art nouveau architecture... 
a natural progression

"God's architecture .... has no straight lines in it."§

A Dissertation presented to the Department of Architecture Heriot-Watt University, Edinburgh

CRAIG EDWARD PATTINSON
January 1980

§ Collins, George R. *Antonio Gaudi*, p.19
[a statement by Gaudi]
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For SUSAN JANE
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A.H. Mackmurdo: book cover for his <em>Wrens City Churches</em> of 1883</td>
</tr>
<tr>
<td>2</td>
<td>James McNeill Whistler's Butterfly signet and A.H. Mackmurdo's Century Guild signet</td>
</tr>
<tr>
<td>3</td>
<td>Chair designed by A.H. Mackmurdo in 1881</td>
</tr>
<tr>
<td>4</td>
<td>Fernand Khnopff: Catalogue signet for <em>Les XX</em> 1890</td>
</tr>
<tr>
<td>5</td>
<td>Antonio Gaudi: street lamps for the Plaza Real 1878</td>
</tr>
<tr>
<td></td>
<td>a) Overall Lamp</td>
</tr>
<tr>
<td></td>
<td>b) Detail of lamps and capping</td>
</tr>
<tr>
<td></td>
<td>c) Detail of Base</td>
</tr>
<tr>
<td>6</td>
<td>Section through Antonio Gaudi's machine shed for the Mataro Workers Complex, 1878-82</td>
</tr>
<tr>
<td>7</td>
<td>Antonio Gaudi: Casa Vicens, 1878-85</td>
</tr>
<tr>
<td></td>
<td>a) Elevation</td>
</tr>
<tr>
<td></td>
<td>b) Plan</td>
</tr>
<tr>
<td>8</td>
<td>Casa Vicens Palm Frond Fence</td>
</tr>
<tr>
<td>9</td>
<td>The W.G. Low House at Bristol, Rhode Island, America, by Stanford White in 1887</td>
</tr>
<tr>
<td>10</td>
<td>Antonio Gaudi: Dragon Gate for the Güell Pavilions, 1884-87</td>
</tr>
<tr>
<td>11</td>
<td>Antonio Gaudi: Isometric of Güell Palace, 1886-91</td>
</tr>
<tr>
<td>12</td>
<td>Francesc Berenguer: Wine Cellars and Chapel at Garraf (outside Barcelona), 1888</td>
</tr>
<tr>
<td>13</td>
<td>C.F.A. Voysey: House in Bedford Park (outside London), 1891</td>
</tr>
<tr>
<td>14</td>
<td>C.F.A. Voysey: Studio, St. Dunstan's Road, West Kensington, London, 1891</td>
</tr>
<tr>
<td>15</td>
<td>Hector Guimard: Hôtel Roszé, 34 rue Boileau, Paris, 1891</td>
</tr>
<tr>
<td>16</td>
<td>Georges Lemmen: <em>Les Vingt</em> catalogue of 1891</td>
</tr>
<tr>
<td>17</td>
<td>Frank Lloyd Wright: Charnley House, Chicago, 1891-92</td>
</tr>
<tr>
<td>Figure</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>18</td>
<td>Victor Horta: 'Maison Tassel', 6 Rue Paul-Emile Janson (originally 6 Rue de Turin), Brussels, 1892-3</td>
</tr>
<tr>
<td></td>
<td>a) Elevation</td>
</tr>
<tr>
<td></td>
<td>b) Interior</td>
</tr>
<tr>
<td>19</td>
<td>Henry van de Velde: Title page design for <em>Dominiical</em>, of 1892</td>
</tr>
<tr>
<td>20</td>
<td>Hermann Obrist: Embroidered Wall Hanging known as 'The Whiplast' (originally titled 'Cyclamen'), 1893</td>
</tr>
<tr>
<td>21</td>
<td>Charles Rennie Mackintosh: The Glasgow Herald Building, Mitchell Street, Glasgow <em>circa</em> 1893</td>
</tr>
<tr>
<td>22</td>
<td>Charles Rennie Mackintosh: The Glasgow Herald Building - detail of stone carving over main doorway</td>
</tr>
<tr>
<td>24</td>
<td>Frank Lloyd Wright: Winslow House, River Forest, Illinois, 1893</td>
</tr>
<tr>
<td>25</td>
<td>Dunbar Smith and Cecil Brewer: Mary Ward Settlement, Tavistock Place, London, 1895</td>
</tr>
<tr>
<td>26</td>
<td>Charles Rennie Mackintosh: Queen Margaret's Medical College, Glasgow, 1894 (Perspective from one by Mackintosh)</td>
</tr>
<tr>
<td>27</td>
<td>Charles Rennie Mackintosh: Martyrs' Primary School, Parson Street, Glasgow, 1895</td>
</tr>
<tr>
<td>29</td>
<td>Hector Guimard: Ecole du Sacré-Cœur, 9 avenue de la Frillette, Paris, 1895</td>
</tr>
<tr>
<td></td>
<td>a) Elevation</td>
</tr>
<tr>
<td></td>
<td>b) Detail of Cast-Iron Pilots</td>
</tr>
<tr>
<td>30</td>
<td>Viollet-le-Duc: Proposals for iron column supports from Volume II <em>Entretiens sur l'architecture</em>, <em>c.1872</em></td>
</tr>
<tr>
<td></td>
<td>a) Proposed building supported on 'V'-shaped iron columns</td>
</tr>
<tr>
<td></td>
<td>b) Iron balcony support</td>
</tr>
</tbody>
</table>
31 Hector Guimard: Castel Beranger, 14 rue La Fontaine, Paris, 1894-98
   a) Plan
   b) Corner Perspective
   c) Main entry corridor and iron gate
   d) Cast-Iron Tap

32 Victor Horta: Hotel Solvay, 224 avenue Louise, Brussels, 1895
   a) Main Elevation
   b) Doorway Detail

33 Victor Horta: Main facade of the Maison du Peuple (1895-99, demolished in 1965-6)

34 Edvard Munch: 'Madonna', 1895

35 Margaret and Frances Macdonald: A beaten brass Sconce (one of a pair), 1897

36 Charles Rennie Mackintosh: Ruchill Church Hall, 24 Ruchill Street, Glasgow, 1896

37 Charles Rennie Mackintosh: The Glasgow School of Art, 167 Renfrew Street, 1896-1909
   a) Ground-floor plan as designed in 1896
   b) North Facade
   c) East Facade

38 Charles Rennie Mackintosh: Queen's Cross Church, 866 Garscube Road, Glasgow, 1896-99
   a) Perspective Sketch (from the one by Mackintosh in 1895)
   b) Merriott Church Tower, Somerset (Sketch from one by Mackintosh in 1895)
   c) Timber Carving to Altar
   d) Timber Carving to doorway panelling


