

# 'Ornamental design is... a kind of practical science'

## Theories of ornament at the London School of Design and Department of Science and Art<sup>1</sup>

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'When Semper came to England he fell in with the wrong people' – wrote Joseph Rykwert in his commentary to Semper's first public lecture delivered at the Metropolitan School of Design in Marlborough House.<sup>2</sup> The 'wrong people' implied those associated with the Department of Science and Art:<sup>3</sup> Henry Cole, Richard Redgrave, the closely connected Owen Jones and Matthew Digby Wyatt, William Dyce, Ralph Wornum and other instructors linked with the controversial Design Reform of the early 1850s. Semper had been employed at the school between 1852 and 1855, and while his time in London generally is considered to have been pivotal for his theoretical work, the impact of his associations at the school has been appraised negatively and the importance of his intellectual links with the Cole circle has been downplayed.<sup>4</sup> This approach, however, ignores a host of significant issues that formed the context for the development of Semper's theory of design as well as

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<sup>2</sup> Joseph Rykwert, 'London Lecture of November 11, 1853. Preface.', *RES: Anthropology and Aesthetics* no. 6, 1983, 5.

<sup>3</sup> In Semper-specific literature this organization is commonly referred to as 'Department of Practical Art,' although it only existed under that name for one year; in the broader literature of the Design Reform and the decorative art in the 1850s 'Department of Science and Art' is commonly used – this convention is also adopted here;

<sup>4</sup> See for example Harry Francis Mallgrave, 'The Idea of Style Gottfried Semper in London', Diss University of Pennsylvania, 1983, University of Pennsylvania, 1983, 328 onwards; while Mallgrave names all of the relevant events and connections, his reading of the Design Reform as an artistic and educational failure (which was standard at the time of writing) prevents him from elucidating their role in the development of Semper's theory; more recently Mari Hvattum, in *Gottfried Semper and the Problem of Historicism*, Cambridge, Cambridge University Press, 2004 has reviewed Semper's practical aesthetics in an opposition to his poetics; Hvattum uses exclusively German sources to contextualise Semper's use of the term without addressing its possible London origins.

his contribution to the emerging discipline of architectural history. Semper's London corpus is embedded in a larger body of contemporary thought relating to the debates on design and art education, often with a specific focus on the theorization of ornament. Moreover, a close examination of thematically related lectures and writings by other protagonists of the Department of Science and Art exposes a number of concepts, references and rhetorical elements that Semper appears to have had in common with his colleagues. This paper presents several examples of such shared issues from the lectures of William Dyce, Owen Jones and Ralph Wornum to demonstrate that there is sound basis for re-evaluating the theoretical elements of Semper's London oeuvre within the broader corpus of contemporary theories of design and ornament.

### **'... several interests involved in the improvement of public taste'**

Gottfried Semper came to London in 1850 and joined the newly founded Department of Science and Art at its flagship establishment in the capital – the former Government School of Design – two years later.<sup>5</sup> His close acquaintance Henry Cole, having been placed at the helm of the new Department, described its initial task as 'to devise the means by which the department may promote all the several interests involved in the improvement of public taste. The interest of the public, as a consumer and judge – the interest of the manufacturer, as the capitalist and producer – and the interests of the artisan, as the actual workman.'<sup>6</sup> This task was not unique to the 1850 period of reform: the questions of what to teach and how to teach had been central to the debates surrounding the School of Design since its foundation in 1837. The mission it was initially entrusted with – to educate designers for industry – had proven to be much more complicated and controversial than was at first realized. The identity of the so-called 'ornamentist' and his - and, increasingly, her - work was the subject of heated debate and continuous controversy involving bitter infighting and several resignations. The School was at the centre of public attention several times during the 1840s until a special parliamentary hearing took place in 1849 to investigate its shortcomings. The conclusions it drew stated that the School of Design was not fulfilling its intended function. Teaching methods and administration of the Schools were to be reformed, steering the curriculum in the direction of applied or 'practical' training. The

<sup>5</sup> Wolfgang Herrmann, *Gottfried Semper im Exil: Paris – London 1849–1855. Zur Entstehung des 'Stil' 1840-1877*, Schriftenreihe des Instituts für Geschichte und Theorie der Architektur an der Eidgenössischen Technischen Hochschule Zürich 19, Basel and Stuttgart: Birkhäuser, 1978, 32 onwards.

<sup>6</sup> Henry Cole, *An Introductory Lecture on the Facilities Afforded by the Department of Practical Art, to All Classes of the Community for Obtaining Education in Art. by Henry Cole C.B., General Superintendent 24. Nov. 1852*, London: Chapman & Hall, 1853, 13.

Schools were to come under control of a new government department as part of the Board of Trade.<sup>7</sup>

In the wake of the parliamentary hearing, the subject of education in the arts was widely discussed in the British press. The October issue of *Edinburgh Review* in 1849 considered the question of the Schools of Design at some length, quoting extensively from the parliamentary evidence and various pieces of writing published in the previous years. The Review took a generally sympathetic stance towards the Schools, pointing to positive responses from the manufacturers and thoughtfully considering the role that the schools had to play in relation to fashion and public education:

Crude theories in art, incorrect practices and bad examples cannot be suppressed by act of parliament. But the taste of a people may gradually be raised, by taking every opportunity of making it familiar with the best possible models of every description. And, to whatever extent Schools of Design may contribute to this enviable consummation, they will in the same degree secure every immediate and minor object, in this their more complete success.<sup>8</sup>

The Great Exhibition had further incited the debate on taste and quality of design. Artistic education was discussed especially widely because of the perceived inferiority of British design and the proposal to use the surplus profit from the Exhibition to establish an industrial college. The *Morning Chronicle* wrote on this subject in the autumn of 1851:

