establishments are subject. The groundwork includes studying the museum plans, researching visitor behavior on site, and above all conducting exchanges with the different staff groups, in a process of communication about utilization.

Sarah Oppenheimer understands architecture explicitly as a machine. Her oeuvre draws attention to the performativity of exhibition locations, which per se determine a very specific and highly disciplining use, and thus harbor a latent ideological statement. The "existing architecture" as formed and controlled by the visitors is factored in while the visitors themselves are activated by the artistic operation, induced to see. The overall spatial impression was constantly



transformed by the reflections of Mudam's architecture and the visitors in the shifting seasonal daylight on the at times transparent and at times opaque appearance of the successively layered glass surfaces. Amplified by their calculated repositioning, the elaborately conceived "switches" perpetually generated and mediated new spatial configurations.

An element in Oppenheimer's conceptual logic is that the work can be relocated and recalibrated according to varying spatial scales. Because the ground plans of all the exhibition spaces in Mudam

have the same order, “the array” remains in itself the same, enabling the work to be modified. The “switches” could be dismantled after the exhibition and can be reassembled for a new presentation with new parameters.

**f.1** Sarah Oppenheimer, S-399390, 2016. Glass, metal, wood, and existing architecture. Variable dimensions. Art intervention at the Grand Hall of Mudam Luxembourg (February 2 to May 29, 2016). Photography by Serge Hasenboehler.

**f.2** Changing positions of the “switches” during the exhibition at Mudam. Diagrams by Sarah Oppenheimer.

## "The Mechanization of Adornment" Revisited; or,

### The History of the Ornament-Machine

Spyros Papapetros

What if machines not only supported the core and main programmatic functions of architecture, but also expanded to its outer surface layers, which have no clearly definable programmatic goal? Could we then gradually acquire a different view of the machine's "command" of architecture, one that while subsisting on peripheral ornamental details would nonetheless allow a glimpse of the main interior mechanisms that have propelled the precipitous "building up" of mechanization in the architecture of the last two centuries? This research moves not only from mechanical structure to machine-made ornament, but also from machine to mechanization, that is, from object to process, including historical, evolutionary, and psychological processes. It proposes an interior view of mechanization via the historiographic description of adornment's evolutionary trajectory in modernity, from organ or implement to non-functional vestige. Moreover, it contributes to a history of mechanization's impact on human life via the interface of adornment and its uncanny proximity to the body—a body that strives to amplify its power via additional corporeal enhancements, yet ultimately becomes paralyzed by their elaborate mechanical contraptions.

In the "Mechanization of Adornment" chapter of his magnum opus *Mechanization Takes Command*, Sigfried Giedion describes a crucial moment in the mid-nineteenth century when the machine steps beyond the public realm of factories and spaces of collective production and invades man's most "intimate" sphere: the private layer of "adornment" extending from personal furnishings and small domestic artifacts to ornamental patterns on the human skin.<sup>1</sup> Even though the majority of the artifacts Giedion describes in detail would be normatively labeled as decorative or ornamental, the historian chooses neither the term "decoration" nor "ornamentation" but rather "adornment"—in the German version of his manuscript "Ausschmückung."<sup>2</sup> The German term *Schmuck* normally designates objects used to adorn or embellish the body, from jewelry to tattoos, while *Ausschmückung* connotes the expansion of the same process in space. The term marks the transition from an isolated ornamental object to a decorative system that extends from the individual body to the garnishing of an architectural environment: moldings, carpets, curtains, and wallpaper, all of which project the bodily layer of adornment to the inorganic envelope of a building via the auspices of industrialized production. Where adornment originally functioned as a portable ecological system, allowing human

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<sup>1</sup> Sigfried Giedion, "The Mechanization of Adornment," in Giedion, *Mechanization Takes Command: A Contribution to Anonymous History* (New York: W. W. Norton & Company, 1969 [1948]), pp. 344–63.

<sup>2</sup> Sigfried Giedion, "Mechanisierung der Ausschmückung," in Giedion, *Die Herrschaft der Mechanisierung: Ein Beitrag zur anonymen Geschichte* (Frankfurt: Europäische Verlagsanstalt, 1982), pp. 381–402.

<sup>3</sup> See my description of ornament as "portable ecology" in "An Ornamented Inventory of Microcosmic Shifts: Notes on Hans Hildebrandt's Book Project 'Der Schmuck' (1936–37)," *The Getty Research Journal*, 1 (2009), pp. 87–106; here p. 96.

subjects to collect and rearrange pieces of their environment into a meaningful cosmic order and then apply this to the human body, <sup>3</sup> the mechanized adornment of the nineteenth century as described by Giedion expresses the repressed ecological potential of modern technological environments whose efforts to mediate between mechanized production and the private sphere become lost under the cover of meaningless ornamental layers produced assiduously by the machine.

For Giedion, the closer the machine gets to the body, the more its architectural "symptoms" become pathological. Giedion describes an era which saw a shift from the pathological origins of the machine as an inorganic prosthesis propping the ailing human body to a state in which the machine itself becomes pathologized, and keeps on reproducing its symptoms or even spreading its viruses to the human body. As a cultural historian, Giedion diagnoses not only a form of mimicry between adornment and the body but also a pathological, analogizing intimacy between adornment and the machine.