40 August Endell: Atelier Elvira, Munich, 1897 (destroyed 1944)

41 Hector Guimard: Coilliot Shop and Residence, 14 rue de Fleurus, Lille, 1898-1900

42 Josef Olbrich: The Secession Building, Vienna, 1897-99

43 Otto Wagner: Stadtbahnstation, Karlsplatz, Vienna, 1898-99
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
</table>
| 44     | Henri Sauvage: Majorelle Villa, 1 rue Louis, Nancy, 1898-1900  
a) Perspective Sketch  
b) Plans | 192 |
| 45     | C. Harrison Townsend: Horniman Museum, London, 1900-02 | 196 |
| 46     | Charles Rennie Mackintosh: 'Hill House', Kennedy Drive, Helensburgh (outside Glasgow), 1902-03  
a) Plans  
b) Perspective sketch | 201 |
| 47     | Hector Guimard: Paris Métro Entrances, 1900  
a) Type 1 - open steps  
b) Type 2 - covered kiosk  
c) Type 3 - Pavilion  
d) Sign Lettering  
e) Detail of Cast-Iron Panelling | 210 |
| 48     | Antonio Gaudí: Güell Park, Barcelona 1900-14  
a) Axonometric  
b) Park view of the terrace and bench with the market place below | 216 |
| 49     | Raimondo d'Aronco: The main rotunda of the Turin Exhibition 1900-02 | 226 |
| 50     | Hector Guimard: Jassédé Apartment Building, 142 avenue de Versailles, Paris, 1903-05 | 236 |
| 51     | Charles Rennie Mackintosh: Scotland Street School, Glasgow, 1904-06  
a) Main Facade  
b) Detail of Stonework | 240 |
| 52     | Hector Guimard: Castel Orgeval, 2 avenue de la Mare-Tambour, Villemoisson, nr. Paris, 1904-05 | 242 |
| 53     | Hector Guimard: Hôtel Deron Levent, 8 Villa de la Réunion, Paris, 1905-08 | 247 |
| 54     | Antonio Gaudí: Casa Batlló, Paseo de Gracia, Barcelona, 1905-07  
a) Main Facade  
b) Detail of Facade Windows  
c) Section | 248 |
<table>
<thead>
<tr>
<th>Figure</th>
<th>Source</th>
</tr>
</thead>
</table>
| 55     | Antonio Gaudí: Casa Milá, Paseo de Gracia, Barcelona, 1905-10  
|        | a) Perspective view  
|        | b) Balcony detail  
|        | c) Plan  
|        | d) Roofscape | 253 |
| 56     | Charles Rennie Mackintosh: Library (west wing) - Glasgow School of Art, 187 Renfrew Street, 1906-09 | 259 |
| 57     | Hector Guimard: Details of Apartments at 17-21 rue La Fontaine, Paris, 1909-11  
|        | a) Window stonework  
|        | b) Downpipe detail | 267 |
|        | a) Perspective view  
|        | b) Plan | 268 |
| 59     | Antonio Gaudí: Sagrada Familia School, Barcelona, 1909 - Structural Details | 272 |
| 60     | Antonio Gaudí: Sagrada Familia Cathedral, Barcelona, 1884-1926  
|        | a) Inside face of Nativity Facade  
|        | b) Passion Facade | 278 |
| 61     | Giuseppe Michelazzi: 'Villa Angelica', 99 Via Cippone Ammirato, Florence, 1911 | 282 |

Note: Following is a list of the sources used to compile these illustration, excluding personal photographs.
Figure

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PREFACE

A brief summary of events which led to the realisation of this Dissertation.

When I began studying architecture the term Art Nouveau often arose in conversation or reading. During those early years I was not sure whether the term meant some form of style, a flamboyant act, or a description of a group of artists. From this initial confusion my naivety developed into an interest, a fascination, and finally a search for an understanding of the style known as Art Nouveau. I also remember a very old movie on Gaudi's work which fascinated me. Naturally the history course attended in undergraduate years helped this interest to develop. Although lecture references, slides, and movies touched on aspects of the style, I still was not able to connect work and designers together.

In 1977 I transferred architecture courses from Australia to Edinburgh. My first major design project at Heriot-Watt University was for a five star hotel in Glasgow's St. Enoch Square. It was in Glasgow, following a visit to the School of Architecture for information on St. Enoch Square, that I discovered the work of Charles Rennie Mackintosh, through his School of Art Building. At this stage my knowledge of Art Nouveau had increased, and many architects I had not previously associated with the style could now be included. Naturally interiors play an important role in hotel design, and due to the five star standard required, I tried to create a luxurious and slightly mysterious atmosphere in my building. The two styles which inspired my ideas and expressed the quality and atmosphere I endeavoured to create were Art Nouveau and Art Deco interiors (I was still uncertain what features distinguished the two styles). As the academic year and the design drew to an end, subsequent reading continued to increase my interest in the styles. Also, during the summer break I visited two exhibitions in Brighton: one on Art Nouveau, and the other on the life and work of Charles Annesley Voysey. My interest was further stimulated by a friend who had just visited Barcelona and was full of enthusiasm for Gaudi's work. I found that once the interest had been established, articles, books, and exhibitions seemed to conveniently appear on the subject.

When the opportunity to write this Dissertation arose, I was uncertain
about a subject I could research in depth, even though I had developed such a strong interest in Art Nouveau, which had influenced the organisation of a forthcoming trip to the Continent. My only reason for a detour to Barcelona, from Paris to Italy, was to see Gaudí's work. What seems now to be an obvious choice of subject was not so obvious at the time. I knew much had already been written on Art Nouveau, and I was not sure there was anything I could add. Fortunately just before departing from Edinburgh subsequent research caused me to change my mind. I had been reading about Victor Horta, the Belgian architect who is credited with a great deal of pioneering work in the style. It was through this research that I discovered the French architect, Hector Guimard. Although I was aware of the unusual Paris Métro entrances, I did not know Guimard was the designer. I was also surprised to discover the large amount of work he had carried out in Paris. The French city of Nancy was also frequently mentioned as a major centre of design development during the period, so I included a visit to this city in my itinerary.

My trip to the Continent was of immense value, and highly successful for managing to locate, photograph and record many examples of Art Nouveau architecture. The most gratifying and memorable aspect of this was gaining access to the interiors of a large number of these buildings. In many cities I was interested to find unexpected examples of both Art Nouveau and Art Deco buildings, by unfamiliar architects. The first and most notable example of this was in Amsterdam, where I found many excellent buildings in both styles. Victor Horta's buildings in Brussels were the first I had recorded to see, and the most immediate eye-catching element of his work was the apparent fluid quality of materials, particularly stone and ironwork; also his bold expression of structural ironwork on the facades of buildings. From this magnificent introduction I was eager to move on to Paris and visit Hector Guimard's works. The first of these was found by accident, one of the famous Métro entrances. I was staggered by the visual impact of these organic iron forms, announcing entry to the Paris underground. Having seen these entrances in the context of their surroundings, I was not surprised to learn of the controversy they caused in the early 1900s. After this introduction to Guimard I visited many of his buildings, which are conveniently confined to a small area of Paris (refer Appendix 1 for location maps of these buildings). For me, an attractive element of his architecture
is the imaginative use of materials. These include: coloured ceramic tiles, elegantly carved stonework, different tones of brickwork, and random rubble, many being used in conjunction with one another. The aim of this was to highlight the distinctive feature of each material. For example: the rough haphazard quality of random rubble, emphasising the smooth glossy surface of ceramic tiles. This was an area I felt could be expanded upon, which had not been uncovered in previous research. Many sources on Art Nouveau concentrate almost exclusively on decorative developments as the major achievement of the style. Supported by the interesting use of materials and other features which I had noticed about Guimard's and Horta's work, I gradually became convinced that the style deserved credit for more innovative design development than merely sophisticated decorative work.

I next visited Gaudí's projects in Barcelona, and it was at this point that I began to wonder whether he belonged in the Art Nouveau Movement. I attempted to find other reasons than merely the coinciding years of his work with other designers such as Guimard. During the trip this question remained unanswered. Colour and form were the most memorable aspects of Gaudí's buildings, and, for me, this was all summed up in his Casa Batlló 1904-1906; where the sensation of moving from a busy main thoroughfare in Barcelona into the world of Gaudí is both a peaceful and somehow subterranean experience. While visiting the Güell Park I was disappointed that the Gaudí Museum was closed, as I wanted to see examples of his furniture. The important point to be made here is that, while I concentrate on architectural aspects in this Dissertation, Art Nouveau encompassed all the decorative arts, including: Painting, Sculpture, Furniture, Glass, Jewellery, Ceramics and Graphics. The style also extended into Literature, Music, Drama, Fashion, and generally influenced the lifestyle of many people. All these fields were woven together to eventually create the Art Nouveau style. Because of this, plus the fact that many designers, including architects, worked in diversified fields, it is impossible to consider architecture exclusively. As I visited more work in the style, I began to admire the unity of design created between the interiors and exteriors of these buildings, where all surfaces and materials were designed to harmonize and be long together. This was considered one of the major achievements of the 19th century, and went on to influence interior design which
followed many years later. Architects had begun to consider the
design of the exterior and interior of their buildings of equal
importance (an increasing criticism of architecture today is the
distinct lack of this unity). I became fascinated by the sheer
energy of Art Nouveau designers and their ability to switch from
large massing problems of design to the smallest details such as
door hardware or ventilation grilles. Also, the constant struggle
for high quality craftsmanship, versatility, and occasional wit of
designers, made the style more interesting.