The consideration of the proposal for appropriating the surplus in the hands of the Royal Commissioners of the Exhibition for the purposes of a metropolitan College for Industrial Education, leads naturally to an inquiry into the condition of the Government Schools of Design, in order to discover wherein lies the secret of their generally admitted failure, and to ascertain what materials they furnish for the development of the proposed scheme.<sup>9</sup>

The article further re-iterated a criticism that was often levelled at the Schools of Design: the alleged lack of practicality in the training they offered, which

<sup>7</sup> Quentin Bell, *The Schools of Design*, London: Routledge & K. Paul, 1963; Stuart MacDonald, *History and Philosophy of Art Education*, London: Hodder & Stoughton Ltd, 1970; Lara Kriegel, *Grand Designs: Labor, Empire, and the Museum in Victorian Culture*, Radical Perspectives: Durham, N.C. ; London: Duke University Press, 2007.

<sup>8</sup> 'Art. V - Report of the Select Committee of the House of Commons Appointed to Consider the Constitution and Management of the School of Design', *The Edinburgh Review: Or Critical Journal*, October 1849, 496.

<sup>9</sup> Quoted in 'Institutions for Industrial Training', *The Economist*, November 29, 1851.

rendered the designers educated at the schools apparently useless in the workplace. This ostensible shortcoming was acknowledged in the 1849 review and was to be remedied by the establishment of specialised classes for different branches of design. One of these classes – for furniture and metalwork – was entrusted to Semper. The German architect had preoccupied himself with the issue of relation to practice already in the early days of his career in Dresden and again, polemically in his essay on the Great Exhibition: *Science, Industry and Art. Proposals for the encouragement of the national artistic sentiment at the close of the industrial exhibition in London*.<sup>10</sup>

### **'The simplest works of the human hand and their history'**

It seems plausible, that, with his essay, Semper was aiming to contribute to the public discussion on arts education that was unfolding around him at the time. In the short preface to *Wissenschaft, Industrie und Kunst* published 1852 in Braunschweig,<sup>11</sup> Semper refers to the text as being a result of a 'private request to make proposals for an improved system of instruction for future technicians with particular attention to the education of taste.'<sup>12</sup> With these words he specifies, on the first page of his publication, that his text is an answer to one main question: How to teach design? He uses examples from the Exhibition to outline what he sees as a state of crisis in the arts influenced by an understanding of historical crises derived from German idealism and the writings of Saint-Simon.<sup>13</sup> He identifies the source of the crisis in the excess of technical means available to the artist due to the expansion of knowledge and increasing pace of technological progress. The artist is lost 'in unknown waters without a chart and compass' and the only hope of finding one's way can come from a new 'science' that would lay the theoretical basis for invention in art. Semper goes on to outline his proposal for this new 'science' according to three aspects.

The first aspect of the 'study of style' – the 'historical' – proposes that 'as nature in her variety is yet simple and sparse in her motives, [...] in the same way the technical arts are also based on certain prototypical forms [Urformen] conditioned by a primordial idea, which always reappear and yet allow infinite

<sup>10</sup> Gottfried Semper, *Wissenschaft, Industrie und Kunst. Vorschläge Zur Anregung Nationalen Kunstgefühles. Bei dem Schlusse der Londoner Industrie-Ausstellung*, Braunschweig: Vieweg, 1852.

<sup>11</sup> for a collection of writings Semper had published in this period see Gottfried Semper and Henrik Karge, *Gesammelte Schriften*, Olms, Georg, 2014.

<sup>12</sup> 'Dieser Aufsatz ist in Folge einer Privataufforderung entstanden, über die Organisation eines verbesserten Unterrichts für angehende Techniker, mit besonderer Rücksicht auf Geschmacksbildung, Vorschläge zu machen.' Semper, *Wissenschaft, Industrie und Kunst*, 1, translation author.

<sup>13</sup> Mari Hvattum, 'Crisis and Correspondence: Style in the Nineteenth Century', *Architectural Histories* 1(1):21, 2013, doi:10.5334/ah.an.

variations conditioned by more closely determining circumstances.'<sup>14</sup> Thus, the study of the 'Urformen' and their historical manifestations forms an essential element in the study of art.

Semper refers to the second aspect as the 'technical study of style' that 'should teach us how the forms evolving from the motives should take different shapes depending on our means, and how the material is treated stylistically within our advancing technology.'<sup>15</sup> He gives an example of hard stones like granite and porphyry, which, having been very difficult to work historically, had carried a symbolism of hardness and durability. The ease with which these stones can be cut in Semper's day poses difficult questions about the meaning of these materials.

These questions are in fact so difficult, that, according to Semper, they would hardly leave room for the third element in the study of style: the examination of the 'local, temporal and personal influences on form extrinsic to the work of art and their accord with other factors'<sup>16</sup>. He, however, goes on to outline what in his opinion is the main one of these influences in his day – the condition of the market. He proceeds to illustrate his assertion with an example of house building in America, stressing that, rather than being designed for a specific and unique setting, houses, their elements, decorations and fittings are made to fit in anywhere. The market, from Semper's point of view, demands that the objects are devoid of individuality and 'soul,' to be suitable for being traded globally and used in any setting, in any corner of the world. The wares from India and the Orient are, in his opinion, so popular exactly because they fulfil this condition of universality: 'The Persian carpets are suited to a church or a boudoir. The Indian ivory boxes with inlaid mosaic patterns can be incense holders, cigar containers, or work boxes,