For Giedion, adornment is a "wish" that is "innate" and "ineradicable;" something mechanical and instinctive, like "hunger" or "love" (meaning apparently love-making or sex). <sup>4</sup> The machine capitalizes on such instinctive impulses to feed or even overstuff the body with an abundance of previously luxurious articles that have now become widely accessible via the auspices of industrial production. This process has led to both a proliferation and a devaluation of ornament, which now retains only a vestige of its former economic prestige. Giedion seems to suggest that it is precisely the accumulation of these mechanically multiplying layers of adornment that will eventually bury architectural ornamentation and lead to the unornamented cladding of building surfaces by early twentieth-century architects after Adolf Loos; yet, prior to this phenomenal eclipse of ornament, a number of intermediate transitions will occur, which, for the historian, serve as collective psychological symptoms. "Here as scarcely anywhere else are displayed the fears and preoccupations of a period," writes Giedion, as if the curvilinear forms of the fanciful artifacts produced en masse in the late nineteenth century were psychograms of that era's anxious *Weltanschauung*. <sup>5</sup>

If, through its exhaustive examination of bathtubs, elevators, and poultry de-feathering machines, Giedion's *Mechanization Takes Command* presents an "antechamber" of modern architecture, then this brief, 20-page section on the mechanization of adornment might in fact tell a slightly different story. The chapter on adornment discloses not only what comes before but also what might follow modern architecture, which had erupted

<sup>4</sup> Giedion, *Mechanization* (see note 1), p. 344.

<sup>5</sup> Ibid., p. 349.

**MATCH-BOX : Crusaders' Tomb**, in Parian, manufactured by Mintons. This fanciful trifle presents a curious history of prices worth noting. It was first produced in or-molu, in London, and sold for four guineas. It was then made by Messengers, at Birmingham, in bronze, and sold for thirty shillings; and now it is brought out, in parian, at four shillings! Lights were constantly burnt over tombs in old times, so we presume the designer thought the present an allowable adaptation of the idea. We do not agree with him.



f.1 "Match Box in Shape of Crusader's Tomb. c. 1850," *Journal of Design*, edited by Henry Cole; reprinted in Sigfried Giedion, *Mechanization Takes Command*, 1948.

201. Match Box in Shape of Crusader's Tomb. c.1850. *Henry Cole's wry comment shows an awareness of the growing danger of devaluated materials and symbols.* (Henry Cole, *Journal of Design*)

30 years earlier but by the mid-1940s was already losing steam and entering (somewhat prematurely) its own pathological stage. And, if modern architecture was in fact heralded by an ostensible ban on ornament, imposed by Loos, it was precisely the return of ornament – initially manifest in scholarly attention to the designers of Art Nouveau, then shortly afterwards in the building practice of postwar designers – that would celebrate the apparent end (or death) of modernism by a decorated procession of highly ornamented edifices. Here, one might start deciphering correspondences between Giedion's chapters on "The Mechanization of Death" (on industrialized slaughterhouses and hog execution machines) and the "Mechanization of Adornment," as both accounts demarcate an ending that coincides with a festively decorated revival. For Giedion, mechanized adornment functions as an ambivalent symptom. From statuary to pottery, from carpets to wallpapers, this mechanized architectural envelope oscillates between life and death, flatness and depth, the virtual and the real, and the plastic and the graphic, including the typographic. The same ornamental artifacts can be endlessly reproduced in silver or tin, "marble or plaster; china or papier mâché" <sup>6</sup> in a perpetual, yet incongruous *Stoffwechsel* – the term used by Gottfried Semper to connote material change facilitated by the preservation of a formal pattern.

Giedion cites the example of a small metal matchbox modeled after a Gothic "crusader's tomb" with a recumbent *gisant* sculpture of the deceased crusader sculpted on its top. Giedion discovered a drawing of this artifact at the bottom of a page of the first volume of Henry Cole's *Journal of Design and Manufactures* published between 1849 and 1852 – one of the main textual sources for Giedion's study of nineteenth-century ornamentation. <sup>7/f.1</sup> The whimsical analogy between a matchbox and a crusader's tomb is prompted, according to Cole, by the image of "lights [that] were constantly burnt over tombs in older times." <sup>8</sup> This quasi-surrealist analogy demonstrates that, in spite of all its fluctuations, there is a consistent logic behind the industrial reproduction of these

<sup>6</sup> Ibid., p. 345.

<sup>7</sup> In a footnote Giedion mentions that he had dealt more extensively with Cole and "the reforming movement of 1850" in an "unpublished study *Industrialisierung und Gefühl* (Industrialization and Feeling), based on the manuscripts and diaries of Cole preserved in the Victoria and Albert Museum, London." Ibid., p. 347n.

<sup>8</sup> See caption by Cole reproduced in *ibid.*

<sup>9</sup> Gottfried Semper, *Style in the Technical and Tectonic Arts; or, Practical Aesthetics*. Trans. Harry Francis Mallgrave and Michael Robinson (Los Angeles: The Getty Research Institute, 2004), p. 439. On the same phrase see Caroline van Eck, "Figuration, tectonics and animism in Semper's *Der Stil*," *The Journal of Architecture*, 14, no. 3 (2009), pp. 325–37.

<sup>10</sup> Giedion, *Mechanization* (see note 1), pp. 357–8.

<sup>11</sup> Ibid., p. 359.

<sup>12</sup> Gottfried Semper, "Science, Industry, and Art," in Semper, *The Four Elements of Architecture and Other Writings*. Trans. Harris Francis Mallgrave and Wolfgang Herrmann (Cambridge: Cambridge University Press, 1989), pp. 130–67.

<sup>13</sup> Semper, *Style* (see note 9), p. 654.

small artifacts based on automatic or mechanical association. If, as Semper had famously stated in a footnote in *Der Stil*, "the haze of carnival candles is the true atmosphere in art," here it is the essence of modern *Kunstindustrie* or art industry which subsists on a similarly atmospheric envelope and continues to permeate modern environments by its evanescent glow.<sup>9</sup> Yet here the candles associated with the matchbox are not "festival" but funereal; their ambience projects not life, but the glimpse of an afterlife, or eternal life, following the death and transubstantiation of the organic body into an industrially produced unit: the matches lying flat inside the matchbox.