From Barcelona I moved on to Florence, hoping to locate some examples
of Italian Art Nouveau. Prior to the trip I had not been able to
find information about the style in Italy, and more recent investi-
gations have revealed a distinct lack of material in English. Fort-
unately, while I was in Florence I found a book entitled 'Liberty in
Florence'. Although in Italian, it did contain an excellent map and
photographic coverage of buildings within the city. With the aid of
this information I managed to locate quite a few interesting build-
ings. Of these a house called the 'Villa Angelica', designed in 1911
by the architect Michelazzi, proved to be one of the most remarkable
total expressions of Art Nouveau I had seen. I was fortunate enough
to meet the owner, who gave me a most enthusiastic tour of the house.
It was also in Florence that I discovered the reason Gaudi's Museum
had been closed in Barcelona: his work and many pieces of furniture
were on exhibition near the Uffizi Gallery.

After Italy I had a brief stop in Zürich, where I found some Swiss
Art Nouveau buildings. Then I returned to France and the city of
Nancy, once again locating many fine examples of the French style.
L'Ecole de Nancy permanently exhibits many fine examples in all
fields of the decorative arts. Throughout the trip my interests began
to focus on the individual characteristics of designers, their per-
sonal lives, family backgrounds, education, and how often contact was
made with their contemporaries in the same or in other fields. This
specialised aspect became increasingly fascinating during intensive
research. Due to the close collaboration which existed throughout
the period, biographical accounts of the designers became extremely
important. Therefore, wherever possible I have tried to include this
in what follows.

I returned to Edinburgh with many ideas for this Dissertation, and
began to research the style; gathering background information from books and periodicals, wherever possible trying to use articles written during the period. This included return visits to Mackintosh’s work in Glasgow, and many of his buildings I had not previously seen. It is important to express the immense value of having visited many buildings of the period. Without these visits I am certain I could not have developed strong personal convictions about the style. Also, while the period had many names, as will be revealed later, the one commonly associated with the style is Art Nouveau. This name has been adopted in the Dissertation to encompass all countries and designers who were striving for similar goals in the late 19th and early 20th century. In these goals lies a partial answer to whether Gaudí belongs in the style or not. These points will be explained more fully in the material which follows, and is divided into four broad sections titled: 1) Winter - a brief history of the possible early developments of Art Nouveau prior to 1880; 2) Spring - the emerging of the style in the decade 1880-1890; 3) Summer - the peak years, with a detailed analysis and comparison between all aspects of design development, concentrating on the architecture of different countries and designers throughout Europe from 1890 to the early years of the 1900s; 4) Autumn - what conditions or causes may have led to the end of the style. Also included is a summary of the main points made in sections 2 and 3, with suggestions of lessons to be learnt from the period. Finally, areas where further research is needed on this subject. Section 4 is followed by an appendix containing critical summaries of my sources, and a comprehensive Bibliography.
INTRODUCTION

Throughout this Dissertation one of my prime objectives is to reveal that Art Nouveau Architecture and design achieved far more than merely a new form of decoration. I aim to achieve this by providing a detailed appraisal of the aesthetic and practical qualities of many buildings. While aesthetics often provide the clearest understanding of the style, issues such as planning, services, structure, and materials are of equal importance. These more practical aspects of building can often affect a design more than anything else, and while my research has revealed little information on these issues, what has been found will be included and extended upon wherever possible. Most of this will be based on personal architectural experience, and the belief that architects and designers of the Art Nouveau Movement were faced with similar problems as we are today.

Virtually all building projects begin with a client, and the role he plays can influence the final result tremendously. He controls cost limitations, building style, plan layout, services, materials, or structure - virtually any aspect of a project. Because of this I was particularly keen to find out how much freedom architects of the movement were given by their clients. Cost is a major governing factor, and whenever possible I will try to show the effect this had on the design process. Included with this is the site, which imposes its own unique restrictions, in terms of topography and area. Hand in hand with the site are the building regulations imposed by each city. These outline set backs, height restrictions, form, and the materials permitted in construction. Unfortunately, detailed information on this aspect was virtually non-existent, and therefore this is an area where explanations may be found for unusual variations in the style of individual architects for specific projects.

Once a design begins to evolve, structural and service problems are introduced. One of the great achievements of the Art Nouveau Movement is the exploitation of new materials, and the honest expression of these in the structure of buildings. This began with the extensive use of iron and glass, and later included reinforced concrete. Connected with these materials was the innovative use of factory-produced components and the standardisation of material dimensions. The movement also reveals an early introduction of the co-ordination of services in buildings. Electricity was being incorporated,
allowance was made for heating ducting, and the accommodation of shafts for the newly introduced electrical elevators. Finally, pioneering work was carried out in the heating of buildings, with the allowance of hot air ducting, in some cases indicating early forerunners to modern air conditioning.

With regard to planning, architects realised the advantages of functional simplicity, and concentrated more on developing three-dimensional space. Building interiors became freer and more open, and this led to the innovative manipulation of mass and void, separating rooms by subtle changes in dimensions, levels, and light, rather than walls. Interiors became much lighter due to the skilful location of skylights, lightwells, and windows. Architecture broke away from the monumental proportions of classical styles, and began to create environments which related more to the needs of people and the human scale.

In all the buildings I visited there was an imaginative and colourful use of materials, accomplished by the use of different tones of brickwork, finished stonework, random rubble, ceramic tiles, terracotta, polished timber, and ironwork. These were virtually always combined with one another, not only to emphasise colour but also texture and form. As an example, the smoothness of carved stonework emphasised the rough quality of random rubble, and the glossy surface of ceramics highlighted the warm muted tones of brickwork. All architects reveal an obsession with detailing and obtaining the highest quality of craftsmanship. For me this work was always executed with great enthusiasm and an eagerness to openly express new materials and forms.

In my search to discover a link between Gaudí and Art Nouveau, I began to realise that most sources concentrate on linking architects through a similarity in their use of historical styles, materials, or ideas borrowed from one another. I began to feel that if these were the strongest connections, then there were other designers apart from Gaudí who would be difficult to associate with the one movement. The answer, and in my opinion the most powerful common driving force, lay in the fact that each country was striving for its own nationalistic identity. All were eager to create a new kind of design, to break all bonds with historical styles. Due to these tendencies many architects turned to local vernacular building for
inspiration. Also, all forms of design development began to be influenced by nature. Many architects and designers developed an extensive knowledge and interest in Botany, and subsequently obtained a great deal of inspiration from plant forms. While these points provide the connection between designers that I was searching for, they also provide part of the answer to the different forms which developed in the work of each city or area.

Each country or region has its own distinct plant species or forms of vegetation. Due to the close examination of nature by designers, this would lead directly to a variation in proportion, symbols, or forms, which evolved through individual interpretations of plants. For example in the case of Gaudí, it is well known that his design ideas were strongly inspired by the Mediterranean. Plant and organic forms derived from the sea will vary considerably from those of inland vegetation, such as the forms used by Horta in Brussels.

Today, people complain that Modern Architecture in each country has a sameness, no personal identity. Perhaps a solution to this lies in understanding the inbred nature of each individual environment, similarly to the attempts made by architects of the Art Nouveau Movement. Nature provides us with different forms or species to adapt to each climate or country. Why should we not continue this precedent in architecture?
HISTORICAL DEVELOPMENTS UP TO 1880

* Note: For an extended coverage of footnotes refer to Appendix 1 - Books, Periodicals, and Brochures.

Although my interest in Art Nouveau began with buildings and objects produced at the peak of the style, as my research developed so did a natural curiosity about where the earliest influences came from. Some sources have credited beginnings in the late 18th century, although actual development of the style in buildings cannot be seen until much later. Therefore this chapter is intended to provide a brief history from the earliest indications traced, up to approximately 1880, when Art Nouveau began to emerge as a separate developing style. It is important to note at this point that the information may indicate a bias due to my restriction of using English sources. I do feel, however, that Art Nouveau had parallel developments and designers in all countries. An important aspect of the style is that it cannot be credited to a single country or designer, but developed from a total European involvement; not only in the early stages but also during the peak years of the style. This is one of the points I will aim to develop throughout this Dissertation, an area where further research into Continental sources may provide valuable supporting material.