<sup>14</sup> 'Wie die Natur bei ihrer Mannigfaltigkeit in ihren Motiven doch nur einfach und sparsam ist, wie sich in ihr eine stete Wiederernewerung derselben Formen zeigt, die nach dem Stufengange der Ausbildung und nach den verschiedenen Daseinbedingungen der Geschöpfe tausendfältig modificirt, in Theilen anders ausgebildet, in Theilen verkürzt und verlängert erscheinen, eben so liegen auch den technischen Künsten gewisse Urformen zum Grunde, die, durch eine ursprüngliche Idee bedungen, in stete Wiedererscheinung doch eine durch näher bestimmende Umstände bedungene unendliche Mannigfaltigkeit gestatten.' Semper, *Wissenschaft, Industrie und Kunst*, 15; translation in Gottfried Semper, *The Four Elements of Architecture and Other Writings*, trans. Harry Francis Mallgrave and Wolfgang Herrmann, Cambridge: Cambridge University Press, 1989, 136.

<sup>15</sup> '... der da lehren sollte, wie mit unseren Mitteln sich die Formen aus der Motiven anders zu gestalten haben, und wie das Stoffliche bei unserer fortgeschrittenen Technik nach Stylgrundsätzen zu behandeln sei,' Semper, *Wissenschaft, Industrie und Kunst*, 17; translation in Semper, *The Four Elements of Architecture and Other Writings*, 137–138.

<sup>16</sup> '... der die ausser dem Kunstwerke liegenden örtlichen, zeitlichen und persönlichen Einflüsse auf Gestaltung dasselben besprechen und seine Uebereinstimmung mit Anderem, die Charakteristik, den Ausdruckumfassen sollte.' Semper, *Wissenschaft, Industrie und Kunst*, 19; translation in Semper, *The Four Elements of Architecture and Other Writings*, 138.

depending on the inclination of the owner.<sup>17</sup> It is their ability to adapt that makes non-European objects important to study. Although, according to Semper, the ornamented commodity hails the destruction of 'traditional types,' it also signifies the possibility of a new beginning, just like the decorative artistic productions of the ancient nomadic peoples anticipated later development of 'higher arts.'

Semper continuously reiterates the primacy and importance of 'industrial art' throughout his essay. He draws a parallel between the condition of his day and the early Greek period, which, in his opinion, saw 'the partly foreign and partly native forms [...] first fused through their ornamental application to the products of industry, and a third new form was prepared.'<sup>18</sup> Ornament has a key role to play in the advent of new art and it is through 'industrial art' that the crisis of the arts is to be overcome. The taste of the nation is to be refined by improvement of the lesser, industrial objects.

This focus on the smaller objects as productions of 'industrial art' and their historical primacy over architecture denotes a new development in the evolution of Semper's theory of design and has recently attracted specific scholarly attention.<sup>19</sup> Prior to his arrival in London, Semper's historical and theoretical project was purely architectural in nature, as denoted by the Paris drafts of the textbook *Vergleichende Baulehre* that he was writing at that time.<sup>20</sup> The period spent in the imperial capital saw Semper enlarge his field of references to include 'industrial arts' within the chronology of design as a phase preceding the development of monumental building, which nurtured the emergence of underlying principles later incorporated into the higher arts.

Semper was not alone in drawing a connection between the 'industrial arts' and architecture. The likeness of 'ornamental design or 'decorative arts' to architecture had been noted in a number of texts published in London in the 1840s – many of them in connection with the Schools of Design. Writing to emphasise the

<sup>17</sup> 'Die persischen Teppiche passen in eine Kirche so gut wie in ein Boudoir, die Elfenbeinkästchen aus Indien, mit den eingelegten Mosaikmustern, sind Weihrauchkästchen oder Cigarrenetuis oder Nähkästchen, nach Belieben der Eigenthümer.' Semper, *Wissenschaft, Industrie und Kunst*, 24–25; translation in Semper, *The Four Elements of Architecture and Other Writings*, 141.

<sup>18</sup> 'So wurden durch ornamentale Benutzung auf den Werken der Industrie die zum Theil fremden, zum Theil heimischen Formen zuerst zusammengeschmolzen und zu einem dritten Neuen vorbereitet.' Semper, *Wissenschaft, Industrie und Kunst*, 33; translation in Semper, *The Four Elements of Architecture and Other Writings*, 145.

<sup>19</sup> Alina Payne, *From Ornament to Object Genealogies of Architectural Modernism*, New Haven, Conn.: Yale University Press, 2012; Spyros Papapetros, 'World Ornament: The Legacy of Gottfried Semper's 1856 Lecture on Adornment', *RES: Anthropology and Aesthetics* no. 57/58, April 1, 2010, 309–29.

<sup>20</sup> See Susanne Luttmann, 'Gottfried Sempers "Vergleichende Baulehre" Eine Quellenkritische Rekonstruktion', Diss., Eidgenössische Technische Hochschule ETH Zürich, Nr 18110, 2008, ETH, 2008, <http://e-collection.ethbib.ethz.ch/show?type=diss&nr=18110> (abstract).

importance of decorative arts, William Dyce, the first head of the London School, stated that 'the very claim of architecture to be ranked among the fine arts depends not on its constructive or scientific part, but on its decorative, including all that relates to beauty of proportion and of ornament.'<sup>21</sup> Owen Jones had famously proclaimed that 'The Decorative Arts arise from and should properly be attendant upon, Architecture'<sup>22</sup> and Ralph Wornum, an influential art historian, teacher and later Keeper of the National Gallery, articulated his theory of ornament based on architectural terms and examples, stating that 'every design is composed of plan and details.'<sup>23</sup>

The object and the building were connected with each other in these writings through the idea of 'ornament' – a somewhat elusive term at the centre of speculation by the School of Design protagonists. Efforts to define the term were located simultaneously at several sites, endowing it with complexity. One of these sites was embedded in an educational setting, framing the idea of 'ornament' among the emerging academic disciplines and discussions of the relationship between theory and praxis. The market was another one of these sites, with its then-recent theorisations, and the unprecedented conditions of global exchange and encounter that it precipitated. Increasing trade, newly-achieved cheapness of production and affordability of goods confronted artists, designers and art historians - Semper among them - with a new category of commodity.