Not only flickers of bygone artifacts but also the historical figures of architects and designers such as Cole, Semper, and Owen Jones suffuse Giedion's chapter on adornment. And yet while the historian devotes several pages to Cole, Jones, and the 1851 Great Exhibition, he writes no more than a page on Semper, who had likewise participated in the Great Exhibition and was renowned for his theorization of ornament and his copious analysis of small artifacts, both as material and cultural signifiers. Though Giedion praises Semper as the "sole" designer who "attempted to mold the experience and principles ... of the Great Exhibition into a broad system," he criticizes the "utilitarianism" that "colored his interpretation of historical epochs."<sup>10</sup> Giedion also argues that Semper "was gifted enough to systematize the intellectual views of the [eighteen] 'fifties," yet he questions whether "these attitudes were comprehensive enough to be forged into a system." The reason for such failure is that "[a]n insurmountable barrier of feeling kept [Semper's] generation from perceiving the pure forms latent in machine-made objects."<sup>11</sup>

It may be true that Semper was ambivalent about the effects of the machine on the making of artifacts, particularly in his review of the Great Exhibition in his publication, "Science, Industry, and Art;"<sup>12</sup> yet in his *Style* he refers to a "special style" that "needs to be created for the machine" while cautioning nonetheless that "the critical factor [for such style] should be function, measured independently of the machine."<sup>13</sup> But it was also Semper who,

following a stint as a teacher at London's School of Design, and in interaction with various British theorists of ornament,<sup>14</sup> consequently theorized ornamentation in his 1856 lecture on the symbolism of adornment—an essay that Giedion does not mention.<sup>15</sup> Based on the laws of the sciences of Dynamics and Statics describing the impact of natural forces such as Gravity (*Schwerkraft*) on the form of natural bodies, Semper devised in his essay a series of regular principles that should apply to all artifacts of human ornamentation.

Once again the form of an artifact is prescribed by mechanical forces, but here such forces follow the mechanics of nature, which do not always synchronize with those of human invention. Semper's ultimate objective was to restore a form of alignment between nature and culture, but unless one subscribes to Comtean positivism, the laws of mathematics and physics can never be perfectly aligned with those of human economy, politics, and culture. It is precisely the strife and divergence between these conflicting cosmic faculties that become visible in the form or even the texture of decorative artifacts. Like Semper's "directional ornaments" (*Richtungsschmuck*), adornments essentially function as projective devices, indexes of the bodily movements of their human carriers as well as the larger mobility of civilizational forces.<sup>16</sup> In effect, they are far more sensitive to change than built monuments, whose typological arrangements, while expressive of sociopolitical hierarchy, require greater time to register such cultural transformations. The decorative objects of primeval human industry are treated by Semper not simply as an aggregate of uncoordinated individual artifacts, but as a thoughtfully articulated spatial system whose directional principles will later be retraced in those directional elements of architectural structures, such as corridors, atria, and walled entrances.<sup>17</sup> To describe the precedence of objects as cultural signifiers before architecture, Semper invented in *Style* the term "prearchitectonic conditions" (*vorarchitektonische Zustände*) applied to origins, technique, or an entire period of time, describing a state of culture in its "earliest stages" when artifacts, such as weapons, implements such as pottery, and adornments are present, but massive architectural monuments, such as those known from Egypt and Assyria, are not.<sup>18</sup> Such a "prearchitectonic" state describing social relations mediated by systems of objects is by no means the opposite of architecture, but rather its evolutionary prelude, tracing a set of possibilities in which some may come into being while others perish, only to return in a modified form.

In fact, Giedion's project in *Mechanization* appears to be parallel to that of Semper; like the nineteenth-century architect,

<sup>14</sup> Elena Chestnova, "Ornamental design is ... a kind of practical science": Theories of ornament at the London School of Design and Department of Science and Art," *Journal of Art Historiography*, 11 (2014); <https://arthistoriography.files.wordpress.com/2014/11/chestnova.pdf> (accessed February 29, 2016).

<sup>15</sup> Gottfried Semper, "Über die formelle Gesetzmässigkeit des Schmuckes und dessen Bedeutung als Kunstsymbol," *Monatsschrift des Wissenschaftlichen Vereins in Zürich*, 1 (1856), pp. 101–30; republished in Semper, *Kleine Schriften*, ed. Hans and Manfred Semper (Berlin: W. Spemann, 1884), pp. 304–43. The first section of the essay has been translated into English by David Britt as "From Concerning the Formal Principles of Ornament and Its Significance as Artistic Symbol," in Isabelle Frank (ed.), *The Theory of Decorative Art: An Anthology of European and American Writings, 1750–1940* (New Haven, CT: Yale University Press, 2000), pp. 91–104. The second section has been translated by Kathryn Shoefert and Spyros Papapetros as "On the Formal Principles of Adornment and its Meaning as a Symbol in Art (second section)," in *RES: Anthropology and Aesthetics*, 57/58 (2010), pp. 299–308. For a commentary on the legacy of Semper's essay, see my "World Ornament: The Legacy of Gottfried Semper's 1856 Lecture on Adornment," *ibid.*, pp. 309–29.

<sup>16</sup> Semper, "Über die formelle Gesetzmässigkeit des Schmuckes" (see note 15), p. 113.

<sup>17</sup> See the late lecture "On Architectural Styles," in Semper, *The Four Elements of Architecture* (see note 12), pp. 264–84.

<sup>18</sup> Gottfried Semper, *Der Stil in den technischen und tektonischen Künsten, oder, praktische Ästhetik*, vol. 1 (Frankfurt: Verlag für Kunst und Wissenschaft, 1860), p. 229.

the twentieth-century architectural historian describes modernism's "prearchitectonic conditions"—a set of formative and tectonic principles based on the history of industrially produced objects which will later find expression in the spatial arrangement of modernist buildings. In spite of Giedion's and other modernist architectural historians' mistrust of the stylistic terminology associated with architectural practices and art historical methods of the nineteenth century, we could even describe *Mechanization Takes Command* as the Style of the twentieth century—a voluminous contribution to our knowledge of "the technical and practical arts" from a bygone era serving as models for the architecture that is about to follow.