The artist William Blake, and his book of poetry titled Songs of Innocence published in 1789, and later paintings such as 'Whirlwind of Lovers', are considered the earliest influences on the Art Nouveau Style. These works combine elements such as: swirling linework, rhythm, and a concentration of developing two-dimensional graphic work, all important aspects of the style. This work heavily influenced artists who followed Blake such as Whistler and Rossetti, the leader of the Pre-Raphaelite Movement in painting. Blake was also inspired by nature, and this can be clearly seen in the organic plantlike decorative elements he used. Also he introduced the combination of his verse and painting. Both of these elements were adopted and developed by the Pre-Raphaelites, who in turn influenced William Morris and the Arts and Crafts Movement.¹ Throughout this Dissertation the importance of nature as an inspiration to designers and the emergence of Art Nouveau cannot be overstressed. It is

further suggested that Blake's work influenced the prominent Dutch artist Jan Toorop (1858-1928). The English Pre-Raphaelites also influenced Continental artists in later years. The most notable example is the Belgian Fernand Khnopff (1858-1921), a prominent artist of the controversial group 'Les XX'. These artists belong to the 1890s, and will be more fully introduced in a later chapter.

The earliest developments in architecture must follow the increased use of glass and the introduction of iron into construction. These materials played such a crucial role in Art Nouveau architecture that a brief history must be considered. Private hot-houses and orangeries of the early 18th century are credited with the first extensive use of glass. The introduction and development of iron in construction is credited to the mid-18th century engineers. The earliest reported use of the material is in Alcabapa, Portugal, where cast iron columns were used to support a chimney in 1872. In the years which followed up to 1800 the material was increasingly used in buildings throughout Europe and America. However, the most important developments in iron occurred with bridge construction. It was discovered that the new material was capable of clear-spanning greater distances than was previously possible with traditional methods and materials. This led to the construction of the first all-iron bridge, over the Severn River at Coalbrookdale, England, in 1779.

Engineers then began to realise the advantages of combining glass and iron in building construction. Increased areas of glass meant more natural light, and greater spans in iron enabled larger column-free spaces. The combination of glass and iron on the Continent in the early 1800s led to the development of market halls and railway stations. These were new types of buildings which had been introduced by the Industrial Revolution. An early example is the Market Hall by the Madeleine in Paris, of 1824, which, although not vaulted, was constructed of iron and glass. In civic buildings and churches the following three buildings are of prime significance in the early development of iron. In Paris the Bibliothèque Ste. Geneviève of 1843-50, and the St. Eugène church of 1854-5. The first building was

2) Pevsner, Nikolaus Pioneers of Modern Design, pp.84-85.
3) Ibid., pp.118 and 126.
4) Ibid., p.132.
designed by the architect Labrouste (1801-75), who used exposed iron piers and roof construction. St. Eugène by Boileau (1812-96) followed Labrouste by boldly displaying iron columns and vaulting ribs. A parallel development had occurred in London with exposed iron construction in Bunning’s (1802-63) Coal Exchange of 1847-9. The relevance of these early buildings cannot be overstressed, as bold honest expression of iron is another crucial element in the development of Art Nouveau architecture.

Of perhaps even more significance than Labrouste or Boileau is the architect Viollet-le-Duc (1814-1879), whose philosophies on architecture had an enormous influence on architects of the late 19th century. This success was mainly caused by his two books *Dictionnaire raisonné de l'architecture française* of 1854-68, and the *Entretiens sur l'architecture* of 1863 and 1872. In these works he promoted many advanced ideas, perhaps the most significant being a revival of the Gothic style of architecture, honesty in the use of materials, and the bold structural expression of iron in buildings. Viollet-le-Duc never really practised what he preached, and his most innovative ideas were not expressed in his buildings. It was not until approximately two decades after the publication in 1872 of the *Entretiens* Volume two that his ideas were expressed three-dimensionally in a building.

Again in England parallel developments had taken place, with iron being used in John Nash’s Brighton Pavilion. In 1815 the main staircase was constructed entirely in iron, and the kitchen ceiling of 1818-21 was supported by thin iron columns. Of special interest here is the use of copper palm leaves at the top of these columns, revealing a taste for the exotic during these years. This form of decoration is perhaps a forerunner to more bizarre developments which would occur in the 1890s.

Along with iron and glass, the use of reinforced concrete for buildings developed in the 19th century. Although the material is first mentioned in 1832, proper investigations and an understanding of

7) Pevsner, Nikolaus *Pioneers of Modern Design*, p.131.
reinforced concrete did not occur until the late 1870s. The material is first mentioned in Loudon's Encyclopaedia of Cottage, Farm, and Villa Architecture, where an outline for cement floors with an embedded iron lattice is included. This was followed in 1844 by a patent taken out for cement floors with embedded iron joists. This haphazard development continued until a true understanding of the material emerged in the 1870s.8

Architectural development in the early 19th century began to be dominated by historical eclecticism. Architects increasingly turned to the Greeks and Romans for inspiration. Unfortunately, as the early decades passed, this borrowing deteriorated until these styles were being used ad hoc, to obtain aesthetically pleasing results.9 Town planning also began to emerge in the 19th century, with the socialist manufacturer Robert Owen designing a model village with factory and housing in 1817.10 Designers began to think about the quality of life, and realised that properly designed communities enhanced the standard of lifestyles.

In England by the late 1840s some designers had begun questioning the standard of design and quality of objects being produced. This movement was led by two prominent men, John Ruskin (1819-1900) and August Welby Pugin (1812-1852). Ruskin, similarly to Viollet-le-Duc, was promoting Gothic architecture as a source for inspiration. Ruskin fought against the machine and heavily criticised the new functions of buildings introduced by the Industrial Revolution. In his highly influential book Seven Lamps of Architecture, published in 1849, he compares railway stations with rat holes.11 In the same year he had also suggested the possibility of a new form of architecture using metallic construction.12 While Ruskin may have been aware of future possibilities, it will be revealed that he was more interested in traditional building and materials. Pugin, in his most important book titled The True Principles of Pointed or Christian

10) Pevsner, Nikolaus. The sources of modern architecture and design, p.192.
12) Ibid., p.134.
Architecture published in 1841, wrote "There should be no features about a building which are not necessary for convenience, construction or propriety ...". A very early idea on honest expression in building which would not fully develop for many decades. A major conflict in ideas did develop between Ruskin and Viollet-le-Duc. Ruskin argued for a return to high quality craftsmanship and design ideas of the past. His French contemporary used the past (Gothic) as a beginning point, and then looked optimistically to what the future had to offer.

The ideas of Ruskin and Pugin were supported by a civil servant designer, Henry Cole (1808-82). In 1847 Cole had begun to issue his own improved designs, or so he felt, for manufactured objects of everyday use. To further promote his ideas he started a magazine in 1848 called Journal of Design and Manufacturers. This led to the organisation of an international exhibition in London by Cole and his friends.

Design ideas in the second half of the 19th century were greatly boosted by the introduction of the great international exhibitions. These began in London in 1851 and were conducted at regular intervals in the decades which followed. Throughout this chapter, and the ones which follow, the enormous impact and subsequent influences these exhibitions had on design ideas will be revealed. The most famous of the pavilions at the London Exhibition was the Crystal Palace, designed by Joseph Paxton (1801-65). This pavilion is of interest in the materials and construction method used, and its enormous size, 1851 feet in length. This was made possible by the use of prefabricated iron and glass parts, designed on a 24 foot grid. Because of the innovative use of prefabricated parts the pavilion was erected in the incredibly brief time of 16 weeks. It has been suggested that Paxton would not have dared to use such an unprecedented method of construction if the pavilion had not been considered a temporary structure. The pavilion was heavily criticised by some prominent

13) Pevsner, Nikolaus The sources of modern architecture and design, p.9.
14) Pevsner, Nikolaus Ruskin and Viollet-le-Duc.
architects of the time: "Pugin called it the 'glass monster', Ruskin a 'cucumber frame' ...." The significance of these comments relates to the design ideas expressed prior to the Exhibition. With all of the work displayed in the enormous space of the Crystal Palace, the poor quality of design and craftsmanship became blatantly obvious. This sparked off an immense reaction in all fields of design. Industrialisation and the machine were immediately blamed for the deterioration in design standards.