### '... a kind of practical science'

Interrogation of the status of industrially produced and widely consumed objects was entwined in the 1850s with questions of method in design education. At odds with the established social and epistemic structures, the commodity mounted a substantial challenge to the existing assumptions about teaching design and the identity of art in general. The School of Design and the Department of Science and Art have been situated at the centre of this debate by the nature of their mandate and the commodity was a theme on the scientific side of the organisation as much as in the associated artistic circles.<sup>24</sup>

<sup>21</sup> William Dyce, 'Lecture on Ornament Delivered to the Students of the London School of Design', *Journal of Design and Manufactures* 1: 2, April 1849, 65–6.

<sup>22</sup> Owen Jones, *On the True and the False in the Decorative Arts: Lectures Delivered at Marlborough House, June 1852*, London, s.n., 1863, 4.

<sup>23</sup> Ralph Nicholson Wornum, *Analysis of Ornament. The Characteristics of Styles: An Introduction to the History of Ornamental Art; Being an Outline of a Course of Sixteen Lectures on That Subject, Originally Prepared for the Government Schools of Design in the Years 1848, 1849, 1850*, London: Chapman & Hall, 1856, 17.

<sup>24</sup> See for example Lyon Playfair, 'On the Chemical Principles Involved in the Manufactures of the Exhibition as Indicating the Necessity of Industrial Instruction', in *Lectures on the Results of the Great Exhibition of 1851, Delivered before the Society of Arts, Etc*, ed. Arts Royal Society of, 1852.

One aspect of this crossover is reflected in the frequent references to 'science' made in the discussions of the ornamented object. For example, William Dyce, a painter and a founding head of the School of Design, like Semper, draws a parallel between works of art and creations of nature: 'Ornamental design is, in fact, a kind of practical science, which, like other kinds, investigates the phenomena of nature for the purpose of applying natural principles and results to some new end.'<sup>25</sup> This sentence comes from a lecture Dyce delivered to the students of the School in 1849, which was subsequently published in the *Journal of Design and Manufactures* edited by Cole – a close acquaintance and a long-standing correspondent of Dyce's. As well as being a painter, Dyce had a keen interest in the experimental study of nature, although his scientific career never went far. Although he was awarded the Blackwell prize at Aberdeen for a publication in electro physics, his discoveries were quickly superseded.<sup>26</sup>

The fact that Dyce had published a prizewinning essay on electricity and magnetism, as well as having been a successful artist, is only surprising from today's perspective. The first half of the nineteenth century saw a gradual shift in the demographics of science away from gentlemen amateurs towards professionals. The former were still to a certain degree expected to be polymaths. Although by 1850 the opposition between 'arts' and 'sciences' was beginning to emerge, it was still not as strongly expressed as it is at present. Specialisation of disciplines and alignment of individuals with professional identities had only just begun and specific modes of thought and style of reasoning were not yet firmly associated with particular fields of knowledge. The question of how a discrete discipline might produce legitimate knowledge and where its boundaries lie was still very much an open one.<sup>27</sup>

The dynamics of disciplines' growing identity leave their mark on Dyce's lecture as well as in Semper's writing on education: both lay claim to a novel field and seek to justify it. In the introductory part of his talk, Dyce addresses at length the question of whether ornamental design is worth teaching on its own and argues that it is a stand-alone discipline distinct from that of fine art. Unlike the fine arts, which imitate nature in reproducing its images and are pleasurable through the beauty of the thing represented, ornamental arts achieve beauty by imitating the principles rather than the forms found in nature. It is this proximity to nature that elevates ornamental art. Instead of being a trivial matter of cheap manufacture, it is a key element in understanding the world:

<sup>25</sup> Dyce, 'Lecture on Ornament Delivered to the Students of the London School of Design', April 1849.

<sup>26</sup> Marcia Pointon, *William Dyce 1806-1864: A Critical Biography*, Oxford: Clarendon Press, 1979, chapter I.

<sup>27</sup> Richard Dewitt, *Worldviews: An Introduction to the History and Philosophy of Science*, Oxford: Blackwell, 2004, 187.



If nature has not only contrived her works, considered as pieces of mechanism, with the most consummate science, but, considered as beautiful objects capable of gratifying the senses, has adorned them throughout with every variety and charm of form and of colour which it is possible for us to conceive, than surely must be reckoned a high pursuit which [...] has in view to impress on the creations of human ingenuity somewhat of the *cosmetic* art of nature [emphasis original]. I may observe by the way, that the very word "cosmetic," if used in its original acceptation, as "that which beautifies," or "adorns," suggests to us the elevated character of the study of ornament. The word is derived from the Greek verb κόσμεῖν, which signifies to "adorn;" and from this same root the Greeks formed their word κόσμος, "the world" or "the universe,"- as if in thinking of the world, the idea of it uppermost in their minds was its ornate character.<sup>28</sup>

The parallel that Dyce draws here is very much in the spirit of his time. The idea that the works of nature – living organisms – and inanimate objects could be governed on an elementary level by the same laws, only gained ground in the first half of the nineteenth century. It was, for example, realised at that time that organic compounds could be synthesised from inorganic ones, thus undermining previously existing assumptions about fundamental differences between living and dead matter, the works of the Creator and products of the human hand.<sup>29</sup> On the same basis, Dyce considers an artwork as akin to the body or the plant, in so far as both are governed by the same underlying principles.