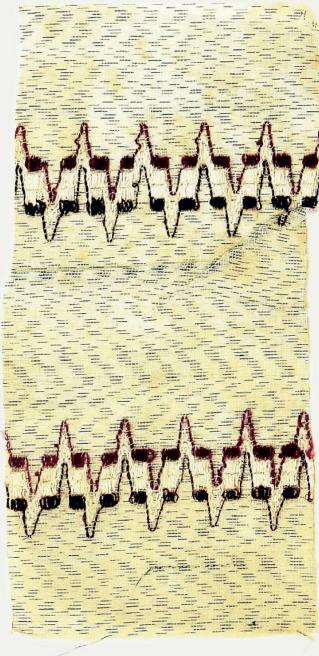
"It began with the carpets" writes Giedion, once again echoing Semper in his text on the mechanization of adornment.<sup>19</sup> A new type of machine loop allowed the indiscriminate transference of ornamental patterns among the most divergent materials and scales, as for example, the industrial production of carpets with enormous roses or other flowers, several times the size of the original natural specimen. With the advent of the machine, these naturalistic (yet essentially unnatural) floral patterns started to indiscriminately proliferate, from book binding covers to wallpapers and, finally, rugs, the patents for all of which appear in Cole's *Journal of Design and Manufactures*, not as printed illustrations but as physical samples made of colorful fabric or paper and attached directly to a page. <sup>f.2</sup>

Giedion also notes that in spite of their liberal placement on the surface of the carpet (eschewing the formal symmetrical arrangement of carpet design in earlier periods), floral patterns are still used as spatial markers for the placement of domestic furniture. Even if flat, the flower motifs become space creators by articulating decorative correspondences among all elements of the decorated interior, whose surfaces start reverberating with one another. The vegetal patterns' perpetual rotation from the horizontal to the vertical plane does not enhance gravity, but rather defies it, contrary to Semper's lawful principles of adornment.

f.2 "Moultan Muslin, Manufactured by W. Govan and Sons"; fabric sample attached to *Journal of Design*, June 1849.

<sup>19</sup> Giedion, *Mechanization* (see note 1), p. 345.

MOULTAN MUSLIN,  
Manufactured by W. Govan and Sons.



*Journal of Design*, No. 4. June, 1849.

From “prearchitectonic conditions,” we abruptly transition to a post-architectural state where weight, scale, and material matter all too little, and where carpets, furniture, and flowers appear to float within that which Walter Benjamin, in his references to Jugendstil dream interiors, described (in the words of Paul Morand) as an “aquarium” or a “submarine” environment.<sup>20</sup>

Ornament’s plastic expansion in space is facilitated by printed media, such as books, folios, and most prominently, journals, using the latest advances in typography and drawing reproduction. Apropos Owen Jones’s popular *The Grammar of Ornament*, Giedion notes that the British designer “carefully assemble[s] ornament from widely separated peoples and periods” then “lifts the ornament from its material ... and flattens it out in color upon the plane surface.”<sup>21</sup> Yet it is precisely the flattening of ornament on the printed page that further facilitates its reproduction in other mediatic surfaces such as carpets, upholstery, and wallpaper, which start mirroring as in a *mise en abyme* the ornamented patterns and layout of the lavishly decorated journal. Such phenomenal explosion of ornamentation via graphic media in the second half of the nineteenth century also portends its imminent eclipse. Before Loos would seek to ban ornament in 1908, the enormous piles of publications on ornament had already buried it. Such media ostentatiously display ornament on their pages but by the same token gradually occlude its presence in the real world. The rigorous classification and compartmentalization of ornament from around the world in publications such as Owen Jones’s *Grammar* underlines that ornament gradually becomes the object of museum collections with little relation to the modern way of life.<sup>22</sup>

Giedion brilliantly captures the dialectics between the mechanization and gradual rudimentation of ornament in his investigation of the origins of ornament’s printed culture. As mentioned earlier, Giedion’s main bibliographic source for his chapter on mechanized ornament is Cole’s *Journal of Design and Manufactures*, one of the first periodicals exclusively devoted to decorative design in the applied arts. Cole’s journal ran for only six issues, and yet its brief life was protracted by a series of afterlives and reincarnations in other similar journals. Giedion hails *The Journal of Design* as “the *Esprit nouveau* of 1850,” referring to Corbusier’s and Ozenfant’s modernist journal published 70 years later.<sup>23</sup> Cole’s journal is filled with the decorative artifacts and ornamental motifs that Corbusier would castigate or caricature in the pages of *L’Esprit Nouveau* and his book *L’Art décoratif d’aujourd’hui*<sup>24</sup> — criticism whose very irony reveals the architect’s ambivalence towards his own apprenticeship

<sup>20</sup> Paul Morand, 1900 (1931) quoted in Walter Benjamin, *The Arcades Project*. Trans. Howard Eiland and Kevin McLaughlin (Cambridge, MA: Harvard University Press, 1999), p. 549.

<sup>21</sup> Giedion, *Mechanization* (see note 1), p. 354.

<sup>22</sup> I make this argument in my “*World Ornament*” (see note 15).

<sup>23</sup> “It is the *Esprit nouveau* of 1850, except that it would embrace the whole of industry, the entire world, and was not confined like its counterpart of 1920 to a small magazine of the *avant-garde*.” Giedion, *Mechanization* (see note 1), p. 349.

<sup>24</sup> Le Corbusier, *L’art décoratif d’aujourd’hui* (Paris: Crès, 1925).

f.3 Henry Cole, "Society of Arts Competition, 1845. Tea Service 'For Common Use,'" reprinted in Sigfried Giedion, *Mechanization Takes Command*, 1948.

25 On Jeanneret-Le Corbusier's past in decorative design, see the classic study of H. Allen Brooks, *Le Corbusier's Formative Years: Charles-Edouard Jeanneret at La Chaux-de-Fonds* (Chicago: Chicago University Press, 1997).