Over the decades prior to the London Exhibition industrialisation had caused an enormous expansion in cities. The introduction of new industry caused an immediate increase in population. This led to increased earnings and a demand for more consumer goods. Because of a race of growth between industrialists, design quality was virtually forgotten, and the end product was left totally to the manufacturer. Due to long working hours people had less leisure time, and were not highly educated visually or aesthetically. This contributed to a general lack of interest in the quality of design. The first attempt at correcting this problem on an official level was the establishment of the Department of Practical Art in 1852, followed by the Victoria and Albert Museum, founded in 1853 as a teaching institution and museum. The 1851 Exhibition did, however, provide some positive influences on design, with the introduction of art from eastern countries. Egyptian ornament was praised; Greek decoration was preferred to Roman; prehistoric and Celtic art were also shown.

The role of the artist in influencing design, which had begun with Blake, was to be taken further by artists who followed in the 19th century. Schiller in these early years was the first to form a philosophy of art, in which he made the artist a high priest in society. As this idea became accepted by artists, it is suggested they began to turn their backs on the public acceptance of industrialisation. Following Schiller's philosophy and romantic ideas of the artists' status, they began to be worshipped by the public.

17) Pevsner, Nikolaus The sources of modern architecture and design, p.13.
This caused a gap to appear between art and society which continued to grow throughout the 19th and 20th centuries, until the situation has developed where today not only is communication between the artist and the public impossible, but also between the artist and designers in other fields. The point to be made here is that I feel the gap between artists and other designers is a 20th century phenomenon. During the 19th century all fields of the decorative arts worked in close collaboration with one another, each field providing ideas and receiving them from others. This close co-operation was crucial to the development of Art Nouveau in the latter years of the century.

The beginnings of this in Britain is associated with the Pre-Raphaelite Movement of artists, founded in 1848, and led by Dante Gabriel Rossetti (1828-82). As previously mentioned, this group of artists was strongly influenced by Blake's work. The Pre-Raphaelites created a new type of female beauty, which developed the typical features of heavy lidded eyes, light features, and masses of hair. This new female form was always arranged in supple and relaxed poses. The artists were further credited with the development and skilful use of the vertical line, which was later to influence the Glasgow Style. The developments of the Pre-Raphaelites also went on to influence William Morris in the 1860s, and later Art Nouveau. The typical Pre-Raphaelite woman had such a huge influence on Art Nouveau that the Movement is often recognised through her.

Town Planning in Britain had also taken another step forward in 1851 with the manufacturer Sir Titus Salt, who constructed the first planned estates at Saltaire. Also, in the development of building materials iron became increasingly popular. By 1855 both Britain and America had realised the value in the use of iron for commercial buildings. Examples of these buildings are:

G.T. Greene: Boat Store at Sheerness Naval Dockyard, 1858-81.
Jamaica Street Warehouse, Glasgow.

22) Pevsner, Nikolaus The sources of modern architecture and design, p.201.
The Jamaica Street warehouse in Glasgow of 1855-56 used exposed structural iron in conjunction with glass for the facade of the building. In America up to c.1850 all glass facades used stone mullions for support. These were soon changed for iron, although the detailing remained the same, with iron merely replacing stone.25 A further advance in the use of reinforced concrete also took place in the 1850s, with both the English and French indicating an understanding of the role of iron by 1854.26

Unfortunately the historical eclecticism which had developed in the early 1800s had not magically stopped in the 1850s. The situation not only continued, but actually deteriorated further in the second half of the century. The architectural student of this period was faced with a great deal of uncertainty, and these latter years became a time of questioning in what directions architecture was heading. This problem was not helped by the professional periodicals of the day, which provided wide illustrated coverage of the diverse styles in use.27 This thinking signified the beginnings of a search for a new style in architecture.

Immediately prior to 1860 and during the decade to follow, John Ruskin was actively promoting a revolt against the machine. He had become increasingly bitter and critical of social attitudes, continuing to condemn new building functions and materials.28 From Ruskin’s ideas, and those being developed by the Pre-Raphaelites around 1857, the ideas of William Morris (1834-196) began to emerge. Morris, the founder of the Arts and Crafts Movement, is often considered as the touchstone for the beginnings of Art Nouveau. He went much further and achieved greater success than anyone before him in the fight against the machine, and establishing a return to high quality craftsmanship.29

Morris is introduced as a reasonably wealthy student attending Oxford

26) Ibid., p.144.
28) Pevsner, Nikolaus Ruskin and Viollet-le-Duc, p.33.
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26) Ibid., p.144.
28) Pevsner, Nikolaus Ruskin and Viollet-le-Duc, p.33.
in the late 1850s. Originally he had intended to join the Church, but changed his mind to study art. He is described as having

... furious tempers when he would beat his head with his fists ... . He also had a great sense of humour, and was given to shouting, fencing, and having battles with soda-water syphons. He is revealed as a man of amazing energy, always eager to set an example by learning and executing work in crafts which interested him.

In 1856 Morris, having obtained a skill in joinery, constructed furniture for his rooms in London. The resulting work revealed a strong influence from medieval furniture. This was followed by the famous Red House at Bexley Heath, near London. Morris had asked his architect friend Philip Webb (1831-1915) to design the house in 1859. Many sources credit this as the turning point to Arts and Crafts domestic work. Architecturally the house does not receive much recognition, although contrary to the current styles Webb used exposed unstuccoed red brickwork, Gothic features such as pointed archways, and high pitched roofs almost returning to a medieval form. He made no attempt to imitate classic styles and the building was planned from the inside out, not being influenced by attempts at symmetry on the exterior of the house. Above all this, it was the interior which received the most attention. The rooms and the furniture of the house were unprecedented for their simplicity, described as almost 'rough' and 'rustic'. Highly ornamental features were restricted to individual pieces, such as paintings by Morris's Pre-Raphaelite friends. Some sources also suggest that Morris's 'stunningly beautiful' wife, whom he married in 1858, became the model for the Pre-Raphaelite woman (previously introduced).31

Official recognition of the Arts and Crafts Movement occurred in 1861, with Morris founding a firm with Webb, Rossetti and others. The initial aims were to produce hand-made objects where beauty and use dominated the design. Initially the firm designed furniture, tapestries, wallpapers, fabrics, and pottery. This venture signified

30) Nuttgens, Patrick "A Full Life and an Honest Place", p.189.
31) Combined from:
   Nuttgens, Patrick op.cit., p.190.
   Pevsner, Nikolaus The sources of modern architecture and design, pp.20-24.
   Pevsner, Nikolaus Pioneers of Modern Design, pp.57-60.
the beginning of a close collaboration of design between a wide range of fields in the decorative arts, also an indication of the developing versatility of designers, enabling them to work comfortably in many different fields. Morris continued striving to improve the poor quality of goods first exhibited in London in 1851. This poor quality continued in exhibitions which followed, in Paris 1855, London 1862, and again in Paris 1867. Morris's main criticism of the exhibitions was the domestic goods produced: he referred to this as "tons upon tons of unutterable rubbish". Following these events he concentrated on attempting to re-educate the public, to make them realise that the goods they were offered by manufacturers were harmful to the quality of their lifestyles.

Morris and the Arts and Crafts Movement supported their ideas by well written articles, lectures, and improved design and craftsmanship in the goods they produced. This led to a revival in domestic design, with Morris attempting to persuade architects to cease working exclusively for wealthy clients, or on large church or public buildings, and concentrate on improving housing standards. This revival was led by the architects Webb, Richard Norman Shaw, and Edward Godwin (1833-86), who began to produce domestic buildings with clean simple lines, in form and ornament. Shaw is also credited with creating the first garden suburb at Bedford Park in 1875. Although great advancement was made by these architects, domestic work continued to be dominated by historicism until the 1880s. Apart from England, America was the only other country to develop a revival in domestic architecture in the last quarter of the century.

While design standards were increasingly criticised at the international exhibitions, art exhibitions from other countries continued to inspire certain designers. Of most importance in the 1862 London

32) Combined from:
Pevsner, Nikolaus The sources of modern architecture and design, p.18.

33) Ibid., p.21.

34) Combined from:
Pevsner, Nikolaus Pioneers of Modern Design, pp.60-64.
Pevsner, Nikolaus The sources of modern architecture and design, pp.20-35.
Exhibition was the introduction of Japanese Art and objects, displayed for the first time in England. This triggered off an immediate reaction in designers, and the influence from Japan rapidly increased for many years following the exhibition.