Thus, in studying innate qualities of nature, an ornamentist is like a scientist who studies its principles with a view to apply them to new inventions. It is the ornamentist's task 'to adorn the contrivances of mechanical and architectural skill by the application of those principles of decoration, and of those forms and modes of beauty, which nature herself has employed in adorning the structure of the world' – ornamental art is, in Dyce's theory the practical cousin of the fine arts. While fine art 'endeavours to give us pictures of some higher condition of humanity' ornamental art is preoccupied with applying the ideal to the real, the everyday and the mundane in an effort similar to those of 'practical science.'<sup>30</sup>

This type of discussion on the nature of the relationship between the ideal and the 'real' or 'practical' indicates a major concern that shaped the debate on design around the time when Semper was laying down the basics of his architectural history as 'practical aesthetics.' While the boundaries of disciplines and

<sup>28</sup> Dyce, 'Lecture on Ornament Delivered to the Students of the London School of Design', April 1849, 65.

<sup>29</sup> Dewitt, *Worldviews: An Introduction to the History and Philosophy of Science*, 190.

<sup>30</sup> Dyce, 'Lecture on Ornament Delivered to the Students of the London School of Design', April 1849, 65.

the divide between 'arts' and 'sciences' were still unclear around 1850, the opposition between theory and practice was sharp.<sup>31</sup>

One of the cornerstones of the practice-versus-theory discussion in the arts was the preoccupation with ornament, not as a system of abstract geometric decoration, but in its applied form in relation to concrete objects. Thus Dyce, in the same lecture, goes on to describe how teaching of design is to be centred on objects. He states that the 'abstract skill' of imitation that is universally applicable to everything is essentially a myth. Training of ornamentists must from the beginning revolve around the objects they would go on to design.<sup>32</sup> Similarly, Semper's preoccupation with ornament began with 'objects that have weight and physical dimensions,' even if his theorisation indicated a transition from the figurative to the abstract – from imitative decoration of the Greek temples to the 'glowing texture' of the 'gleaming surface.'<sup>33</sup>

Like Dyce, Semper draws attention to the Greek roots of the word 'cosmetic' in his 1856 lecture 'On the Formal Principles of Adornment.'<sup>34</sup> Ornament, according to Semper, reflects the order of the world, and embodies it, thus giving the products of human industry something of the character of natural things. However, the parallel to the study of nature by science is not the only factor that defines this attitude. One must keep in mind that the 'nature' that both Semper and Dyce refer to is not of the Kantian sort, but is a concept shaped by Goethe and Romantic Science, which grant it an inherent status within both the subject and the object.<sup>35</sup> Both educators are trying to make sense of this status in the light of the phenomena of commodity production and global trade that they are sharply confronted with in the Britain of their day.

### **'Universal efforts show a universal want'**

Traded non-European artefacts represented one of the main ways in which Semper and his London colleagues engaged with emerging globality. The sheer range of things and buildings from every corner of the globe was beginning to test the limits of the comparative method that had been used previously to delineate styles along

<sup>31</sup> David Knight, 'Romanticism and the Sciences', in *Romanticism and the Sciences*, ed. Andrew Cunningham and Nicholas Jardine, Cambridge: Cambridge University Press, 1990, 14.

<sup>32</sup> William Dyce, 'Lecture on Ornament Delivered to the Students of the London School of Design', *Journal of Design and Manufactures* 1: 3, May 1849, 101.

<sup>33</sup> Papapetros, 'World Ornament', 311, 329, 328.

<sup>34</sup> Gottfried Semper, 'Über die Formelle Gesetzmässigkeit des Schmuckes und dessen Bedeutung als Kunstsymbol', *Monatsschrift des Wissenschaftlichen Vereins in Zürich* 1, 1856, 101–30, in English Kathryn Schoefert, Spyros Papapetros, and Gottfried Semper, 'On the Formal Principles of Adornment and Its Meaning as a Symbol in Art (second Section)', *RES: Anthropology and Aesthetics* no. 57/58, April 1, 2010, 299–308.

<sup>35</sup> See Arindam Dutta, *The Bureaucracy of Beauty: Design in the Age of Its Global Reproducibility*, New York: Routledge, 2007, 96.

national boundaries. While indigenous peoples were widely seen as representing earlier stages in the line of human development that culminated in the Western society, their commonality with the white Europeans was not yet taken for granted by everyone. Many positions in the study of the art still held ornament and architecture from outside of Europe to be inferior.

The position of William Dyce on this subject stands at one end of the spectrum of opinions. In his 1849 lecture, Dyce continues to say that ornament and decoration are 'ingredient[s] necessary to the completeness of the results of mechanical skill' because they are universally desired by all human beings. 'This feeling is not the offspring of a refined state of society for we discover among savages the exercise of ornamental art, even previously to the invention of any arts...'<sup>36</sup>

Dyce's contemporary and colleague at the School of Design, Ralph Wornum is less sympathetic. In his view this type of need was a quality of the intellect and only of concern to the 'advanced nations':

...in a less cultivated state, we are quite satisfied with the gratification of our merely physical wants. But in an advanced state, the more extensive wants of the mind demand still more pressingly to be satisfied. Hence, ornament is now as material an interest in a commercial community as even cotton itself, or, indeed, any raw material of manufacture whatever.<sup>37</sup>

He closely associates ornament with the commodity, writing further that:

As society advances, it is necessary to combine elegance with fitness; and those who cannot see this must be content to send their wares to the ruder markets of the world, and resign the great marts of commerce to men of superior taste and sounder judgement, who desire a higher reward.<sup>38</sup>

Wornum continues to stress that even in the ancient world, famous artistic works were not valued for their materials alone or for the technical skill and innovation of their execution, but for their beauty and ornament. Like Semper,<sup>39</sup> Wornum stresses the exchange of artworks and design products that took place in the area of the ancient Mediterranean, drawing an implicit link between the conditions of this exchange and the form of the products. Even though Wornum does not support the idea of a standard of beauty that is universal across cultures,

<sup>36</sup> Dyce, 'Lecture on Ornament Delivered to the Students of the London School of Design', April 1849, 65.