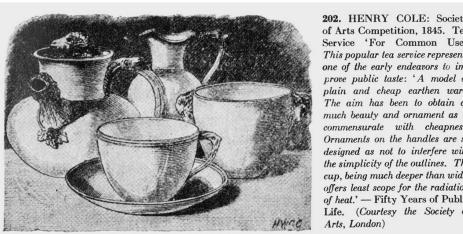
26 Giedion, *Mechanization* (see note 1), p. 348.

f.4 Amédée Ozenfant, "Drawing," 1925—Henry Cole, "Drawings of Simple Objects for Child Education," *Journal of Design*, 1849: half-page double spread in Sigfried Giedion, *Mechanization Takes Command*, 1948.

27 Ibid., p. 351.

in the decorative arts while following in the profession of his father as a young watch and jewelry designer prior to becoming an architect.<sup>25</sup>

The gradual elimination of ornament is in fact illustrated by a semi-unornamented tea service "for common use," designed by Cole in 1845 and a drawing of which is reproduced in *Mechanization*.<sup>26</sup> Named after the tea plant *Camellia*, copies of Cole's tea service "met with tremendous popularity," Giedion notes, and are "manufactured to this day."<sup>27</sup> The pots, cups, and saucers of Cole's tea service resemble a proto-purist design. "Ornaments on the handles are so designed as not



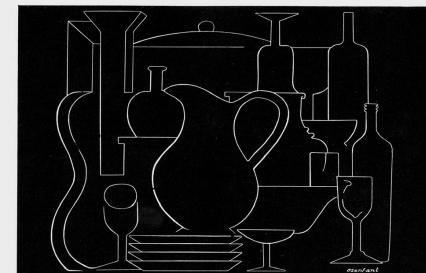
202. HENRY COLE: Society of Arts Competition, 1845. Tea Service 'For Common Use.' This picture for service represents one of the most remarkable instances of the application of the principles of plain and cheap earthen ware. The aim has been to obtain as much beauty and ornament as is commensurate with cheapness. Ornaments on the handles are so designed as not to interfere with the use of the article. The cup, being much deeper than wide, offers least scope for the radiation of heat." — *Fifty Years of Public Life*. (Courtesy The Society of Arts, London)

to interfere with the simplicity of the outlines," notes Cole in Giedion's caption.<sup>28</sup> Indeed, ornamental decoration is limited to certain parts of the artifact, such as the spout and handles. These ornamented limbs seem almost detachable from the rest of the artifact's body, as if they were prosthetic additions whose removal would leave the rest of the surfaces plain. Here ornament becomes precisely *ad-orn[a]ment*: an additional layer such as a jewel, a piece of headgear, or a breastplate, worn on top of the organism's skin. Such adornment enhances the qualities of the industrially produced surface with its perfectly smooth and highly polished texture. Cole's tea service manifests a division of both function and labor by distinguishing *Schmuck* from *Gerät*, ornament from implement—a distinction that was to have grave consequences for the regressive development and final demise of ornament in modernist practice. Following an evolutionary logic, the non-functional ornamental appendages would gradually atrophy and vanish from modernist buildings

28 *Journal of Design*, vol. vi, p.113.  
29 *Der Stil in den technischen und leidenschaftlichen Künsten*, 1860-63, 2nd ed., 2 vols., München, 1878-9.

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Only through fragmentary utterances did one glimpse the abstract forms inherent in industrial production. *The Times* article, which clearly bears the mark of Cole's circle, says of the Great Exhibition: 'Some sections, especially that of machinery, feel their pre-eminence secure and undoubted, have been content to be plain and unpretending. The only beauty attempted is that which



204. OZENFANT: Drawing, 1925. *The things we use daily become part and parcel of our life. Like the Colists, the Parisians of 1920 painted the objects purified and standardized by long use, with plain and simple outlines leading to 'marriages de contours.'*

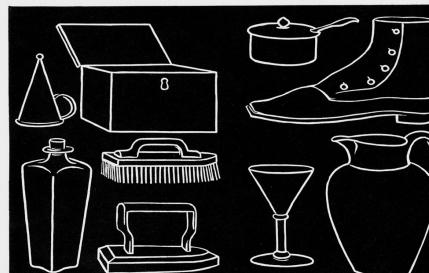
of Design. Henry Cole, who scarcely ever makes personal recommendations in his *Journal of Design*, calls to the attention of English manufacturers that Semper's "knowledge both of architecture and of general decoration is profound, and his taste excellent." And that Semper is the man "from whom our manufacturers would be likely to obtain great help."<sup>30</sup> When later, in 1855, Semper was appointed professor to the newly founded Technische Hochschule in Zürich, he systematized the expressions and experiences of London in his *Style in the Technical and Tectonic Arts, or a Practical Aesthetic*.<sup>31</sup> The first two volumes appeared in 1860 and 1863; the third, which was to have shown the bearing of art on social development, was never printed. For decades, Semper's stand influenced art theory. As late as 1910, the German reform movement in the decorative arts, which took fitness to purpose as its final criterion, regarded

and artifacts, ceding place to what Giedion calls "elementary" or "standard objects as models."<sup>28</sup>

To illustrate such "elementary" object-models, Giedion uses an image comparison between a "purist" drawing by Ozenfant and an educational drawing by Cole.<sup>29/30</sup> Both images appear as quasi-photographic negatives, since the contours of all the objects are traced in white on a plain black background. To further highlight their morphological similarities, Giedion reproduces the juxtaposed images here in the exact same format as an upper half-page double spread: an ornamenteally symmetrical arrangement that facilitates the images' conceptual mirroring or reversal. Cole's drawing placed by Giedion on the right is reproduced from an insert in Cole's *Journal* which was originally published in a book teaching children how to draw objects lucidly on a blackboard while eschewing any shadows or decorations. Giedion

reads this plain representation as an *avant-la-lettre* "purist" approach to object-making presaging Ozenfant's method demonstrated on the previous page.