In London, Farmers and Rogers opened an Oriental Warehouse on Regent Street, to sell off the Japanese objects displayed at the exhibition. Of equal interest was the manager of the warehouse, Arthur Lasenby Liberty, who later founded his own shop called Liberty and Co., which became a leading outlet for design in the 1890s. Also in 1862 the English architect, Edward Godwin (1833-86), was heavily influenced by Japanese design, for the completion of the interiors of his London house. The artist James McNeill Whistler (1834-1923) also developed a strong interest in Japanese Art. Later much of his work was inspired by this interest, and his brushwork techniques led to the development of Art Nouveau Graphics.35 On the Continent, influence from Japanese Art came a little later than England; although in 1862 in the Rue de Rivoli, Paris, Madame de Soye opened an Oriental shop called 'La Porte Chinoise'. However, of more importance than this is the visit to the Orient in 1875 by the German art patron Samuel Bing (1838-1905). Following his return to Paris, he imported Oriental wares, which became very popular with his wealthy clients. As will be later revealed, Bing then went on to become one of the most influential figures in the promotion of decorative arts during the 1890s.36

Of most importance in Europe during these years is the gradual development of nationalism in many countries. This had begun at different dates, but by the 1850s the idea was influencing many designers. Through this each country began to search for its own identity - its own separate design style. For architects this became an immediate problem, as nationalism conflicted with the prevailing influence of historicism on design. As already noted, historicism meant the borrowing of past styles such as Greek, Roman, Renaissance, Baroque, or Gothic architecture, to name a few. Therefore as these historic styles belonged with their country of origin they could not be adopted elsewhere as national styles. Due to this, designers were faced with the enormous task of discovering new design styles for their countries.

36) Ibid., p.12.
In Scandinavia, particularly Finland, the country turned to its past for inspiration. The School of Arts, Crafts and Design had been formed as early as 1844, and by the 60s and 70s these interests in past crafts had grown considerably. This had been successfully promoted by the work of Akseli Gallen-Kallele, his friend Louis Sparre, and C.G. Eistander. This group of designers studied traditional folk culture, and organised expeditions into the primitive countryside to study Arts and Crafts. Work in this area continued well into the 80s, with the country achieving its greatest success on an international level at exhibitions around the turn of the century.37

Development in France continued to be concentrated in Paris, where Boileau (already mentioned for his use of iron in the 50s), and his son Louis-Charles, continued to use iron boldly exposed in churches throughout the 60s.38 Also Viollet-le-Duc's first volume of Entretiens, published in 1863, was having a wide influence on French design. He felt the national style of France was Gothic Architecture, and promoted a return to the style. He saw this as a beginning point from which more appropriate modern forms would emerge.39 In 1877 another of his works was published, titled L'Art Russe, in which he attempted to suggest the future development of Russian Architecture. This work was modelled on his Entretiens, volume one of 1863, and volume two of 1872. Although L'Art Russe did not have an immediate effect, it is suggested that Russian architects were influenced by the book around the 1900s.40

French decorative arts also made considerable advancement. This was led by Jules Chéret, who revolutionised poster art following the foundation of his printing firm in the 1870s. In the 1890s the poster played a crucial role in widely circulating new design ideas.41 Towards the end of the 1860s other designers were beginning to emerge, who would go on to lead their fields in the 80s and 90s. The most notable of these designers were Emile Gallé (1846-1904) for glass

39) Pevsner, Nikolaus Ruskin and Viollet-le-Duc [refer Appendix].
design, and Louis Majorelle (1859-1926) for furniture. Gallé is often credited as the founder of the Nancy School of Designers, which was to become one of the major centres of Art Nouveau in Europe. During the 1860s an equally prominent designer of glassware, the American Louis Comfort Tiffany, was being introduced to African and Middle East glassware by frequent tours to these countries.  

Belgium had followed similar lines to Britain in the development of architecture up to the 1860s; the most influential forms of historicism being neo-Baroque, Gothic, and later German neo-Renaissance during the mid-1870s. The tradition which developed up to the 1860s was classical ecclesiastical architecture (Greek or Roman) for churches, with Gothic being used for secular building. The dominant architects of this period were Alphonse Balat (1818-95), François Beyart (1823-94), a pupil of Viollet-le-Duc, and Joseph Poelaert (1817-79).

During the 1870s, in addition to three main styles - neo-Gothic, French neo-Baroque, and German neo-Renaissance - in Belgium a fourth influence existed. This was nationalistic, perhaps being caused by the country recently acquiring national independence. These tendencies led to designers forming the Société Centrale d'Architecture de Belgique in 1872. Later, to widely publicise the Société's design ideas, they published a magazine in 1874 called L'Emulation. The first issue of the magazine indicates an awareness amongst designers of being called upon to develop a new style. In the years that followed Belgian architecture developed constructive tendencies, and L'Emulation provided strong support. Two prominent writers of the time, E. Alland and Emile Leclercq, became the spokesmen for the style. Time and again these writers criticised eclecticism and argued for beauty in architecture through structure and planning, to get rid of stucco and plaster, and express the material being used.

Belgian decorative art, particularly poster work and graphics, eventually made greater advancements than Paris. The earliest work in this area was by Felician Rops (1863-98), who had been influenced by earlier work of Daumier and Gavarni. Rops began in the 1850s as a

42) Garner, Philippe *Art Nouveau for Collectors*, p.49.
lithographer, and in his early years acted as a mediator of developments between France and Belgium. He then went on to strongly influence the work of the artists' group 'Les XX' in the 1880s.\(^4^4\)

Countries such as Holland and Germany were slow to get started in these early years, and always remained isolated from neighbouring countries in their design ideas. This was particularly the case with Holland, where even at the peak of the Art Nouveau style, the country retained and developed its own style. Germany, however, was to be strongly influenced by the Arts and Crafts, but this did not occur until late in the century.

Development in Spain occurred in one of its provinces, known as Catalonia. The reason only one area developed new design ideas stems from early Spanish history. Originally Spain and Catalonia were separated; eventually they were unified, and during this period the Spanish discovered America. This new discovery caused a prolonged decadence in Spain, and Catalonia began to lose its political personality, traditions, and language. During the early decades of the 18th and 19th centuries, Catalonia was the only part of Spain to take part in the great revitalisation caused by the Industrial Revolution. The rest of Spain, with its ruined empire, grew away from the other countries of Europe.\(^4^5\)

Catalonian design development was concentrated in Barcelona, where in the early years of the 1800s growth occurred at a phenomenal rate. In various fields of design the area underwent a renewed interest in traditional Catalan Arts, and this gradually developed into a movement known as the 'Renaixença'. Eventually this movement influenced many designers, (including the great architect Antonio Gaudí 1851-1926). Catalonia also developed an early interest in industrial arts, inspired by an exhibition in Barcelona in 1851, which was followed by others in 1852, 1854 and 1860. During the years 1869-70 Gaudí had commenced his architectural training, and by the mid-70s he was involved in various civic projects in Barcelona. This led to his first major design projects: the Vicens House, and the Mataro

\(^{44}\) Baurmann, Roswitha "Art Nouveau Script", p.370.

Worker's Association. These projects are of extreme importance in the development of a new style in architecture, but belong more to the following chapter. Another important event, which acted as a foundation for a new style, was an article in 1878 by the prominent architect Domenech Montaner called "In Search of a National Architecture". In this article Montaner promoted an interest in Catalan craft traditions.

During these years Italian design development was virtually non-existent due to communication difficulties with the rest of Europe. The northern mountain ranges continued to act as a strong barrier between Italy and other countries. Also Italy seemed condemned to poverty, which was not helped by the high illiteracy of the population. In 1871 50% of the northern population, and 85% in the south, were illiterate. These unfortunate conditions held back design development in the country until late in the century.

However, in the 70s Viollet-le-Duc and his ideas on the artistic potential of new materials had been introduced. Two prominent architects in Rome, Camillo Boito (1836-1914) and Pietro Selvatico (1803-80), began to have an influence on architectural ideas. Boito and Selvatico supported architectural eclecticism, and suggested that a new form could only develop from past styles. They began to promote a national Italian style from past sources.