<sup>37</sup> Wornum, *The Characteristics of Styles*, 6.

<sup>38</sup> Wornum, *The Characteristics of Styles*, 7.

<sup>39</sup> See Semper, *Wissenschaft, Industrie und Kunst*, 31–3.

he stresses a historical importance of good design. Ornament is universally a salient attribute of the commodity, even if its quality must vary according to the locality of the market it is intended for.

Wornum also echoes in his text an attitude that was expressed often in Britain around the time of the Great Exhibition – that the future of commercial superiority for British manufacturing products lay in their design. Also Semper noted an apparent dominance of French wares over the English in some branches of production, stating that 'the practical Englishmen, in their effort to create the beautiful, completely lost sight of practicality.'<sup>40</sup> Against this background, he praised the objects of the Indian section, writing in *Wissenschaft, Industrie und Kunst* that 'Indo-Persian style is wonderfully beautiful' and notes how particularly well-adapted are oriental products to the conditions of the market.<sup>41</sup>

Richard Redgrave, Art superintendent of the Department of Science and Art, also hailed the marketability of Indian wares as he reviewed the lacquered Indian boxes displayed at the Exhibition as 'a lesson of richness without gaudiness' praising their 'elegant flowing lines' and the 'agreeable manner in which both gold and colour are dispersed over the surface.'<sup>42</sup> Dyce remarked on 'why Oriental ornamentation is so agreeable and natural'<sup>43</sup> and Owen Jones spoke about the 'gorgeous contributions of India' at the Great Exhibition and praised Indian objects for possessing 'so much unity of design, so much skill and judgement in its application, with so much elegance and refinement in the execution,'<sup>44</sup>

Wornum, in contrast to his colleagues, was very critical of the Indian and Chinese wares exhibited in the Crystal Palace: '... much of the design is put in to fill a space, the whole being generally only an infinite combination of minute portions of different colours, aiming at a purely general effect. The merits of the best are negative, rather than positive; there is an absence of glaring faults, but no one feature of beauty...'<sup>45</sup> In this, Wornum was consistent with the opinions he voiced elsewhere: 'primitive' cultures could hardly produce good design

<sup>40</sup> Semper, *Wissenschaft, Industrie und Kunst*, 51.

<sup>41</sup> Semper, *Wissenschaft, Industrie und Kunst*, 25, footnote.

<sup>42</sup> Richard Redgrave, *Report on Design: Prepared as a Supplement to the Report of the Jury of Class XXX of the Exhibition of 1851, at the Desire of Her Majesty's Commissioners*, London: William Clowes and Sons, 1852, 38.

<sup>43</sup> William Dyce, 'Lecture on Ornament', in *Catalogue of The Museum of Ornamental Art at Marlborough House*, London, 1853, 114; quoted in Partha Mitter, *Much Maligned Monsters: A History of European Reactions to Indian Art*, [rev. ed.] / with a new pref., Chicago etc.: University of Chicago Press, 1992, 229.

<sup>44</sup> Owen Jones, *On the Leading Principles in the Composition of Ornament of Every Period, from the Grammar of Ornament: Read before the Royal Institute of British Architects, December 15th, 1856*, London, s.n., 1856, 22.

<sup>45</sup> Ralph Nicholson Wornum, 'The Exhibition as a Lesson in Taste: An Essay on Ornamental Art as Displayed in the Industrial Exhibition in Hyde Park, in Which the Different Styles Are Compared with a View to the Improvement of Taste in Home Manufactures', in *The Art Journal Illustrated Catalogue: The Industry of All Nations 1851*, London, 1851, VI–VII.

As a result of his position, the history of ornamental art that Wornum presents in his book 'Analysis of Ornament. The Characteristics of Style.' is very Eurocentric. It is however notable, that unlike Dyce, Wornum held a view that the education of ornamentists should consist primarily of the study of history, both in specific cases and in general:

It is the comprehension of individual tastes, characterising various times and people, which must constitute the most thorough education of the ornamental designer.

The elements of style are of two kinds — pure and absolute, and conventional and arbitrary; or natural and fanciful. The investigation of the principles of ornamental art is an inquiry into the nature and character of these elements: how the effects of certain variations of form and colour happen to be so universally appreciated that the varieties of their arrangements have occupied all people from the remotest times.<sup>46</sup>

Wornum sees the history of ornamental art as advancing from the crude to something more and more satisfying for the senses, and, as manufactures improve over time and attain perfection at fulfilling their mere function, people yearn for them to become more aesthetically pleasing, more tastefully decorated and to transcend mere functionality. For Wornum, the history of ornament and manufacture is a history of striving towards the ideal. In his view, ornament has to be studied 'scientifically and generally', that is, not in isolated application to a specific material.