In Cole's drawing, the composition consists not in the combination of heterogeneous part-objects but in the recombination of heterogeneous whole objects: a jug, a glass, a brush, a clothing iron, but also a boot, which is the only clothing item among all the service ware and other implements depicted. And yet, by being produced as



205. HENRY COLE: Drawings of Simple Objects for Child Education. *For teaching school children, Cole recommends drawing with thick chalk on a blackboard, omitting details. Their observation will be trained by rendering serial-produced articles of daily life: bottles, jugs, glasses, etc.* *Journal of Design*, vol. i, 1849

him as a basic authority. To the utilitarianism that guided the English reformers, he owed his starting point: that practical art existed before aristocratic art, as he set forth in an essay written in 1855. While Cole had his interest primarily in the practical epoch, Semper ran amok with the few significant conflicts of his time, and he was gifted enough to systematize the intellectual views of the fifties. It is questionable, however, whether these attitudes were comprehensive enough to be forged into a system. An insurmountable barrier of meaning kept this generation from perceiving the pure forms latent in machine objects.

Only through fragmentary utterances did one glimpse the abstract forms inherent in industrial production. *The Times* article, which clearly bears the mark of Cole's circle, says of the Great Exhibition: 'Some sections, especially that of machinery, feel their pre-eminence secure and undoubted, have been content to be plain and unpretending. The only beauty attempted is that which

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mere outlines, these objects appear to jettison any content. They are decoratively arranged on the drawing's rectangular frame so that they complement one another as mere shapes, emptied of their utilitarian functions. They are implements treated as ornaments and yet they still function as pedagogical models for how an object ought to appear. The elementary lesson being taught here is not only how to draw artifacts but also how to reconfigure them into a network of ornamental relations. We retrace the movement "from ornament to object" recently

f.5 Interior view of Le Corbusier's pavilion for *L'Esprit Nouveau* (1925), in *L'Architecture vivante*, Fall/Winter 1925.

30 Alina Payne, *From Ornament to Object: Genealogies of Architectural Modernity* (New Haven, CT: Yale University Press, 2012). See also my review of Payne's book, "Ornament and object—ornament as object," *Journal of Art Historiography*, 7 (2012); <https://arthistoriography.files.wordpress.com/2012/12/papapetros-review.pdf> (accessed Feb. 29, 2016).

mapped by Alina Payne as "a genealogy of architectural modernity," but in reverse: Cole's pedagogical drawing projects the surreptitious return of the object of mechanized modernism back to ornament.<sup>30</sup>

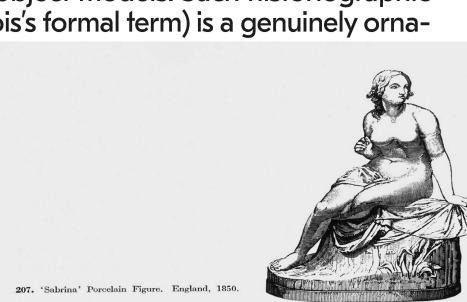
Even if Ozenfant's drawing on the left precedes Cole's in Giedion's illustrations, the artwork by the modernist painter appears as an echo of the mid-nineteenth century "model" on the right. But it could also be the reverse. The very spine of Giedion's *Mechanization* acts as an axis for the historian's anachronic oscillation between the two images he treats here as pendants. Not only Cole's image but Giedion's entire layout is a model for instruction on how to draw; drawing here concerns not just objects but trans-historical connections between chronologically distant object models. Such historiographic *dissymétrie* (to use Roger Caillois's formal term) is a genuinely ornamental principle.<sup>31</sup>

Were we to expand this ornamental reading from the textual domain of the book to an architectural space, we could look at one of Corbusier's contemporary interior spaces, such as that of *L'Esprit Nouveau* pavilion for the International Exposition in Paris of 1925. f.5 *L'Art décoratif d'aujourd'hui* or "decorative art of today" as reconfigured in the Corbusian interior subsists on a system of analogies, reflections, and correspondences between the shapes and materials of industrial artifacts, such as chairs and storage cabinets, and the shapes of two-dimensional objects and artworks, including carpets, sculptures, and paintings. While more or less stripped of conventional ornament, the interior is reproduced by the mechanical repetition



31 Roger Caillois, *Le Dissymétrie* (Paris: Gallimard, 1973).

f.6 "Sabrina" Porcelain Figure, England, 1850" —Max Ernst, "The Plaster Statues Roam Abroad. (La Femme 100 têtes, 1929)." half-page double spread in Sigfried Giedion, *Mechanization Takes Command*, 1948.



207. "Sabrina" Porcelain Figure, England, 1850.

at work. Following one another without regard to external logic, the picture cycles are not to be read for their naturalistic meaning. What matters is their psychic comment. They are *collages*, fragments culled and pasted from the long-forgotten woodcut books of the last century. Max Ernst raised them to the status of "objects." The scissors cut them asunder, and the artist's fantasy, taking up the elements, combines them anew (fig. 208).

The plaster-of-Paris statues roam abroad. The woman with a hundred no-heads walks through everyday life. She rules it. She and her companions, their plaster heads transplanted onto contemporary necks, fit along the facades, or, "her uncle no sooner strangled," she takes off in all her plaster mudity: "L'oncle à peine strangled, la jeune adulte sans pareille s'enfille."<sup>32</sup>

As always, the artist's work is a kind of death. From a glassed bookcase of the *Elbes*, *La Femme 100 têtes* in the guise of a plaster bust will perhaps fall out onto a learned bystander, while the stamped lion heads of the chairs come to life grimacingly changed into a giant ape, which the caption designates with Didactic impudence as "the monkey who will be a policeman, catholic, or stock-broker" (fig. 230).