Modern Style cannot renovate architectural plans, which in order to acquire a perfectly national character must be freely connected with one of the architectural expressions of the past, whose elements will be used ... in such a way as to harmonise with the modern world.

In Austria, the most interesting design developments occurred in Vienna. From 1860 to 1895 the Viennese political scene was dominated by the Liberals. The ideas and actions of this party left more of a mark on Vienna than any previous political party. In terms of town planning, the Liberals levelled the old ramparts, and constructed a wide avenue which encompassed the city. This avenue was called the 'Ringstrasse', and was developed for two main reasons: firstly

46) Rohrer, Judith C. "Modernismo and the Arts and Crafts".
48) Ibid.
to incorporate outlying areas as future suburbs, and later to construct large classical public buildings facing onto the Ringstrasse, as a display of the wealth of the city.\textsuperscript{53}

In 1863 the Austrian Architect Otto Wagner (1841-1918) is first mentioned. His architectural ideas would eventually have an enormous effect on the city of Vienna, and his style and teachings influenced many architects who followed. Wagner's first building, a villa just out of Vienna, at first glance appears to be Roman or Pompeian, with a high entrance portico approached by a double stair. Four columns reach to a flattened roof with extremely wide eaves as practical protection from the snow.\textsuperscript{50} It is suggested that on closer examination the villa strongly indicates the beginnings of Wagner's unique style. The building, as with his later works, is not heavily covered with historical decoration. During these years the city of Vienna was dominated by a very lethargic attitude towards all areas of social development. This made Wagner's task all the more difficult. His struggle to develop art and improve design standards began in 1863, and from this date onwards he produced many designs. Unfortunately a large number of these were never constructed, due to his radical new ideas.\textsuperscript{51}

Wagner's cause may have been supported by a renewed interest in the standard of Industrial Art, which developed in the 60s. This had been promoted by Rudolf von Eitelberger, the professor of art history at Vienna University. He had been influenced by a visit to the 1862 London Exhibition. Whilst in England he was also introduced to the work of the Department of Practical Art, and the Victoria and Albert Museum. As previously mentioned, these had been established immediately after the 1852 London Exhibition. Eitelberger's return to Austria was closely followed by the foundation of a museum of Austrian art and industry.\textsuperscript{52} Perhaps another development which may have helped this museum and the work of Wagner was the growth of Austrian nationalism during the 60s. The first work of Wagner's

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\textsuperscript{49} Powell, Nicolas \textit{The Sacred Spring}, p.20.\\
\textsuperscript{50} \textit{Ibid.}, p.49.\\
\textsuperscript{51} Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Graf, Otto Antonia "Wagner and the Vienna School", p.87).\\
\textsuperscript{52} Powell, Nicolas \textit{op.cit.}, p.90.
\end{flushleft}
considered to indicate his new design style was the celebration tent for the Markart Procession of 1879, in honour of the Emperor Maximilian.

Just as Japanese Art had been introduced to Britain by the 1862 London Exhibition, so it was introduced to the continent by the Vienna World Exposition of 1873.\textsuperscript{53} Also during these years other fields of the decorative arts were developing in Austria. The most notable example is the glassware of Loetz, a strong competitor of Gallé in France. Loetz glass received international acclaim in 1879, under the direction of Max von Spaun, grandson of the founder of the firm. Loetz glassware had begun with Johann Loetz in 1830, and when he died in 1848 his wife took over the workshop, changing the name to Loetz Witwe. The success of the firm in 1879 was followed by even greater achievements in the 1890s.

In England, the trend begun by Morris and the Arts and Crafts began to dominate design ideas. This was strengthened, in 1871, by the introduction of the Kelmscott Press, which was located in the Cotswolds. Here the Arts and Crafts continued to produce high quality design and craftsmanship, as they had done since the foundation of the group in the 60s. Due to certain world events, other influences began to affect design ideas. When Queen Victoria was crowned Empress of India in 1877, Indian Arts and Jewellery became popular. Also, due to the heroic struggle of the Turks in the 1870s, which was met with sympathy from all over Europe, Turkish Art was introduced. This was closely followed by an interest in Persian and Moorish Arts.\textsuperscript{55} These combined influences became a formidable source of inspiration for designers.

The two materials, iron and concrete, continued to develop; with English periodicals publishing a large amount of information on the development of iron, and later steel, in American buildings.\textsuperscript{56} With regard to concrete, the architect Norman Shaw (as noted, associated with the domestic revival), developed designs for partly concrete

\textsuperscript{53} "Art Nouveau, Jugendstil, Modern Style", p.9.
\textsuperscript{54} Garner, Philippe \textit{Art Nouveau for Collectors}, p.52.
\textsuperscript{55} Madsen, Stephan Tschudi \textit{Sources of Art Nouveau}, p.203.
\textsuperscript{56} Gebhard, David \textit{"C.F.A. Voysey - To and From America"}, p.307.
cottages (not reinforced concrete) in 1878. Of more importance were the experiments of William E. Ward and Thaddeus Hyatt, who began to analyse and calculate properties of concrete and iron in combination. This was to mark the beginnings of the emergence of reinforced concrete as a widely used material.57

During the late 70s Whistler's work continued to be influenced by Japanese Art. Whistler in turn influenced Walter Crane (1845-1915) and Arthur Heygate Mackmurdo (1851-1942). Crane became a leader in illustrative work, with the first indication of his unique style in the illustration of children's books first published in 1864.58 His style and interests became orientated towards Arts and Crafts. Mackmurdo, an architect, is more remembered for his unusual graphics and furniture, particularly during the 80s. This work is considered by many as the first indications of the Art Nouveau Style. His architectural training began in the early 70s, with a one-year apprenticeship with T. Chatfield Clark in 1869, closely followed by work for James Brooks, a follower of Gothic Architecture. During this time Mackmurdo was in Oxford attending the lectures of Ruskin. Mackmurdo was strongly influenced by both Ruskin and Morris, and subsequent to his move to Oxford he travelled to Italy with Ruskin in 1874.59

Apart from Mackmurdo's development, Ruskin was still a leader of design ideas during those years. In 1877 in a reaction against the restoration of buildings he established a body called the Preservation of Ancient Buildings. This was a contrast, once again, to his contemporary Viollet-le-Duc, who felt restoration greatly revitalised old buildings. Ruskin on the other hand felt this was the worst form of destruction a building could suffer, and therefore turned to preserving them.60 A distinction between the two terms used will clarify this: here restoration means the rehabilitation or refitting of old buildings, not necessarily adhering to the same style or materials used in the original. Preservation means the protection

58) Hardie, Martin  "Neglected Centenaries".
60) Pevsner, Nikolaus  Ruskin and Viollet-le-Duc.
of the building in its original style and form. If any rebuilding is considered, the original style and materials must be incorporated in the reconstruction.

Another important English architect of the late 19th century, Charles Francis Annesley Voysey (1857-1941), had begun his training in the 70s. In 1874 he was working for John Pollard Seddon (1827-1906), who introduced Voysey to Pugin's philosophies, which strongly influenced the young architect. Voysey later went on to work with the Arts and Crafts and the Pre-Raphaelite painters in the design of furniture. It was also in 1874 that Arthur Lasenby Liberty, following the foundation of his firm Liberty and Co., d.1875, began to be inspired by the Japanese brocades he imported. Liberty's then started a range of 'Art Fabrics', and in later years went on to have phenomenal success in other fields, such as silverware. The company also had an extensive influence on design in other European countries.

Scottish design development concentrated in Glasgow during the last quarter of the century. During these years, the city expanded greatly. From 1875 onwards an immense amount of building took place, with large numbers of 4- and 5-storey tenements being built. These were often set above ground floor shops and warehouses. Two architects who had a considerable influence in the city at this time were James Sellars and John James Burnet. Sellars promoted good quality craftsmanship and the use of iron in buildings. Burnet had returned from France in the 70s, having received his diploma from the Paris Ecole des Beaux-Arts, where he had studied under Jean Louis Pascal. It is worth noting here that Pascal was also the tutor of Henri Sauvage in 1890. Sauvage went on to emerge as a prominent architect and designer in the Art Nouveau years of the 90s.

in 1879, and at the beginning of the 80s, a group of artists emerged and were known as the 'Boys from Glasgow'. This group not only influenced Scottish designers who followed, but also designers in Belgium, Germany and Austria. The city of Glasgow was growing rapidly, and a large amount of artistic development was taking place. This provided an excellent setting for the design achievements which would take place with Charles Rennie Mackintosh and 'The Four' in the 80s and 90s.