According to Wornum, the history of ornamental art is capable of revealing the 'essential forms'. Like Semper in his later texts on ceramics,<sup>47</sup> Wornum points out how perfectly adapted to their uses the constitutive forms of a jug are, and how these forms recur in all times and cultures, constituting good taste up to the present day by the virtue of their simplicity and fitness for purpose: 'What is recommended by use never grows old.'<sup>48</sup>

Like Semper and Dyce, Wornum suggests that the design of ornament is informed by universal patterns and principles, which are to be discovered by the study of history, rather than being found in nature. Unlike his contemporaries, he does not recognise historical states in the works of 'primitive' peoples; for him, the history of ornament is a purely European endeavour.

The strength of Wornum's preoccupation with history was perhaps seen as somewhat outdated by the Cole circle. The *Journal of Design* had reviewed his lectures and questioned the usefulness of the study of history for an ornamental

<sup>46</sup> Wornum, *The Characteristics of Styles*, 5–7.

<sup>47</sup> gta Archives, ETH Zurich, Semper estate, 20-Ms-133.

<sup>48</sup> Wornum, 'The Exhibition as a Lesson in Taste', XI.

artist who was to work with modern manufactures.<sup>49</sup> Nonetheless, Wornum remained a central figure in the network of design schools under the command of the Department of Practical Art and his textbook on the history of ornament *The Characteristics of Styles* went through several editions before the end of the nineteenth century. Owen Jones' *Grammar of Ornament* was a comparably popular classic of design education at that time. While this magnum opus was published after Semper had left London, many of the issues it explored came to light in the earlier texts by Jones, which were almost certainly known to Semper and which expose a number of preoccupations that the two architects had in common.

**'... suddenly lets loose thousands of minds...'**

Like Semper's, Jones' starting point is often the connection between architecture and 'industrial arts.' Jones observes that the decorative art of ancient Greeks and Romans as applied to their utensils was in principal the same as that applied to their buildings. He emphasised the subordination of the decorative arts to architecture in the first of the principles of decorative art, forming a kind of catechism for the students of the school of design with statements printed large on sheets of paper that could be hung up on the walls of classrooms.

These principles further read: 'Architecture should be the material expression of the wants, the faculties and the sentiments of the age in which it is created' and 'Style in architecture is the peculiar form that expression takes under the influence of climate and materials at command.'<sup>50</sup> Although these statements can be criticised as mechanistic, they do find their context in the lectures that Jones delivered at the school of Design, in which they represent the first two of the thirty-seven propositions that Jones put forward as part of his design theory. Although most of these were concerned with the use of colour, several addressed the issue of style as well.

Styles, as Jones understood them, were not static and defined entities with clear borders, but were constantly changing. A few of what he calls 'primary styles' (in parallel to primary colours) evolved away from their source under the influence of local conditions. The dynamic nature of style rendered every attempt to reproduce a historical style in the present day preposterous and informed Jones' opposition to architectural revival of any kind.<sup>51</sup> He held the opinion that borrowed styles could not by definition represent the correct application of ornament for they could not portray ornament's embodiment of the laws of nature:

<sup>49</sup> Journal of Design and Manufactures, 'Institutions: Schools of Design.', *Journal of Design and Manufactures* 1, no. 2, 1849, 68.

<sup>50</sup> Great Britain Department of Practical Art, *Principles of Decorative Art*, London, 1853.

<sup>51</sup> Jones, *On the True and the False in the Decorative Arts*, 7–12.

All [...] styles approach perfection only so far as they follow, [...] the true principles to be observed in every flower that grows. Like these favourites of Nature, every ornament should have its perfume, - i.e. the reason of its application. It should endeavour to rival the grace of construction, the harmony of its varied forms, and the due proportion and subordination of one part to the other found in the model. When we find any of these characteristics are wanting in a work of ornament we may be sure that it belongs to a borrowed style, where the spirit which animated the original work has been lost in the copy.<sup>52</sup>

Jones' opposition to the 'borrowed' Gothic revival did not prevent him from having great respect for the ideas of Pugin, whom he quotes in his lectures in relation to the question of style: 'Unless art is the expression of the system it should illustrate, it loses at once its greatest claim on admiration, and fails to awaken the feelings of sympathy in the heart of the spectator.'<sup>53</sup> Jones echoes Pugin's preoccupation with the empathy between art and its observer, and it is perhaps for this reason that he insists on a strong connection between religion and ornamental expression: 'Each primary style arose with the civilization which created it, and was more especially the result of prevailing religious institutions. Religion was the teacher, the priest the artist.'<sup>54</sup>

The Reformation, however, has destroyed the link between society and religion, giving its place over to:

[...] a religion more powerful, whose works equal, nay surpass, all that the Egyptians, Greeks, or Romans ever conceived. Mammon is the god: Industry and Commerce are the high priests.

Void of poetry, of feeling, or of faith, we have abandoned Art for her more masculine sister: Science; [...] so, when this age shall have passed away, will the works which shall have resulted from the triumvirate, Science, Commerce and Industry, to the utter exclusion of those of Art, be handed down to posterity to raise us in the scale of departed nations.<sup>55</sup>

If religion was that which awakened 'the feelings of sympathy in the heart of the spectator' prior to the reformation, science and capitalism were the forces of the emotive response in the nineteenth century. Although Jones might have been critical of this condition when he stated that Art was behind industry in development, he remained optimistic that it should, in time, become even. In an attitude similar to

<sup>52</sup> Jones, *On the Leading Principles*, 9.

<sup>53</sup> Quoted in Jones, *On the True and the False in the Decorative Arts*, 6.

<sup>54</sup> Jones, *On the True and the False in the Decorative Arts*, 8.