These pages of Max Ernst show how a mechanized environment has affected our subconscious. I once asked Ernst about the origin of his novels, and he

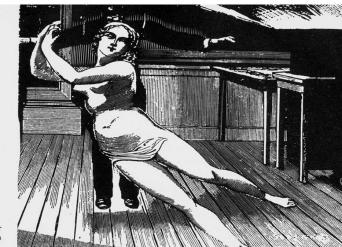
<sup>32</sup> *La Femme 100 têtes*, ch. iii.

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of "ornamentative" connections between objects.<sup>32</sup> If this is indeed a model of the Corbusian "machine for living in" (*machine à habiter*), then it is so not thanks to its programmatic efficiency or the externalization of the mechanical elements of its infrastructure, but to the very afterlife of its nineteenth-century sense of correspondence, which survives in the over-ornamented ambience of symbolist literature suffusing Corbusier's writings, and also, as we see here, his architectural projects.

In Corbusier's case the relation between ornament, architecture, and machine is still an analogy, yet as Giedion describes, this relation turns into a homology when the machine starts producing ornaments and buildings that increasingly look like a machine. While, in the nineteenth century, the machine produced decorative objects that imitated handicraft artifacts which in turn imitated nature (as in the second-degree mimicry enacted in the "electro-process[ed]" leaf-shaped-candlestick mentioned elsewhere by Giedion), the twentieth-century machine unabashedly reproduced an image of itself in a series of objects. The machine itself became an ornamental "style" or, as Reyner Banham would later call it, an "aesthetic."<sup>33</sup>

Instead of the machine (-made) ornament we are introduced to the ornament machine—an ontological reversal signaling the formal and procedural identification between adornment and the mechanical apparatus.



208. MAX ERNST: The Plaster Statues Roam Abroad. (La Femme 100 têtes, 1929)

replied: 'They are reminiscences of my first books, a resurgence of childhood memories.'

The artist fuses these childhood memories into a mirror to morality. But there are many people for whom nineteenth-century ruling taste still forms the well of feeling, and in whose souls, as T. S. Eliot once put it, the nineteenth century lingers on into the twentieth. Still among these are most of our contemporaries, in particular the men whose taste determines public buildings and monuments. For most of these, the origin of their esthetic faith has never come to consciousness.

Do not Carlyle's lines written toward mid-century in his restive *Latter-Day Pamphlets* seem to echo a caption for Max Ernst?

These pages of Max Ernst show how a mechanized environment has affected our subconscious. I once asked Ernst about the origin of his novels, and he almost professedly to falsehood, fiction and such-like, are got what we must call, an insane condition: they walk abroad without keepers, nobody suspecting their bad state, and do fantastic tricks.<sup>33</sup>

<sup>33</sup> Cole cites this passage in the *Journal of Design* (1850), vol. III, p.91.

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adornment might appear less sudden; in fact it is almost automatic. Similar to the strategy he used to introduce purism, Giedion announces surrealism with a pictorial juxtaposition, this time between the engraving of a porcelain statuette of the seated figure

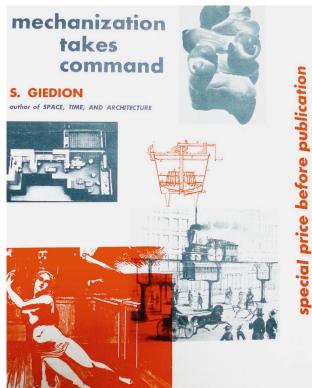
32 I develop a similar argument on the analogical correspondences of Corbusier's pavilion apropos Léger's painting hung inside the same interior in my "The Most Conscientious Mason: Léger's Architeconic Analogies," in Anne Valby (ed.), *Léger: Modern Art and the Metropolis* (Philadelphia: The Philadelphia Museum of Art, 2013), pp. 201–10.

33 Reyner Banham, "Machine Aesthetic," *Architectural Review*, 117 (1955), pp. 225–8.

f.7 Advertising brochure for Sigfried Giedion, *Mechanization Takes Command*, 1948.

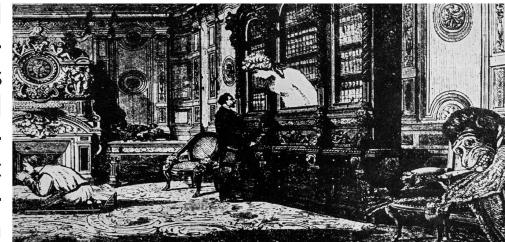
34 Giedion, *Mechanization* (see note 1), pp. 362–3.

of a young female named "Sabrina" from 1850 and a montage from Max Ernst's *La femme 100 têtes* (1929) titled "The Plaster Statues Roam Abroad" featuring a similar female "jeune adulte" in a fleeing pose.<sup>34</sup> The same figure would be reproduced on the cover of an advertising pamphlet for Giedion's *Mechanization* which bestows on this female "young adult" the status of a mechanical emblem. f.6/f.7



35 Ibid., p. 362; the phrase derives from a caption by Ernst in his *La femme 100 têtes*, quoted in *ibid.*, p. 386.

f.8 Max Ernst, "Interior ... (La Femme 100 têtes, Paris, 1929)" – "Sarah Bernhardt's Studio, 1890 (The Decorator and Furnisher, New York, 1891)": half-page double spread in Sigfried Giedion, *Mechanization Takes Command*, 1948.



230. Surrealist Interpretation of the 19th-Century Interior, Max Ernst, 1929. "Peering from a glassed bookcase, the woman with a hundred heads in the guise of a plaster bust startles a pensive bystander. The stamped lion heads of the chairs are changed into a giant ape." (Max Ernst, *La femme 100 têtes*, Paris, 1929)

France's orientalizing cushion furniture. England developed a plainer style, connected with the habits of club life. These black leather easy chairs and sofas were destined for groups of pipe-smoking men. From this furniture, direct lines lead to the reforms of William Morris and his followers and thence to the present day. The English also did not allow the upholsterer so free a hand in their comfortable seating for the drawing room or the bedroom. But our knowledge of this development is fragmentary.