<sup>55</sup> Jones, *On the True and the False in the Decorative Arts*, 13–4.

that of Semper, Jones maintained that the crisis was good for the arts, in so far as it was able to expose their shortcomings.

Jones laments that the new materials and conditions of life are not represented in the design and architecture of Europe with new forms. He quotes the transition to Islam among the peoples of the Middle East as an example:

The religion of Mohammed that spread over the East with such meteor-like rapidity, produced with equal speed an art in unison with its poetic and imaginative doctrines.

[...] the Mohammedans were led to adorn their temples in a style peculiar to themselves.

In changing their wandering for a settled life, - in striking the tent to plant it in a more solid form, - they transferred the luxurious hangings which had adorned their former dwellings to their new, changing the tent-pole for a marble column, and the woven tissues for gilded plaster; whilst in their temples their religion impressed itself on all their works;...

According to Jones, other nations historically were able to achieve coherent styles because their art followed from a real existing need and this state of society could still be observed in non-European cultures.

The parallels to the work of Semper here become particularly apparent, not only because Jones mentions the transformation from textile to wall that forms the basis of Semper's principle of dressing, but also because Semper in *Wissenschaft, Industrie und Kunst* speaks of the same condition for the production of art: that it should follow necessity.<sup>56</sup>

Neither Semper, nor Jones, nor any of the other teachers, artists and theorists associated with the School at Marlborough House or the Department of Science and Art advocated revival. In opposition to John Ruskin, they did not see a realistic possibility of returning to an earlier and allegedly better state of society. For them, and for Semper, new art could only be born out of embracing the modern condition.<sup>57</sup> Their position was ultimately a forward-looking one. In this vein, Jones writes that the crisis in the decorative arts can be overcome, 'if we can only throw off the lethargy which hangs over us, and that discouragement which makes us consider the works of the past as final instead of relative truth.'<sup>58</sup> A different style of art has as its precondition a new kind of relationship with history.

For new style to emerge, a radical break must take place as it did when new styles emerged historically, and it must take the form, in Jones' view, of a material invention, rather than a conceptual shift:

<sup>56</sup> Semper, *Wissenschaft, Industrie und Kunst*, 10.

<sup>57</sup> Cf. Harry Francis Mallgrave, *Gottfried Semper Architect of the Nineteenth Century*, New Haven etc.: Yale University Press, 1996, 206.

<sup>58</sup> Jones, *On the Leading Principles*, 24.



the modifications and developments which have taken place from one style to another have been caused by a sudden throwing off of some fixed trammel, which set thought free for a time, till the new idea, like the old, became again fixed, to give birth in its turn to fresh inventions; changes in the general character of ornament which are analogous in their results to organic changes in architecture, such as the substitution of the arch for the horizontal beam by the Romans, and the pointed arch of the Normans for the round arch of their predecessors. They have the same influence in the history of Art as the sudden discovery of a general law in science or the lucky patented idea, which in any work of industry, suddenly lets loose thousands of minds to examine and improve upon the first crude thought.<sup>59</sup>

Like Semper, Jones draws a strong link between advancements in technical and material possibilities, and invention in art. It is in part this attention, especially in Semper's case, that has earned both architects a reputation of 'materialists' within the canon of the pre-history of modernism. But the quotation above and the theoretical deliberations on the theory of design that Semper presented in *Wissenschaft, Industrie und Kunst*, make it apparent that the material reference does not so much inform assumptions about the character of art, as thoughts on the nature of invention. It is an epistemic, rather than an aesthetic claim.

All of the theorists quoted above treated the question of new style as a matter of invention, of manipulation and production of knowledge in relation to material conditions. Dyce spoke of the need to observe examples from nature and study the design of concrete objects; Wornum remarked on the condition of the market and its historical precedence as well as stressed the study of historical examples; and Jones emphasised the importance of looking at the productions of other cultures in search of underlying principles. Finally, Semper advocated all three of these elements as well as highlighting the necessity for understanding the technical conditions of style.

All four reacted to the conditions of their time: advancement of science, rule of capitalism, global circulation of artefacts and progress of technology. The apparent public demand to relate their theoretical endeavours to the training of 'practical artist' meant that the theorists' understanding of these conditions developed in a material vein.

Of all the figures associated with the Department of Science and Art, the deliberations of William Dyce carry most similarities to the work of Semper, closely followed by the writings of Owen Jones. There is clear indication that Semper and Jones were well acquainted<sup>60</sup> and it is possible that Semper knew Dyce through

<sup>59</sup> Jones, *On the Leading Principles*, 6–7.

<sup>60</sup> See letter from Semper to Cole of 10 June 1852 in 55.BB.Box 10 at the National Art Library, London.

Cole. It is certainly likely that Semper would have read the texts by Dyce published in the *Journal of Design and Manufactures*. The thematic connections between the writings of Semper and his London colleagues support the claim of his acquaintance with them. Even before meeting them in person, he would have been highly likely to encounter their ideas through publications and public lectures, particularly numerous around the time of the Great Exhibition. The Crystal Palace stood at the centre of a field of references and examples, things and images that informed the thoughts of Semper and his colleagues on art.

The existence of this common field supports the claim that Semper's contribution to the discipline of architectural history needs to be re-evaluated from positions of historiography 'on the level of things'<sup>61</sup> – as a socially embedded endeavour and materially grounded investigation, as well as a cultural and theoretical pursuit of an individual. Comprehensive archives produced by the institutional environment of his London years make this project both feasible and rewarding.

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<sup>61</sup> Hans-Jorg Rheinberger, *Toward a History of Epistemic Things. Synthesizing Proteins in the Test Tube*, Stanford, CA: Stanford University Press, 1997, 4.