For a time it seemed that the Rocco wave that gripped France in the 'thirties promised more than a stylistic revival. The chairs of the Rocco, molded to the human form were elaborated in the 'sixties with an originality that cannot be wholly ignored. The seats become broader, lower, and deeper. Various hybrid forms arise, designed for what is neither sitting nor lying. They have one point in common: the invitation to informal posture. We shall see how truly this non-static, changing posture corresponds to the character of the century.

Describing this furniture, a writer in whom the *Ancien Régime* still lives on, as in so many Frenchmen, cannot repress the comment as he surveys the various species of *comfortables*: "On entering our salons these days (1878) one involuntarily asks oneself whether these women, these men, so nonchalantly reclining and sprawled, can be the descendants of that French *société* once outstanding for its brilliancy, its deportment and its savoir-vivre."<sup>106</sup>

<sup>106</sup> Deville, op.cit. p.21.

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Such figures, as Giedion acknowledges, leap "from a glassed book-case of the [eighteen] 'fifties," the era that produced the "first books" which artists like Ernst would have read in their childhood.<sup>35</sup> Surrealism for Giedion describes the uncanny moment when this entire world of vegetal and anthropomorphic ornaments spit out by the machine between 1850 and 1890 and put to sleep by the modernist aesthetic inevitably reawakens with even greater vibrancy. Of course here the ornaments return not as physical environments but as two-dimensional projections of hyper-ornamented fantastic interiors flattened on the typographic page of surrealist illustrated romans. Giedion would return to surrealism in his next chapter on "The Reign of the Upholsterer" (which is the companion chapter to his "Mechanization of Adornment") with another pictorial juxtaposition between a "surrealist interpretation of the 19th-century Interior"—taken from another montage from Ernst's *La femme 100 têtes*, in which a female figure leaps from a glass book case—and an image of Sarah Bernhardt's equally hyper-ornamented "studio," reprinted from a decoration journal of the early 1890s, in which the famous actress is seen

rehearsing a grand theatrical gesture feigning exhaustion (caused no doubt, as Giedion would assert, by her "confusing" environment). 36/f.8

36 Ibid., pp. 386–7.

All of these figures, which, like the "canvases" of "coyly posed nudes" of the nineteenth century relegated by modern museums to their "cellar,"<sup>37</sup> as Giedion writes, escape their spatial confinement by leaping from the textual frames of the surrealist interiors. Here, the composite character of ornamentation addresses not only the hybrid composition of individual figures but the construction of spaces composed by surrealist montage that thrive in the creation of correspondences between divergent ontological conditions. The surrealist interior serves as proof that the machine has created not simply an assortment of individual artifacts, but has solidified its presence into an overwhelming spatial system. This is the legacy of the all-encompassing cycle of adornment, Giedion's *Ausschmückung*; that even after the eclipse of ornament, it survives as an interiorized, organized system.

37 Ibid., p. 353.

Giedion's archival research on nineteenth-century adornment proves that the "cellar," a veritable museum of past ornamental curiosities, becomes the research space par excellence of the psychoanalytically inclined architectural historian. Like the surrealist artist in search of figures from his "childhood memories," Giedion feels compelled to descend to this dusted archive and unearth a treasury of nineteenth-century statuettes and bric-a-brac only then to re-bury the same relics as funereal ornaments within the pages of his voluminous tome. His chapter on "Die Mechanisierung der Ausschmückung" is as much



231. Sarah Bernhardt's Studio. 1890. (The Decorator and Furnisher, New York, 1891)

Toward 1860, as the confusion of feeling on the Continent is reaching its high mark, the interiors of ruling taste dissolve into endless details and nuances, the sense and nonsense of which is a closed book to later generations.<sup>107</sup> This is also the time when the *comfortable* becomes drift of cushions.

The *comfortable* last describes the artificiality of the upholsterer, ever increasing. He was the man to gather artificially loose ends. He provided oil paintings and their gold frames for a middle class unable to afford originals. He arranged still lives from the *bris-a-brac* of a mechanized past. *Décorations mobiles*, the French of 1830 called these strange compositions that were set up with an air of casualness on tables or chairs.<sup>108</sup> Cushions and heavy draperies completed the effect.

Here too the Surrealists see what was taking place within. In one of his ghoulish *collages* of the 'Lion de Belfort',<sup>109</sup> Max Ernst portrays the process by which furniture was attacked. There, in semidarkness, a *comfortable* stands supreme, with its *frange royale* sweeping to the floor; in it is posed one of those unambiguous nudes which hung in the fashionable salons of the period. The beauty

<sup>106</sup> Cf. chapter "Grammaire de l'Aménagement" in Henri Havard, *L'Art dans la maison*, nouv. éd., Paris, 1884.

<sup>107</sup> How deeply such custom was rooted in the times may be gauged from its treatment by that eminent scholar Hegel, to whose authority we have so often referred. His book on the interior decoration of the home, *L'Art dans la maison*, contains a full-page reproduction of a *fauteuil* garnished with such a *décoration mobile*.

<sup>108</sup> Max Ernst, *Une Semaine de bonté ou les sept éléments capitaux*; Cahier: Le Lion de Belfort, Paris, 1934.

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an account of the mechanization of adornment as it is a history of the adornment of mechanization; it describes not only the proliferation of mechanization through a series of functionalist implements but also the machine's impending aphasia caused by the

hypertrophy of the ornament it compulsively kept churning out. Adornment then has a double function in modernity: it not only acts as an additional support, shielding the “command” of mechanization in modern culture and its transition from the aesthetic sensibility of the nineteenth century, but also serves as an historical vestige of that very power in the moment the machine’s functional sovereignty becomes obsolete.