In this chapter I have attempted to trace events which have contributed to the beginnings of Art Nouveau. As revealed, each country had a vital role to play, and all developments were interconnected with one another. Ideas were increasingly passed from country to country, and each began to strive for a new design style. This aim was strengthened by the development of strong nationalistic tendencies in each country. Another common aim was improved design standards and craftsmanship, with the increased use of new materials such as iron, glass, and later reinforced concrete. The advent of international exhibitions in the second half of the century revealed the need for improved design. They also became sources for inspiration, with the introduction of art from eastern countries. These events formed a basis for the emergence of a new style in the 1880s.

65) Madsen, Stephan Tschudi Sources of Art Nouveau, pp.283-284.
Of most interest in the decade 1880-90 are the first projects by architects and other designers of the decorative arts, who would later become leaders in the Art Nouveau style during the 1890s and early 1900s. The 80s also reveal the emergence of separate design styles in many European countries. As these styles developed and reached maturity they always remained closely connected with one another, perhaps the most important link being the desire to be new, to break with historicism, and for each country to develop its own national style. These last two points began in the late 60s and 70s, as noted in the previous chapter. It is important to note that prior to the 1880s no country in Europe had escaped the influence of historicism. Also it is suggested that the dominant designers of the 60s and 70s in England - Morris, Webb and Shaw - had not expressed a strong desire for a new style. While in France Viollet-le-Duc had been looking to new developments, but in actual work he was more period-bound than the English. Credit is given to the Americans as the first to break with historicism towards the end of the 80s.¹

Two technical achievements were introduced which would strongly influence the development of architecture in the 80s. The first was the electric light bulb by Edison in 1879, and the second, the electric elevator in 1880 by W. von Siemens.² The light bulb meant the incorporation of a great deal more wiring within buildings and design modification of light fittings. The elevator made possible the introduction of the American skyscraper in the late 80s. Influences in art from other countries continued into the 80s. The most prominent of these were Japanese, Turkish and Indian, with Japanese becoming the strongest source for inspiration. These influences were supplemented by Egyptian and Celtic art. Egyptian art became very popular in the late 80s. Some sources suggest this was due to Sarah Bernhardt's performance of Cleopatra in 1890. Celtic art also had an influence, particularly the dragon motif, which had been caused by archaeological discoveries and historical research during

¹ Pevsner, Nikolaus The sources of modern architecture, pp. 33-35.
² Pevsner, Nikolaus Pioneers of Modern Design, p.140.
the 80s. The countries most influenced by this were Scotland, England, Ireland and Scandinavia. With specific regard to architectural developments, research has revealed England, Spain, America and Austria as responsible for major achievements in the 80s.

In England prior to the 80s the Arts and Crafts Movement and Ruskin were the leaders in philosophical ideas. Ruskin had also begun the Preservation of Ancient Buildings Society in 1877, in opposition to Viollet-le-Duc’s ideas on restoration in France. This society was strengthened tremendously by the membership and support of Mackmurdo, Morris and Webb, who took an active interest in the early 80s. The architect Norman Shaw, a member of the Arts and Crafts, followed his garden suburb design at Bedford Park with designs for partly concrete cottages in 1878. Although not of reinforced concrete, the designs are included as examples of developing the use of this new material. In 1879 Voysey had changed offices again and was working for Saxon Snell, an architect who specialised in hospitals and workhouses. Voysey did not stay with Snell long, and soon moved to George Devey, who specialised in the design of large country houses.

The success of the Arts and Crafts Movement strongly influenced the formation of many design societies and guilds in England during the 80s. Morris had become extremely influential in the early 80s, and this influence steadily increased in the years which followed. The Arts and Crafts had achieved one of their main goals, the joy of the craftsman in his work, which they believed would naturally lead to beauty in design. Also the movement continued their efforts to improve design and craftsmanship, while maintaining their fight against the machine. Between 1880 and 1890 five societies were formed to promote artistic craftsmanship: in 1882 Mackmurdo’s Century Guild, in 1884 the Art Workers Guild, in the same year the Arts and Industries Association (concentrating on rural crafts),

3) Madsen, Stephan Tschudi Sources of Art Nouveau, pp.207-221.
6) Brandon-Jones, John and others op.cit., p.9.
in 1888 Ashbee's Guild and School of Handicraft, also the Arts and Crafts Exhibition Society.8

Apart from leading the rest of Europe in introducing these design societies, England is further credited with introducing the first design-orientated magazines and newspapers. The role of these in promoting new ideas, and later the Art Nouveau style, cannot be overstressed. The first newspaper was *Hobby Horse* produced between 1884 and c.1893. This was founded by Mackmurdo's Century Guild, and is considered the most influential achievement of this group. *Hobby Horse* set an extremely high standard for the many periodicals which followed. Mackmurdo was extremely meticulous about the graphics of the paper: he "... entrusted the printing to the Chiswick Press, chose Calson as the type for it and insisted on hand-made paper".9

The success of the paper was further helped by the imaginative writing of the designer Selwyn Image (1849-1930). In his design approach he is credited as being more adventurous and progressive than Morris or Crane, and as influencing "... the aesthetic foundation in fact of Mr. Voysey's art as well as of Art Nouveau".10

It is in Mackmurdo's meticulous attitude to script that he achieved a design which pointed towards a completely new style, which would later become known as Art Nouveau.11 This appeared in the title page of his book *Wrens City Churches*, London, in 1882 (Fig.1). Close examination of the page reveals many interesting points which would strongly influence the graphics and script of many contemporary designers. The design was a woodcut, and is framed on either side by two highly stylised peacocks. The script used by Mackmurdo for his name is very square and formal, quite a contrast to the rest of the design. Of more interest is the central composition, which reveals very swirling organic forms, obviously influenced by nature, specifically plants. The point to be noted about these forms is the change from thick to thin curves, influenced by brush techniques. These forms are of prime importance to the development of Art Nouveau decorative motifs. Of further interest are the words "Wrens City

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10) Peysner, Nikolaus, "Fifty Years of Arts and Crafts", p.227.
Figure 1  A.H. Mackmurdo: book cover for his
Wrens City Churches of 1882
Churches", set on a scroll using Roman capitals as the type. The significance of this lettering is the different form taken by every letter, even repetitive letters such as the 'C's being all different. These expand and contract, and the overall design has a feeling of movement - another important feature of Art Nouveau during the 90s.12

While Mackmurdo's book cover may herald the beginnings of a new possible style, it is important to make note of various influences which led to this design. Once again it is the artists who receive much of the credit. Here, James McNeill Whistler had a great influence on many designers, particularly Mackmurdo. It has already been mentioned how Whistler had been strongly inspired by Japanese Art prior to the 80s. This had led to the decoration of his house in 1876 with the famous Peacock Room where all the walls were decorated in highly stylised peacocks.13 These designs also reveal the swarming quality of lines and sense of movement displayed in Mackmurdo's work. As well as Whistler there were influences from the Pre-Raphaelites and Blake. Perhaps the most important element Mackmurdo developed from these artists was the use of brushwork in lettering. He had strongly admired the quality of line achieved by the brush - the expression of movement and the variation in the thickness of the line. His attitude was clearly revealed when an early copy of Hobby Horse published Blake's verse "Little Tom the Sailor". Mackmurdo's comment on this was:

What a marvelous sample of typewriting is the ballad written with a brush, full of stopping-out varnish on the pewter and while as legible as ordinary types, every letter has naive expression, capital letters flaunt capriciously down the page each giving a defiant little kick of its own.14

This influence from artists can be taken even further by comparing the butterfly motif (Fig.2), which Whistler developed as his signature from 1863, with the motif Mackmurdo designed for his Century Guild. In Whistler's butterfly it is just possible to make out his

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13) Pevsner, Nikolaus The sources of modern architecture and design, p.45.
14) Baumann, R., op.cit., p.370 [taken from Hobby Horse, 1886, p.159].
Figure 2  James McNeill Whistler's Butterfly signet and A.H. Mackmurdo's Century Guild signet
initials JMW as these letters almost lose legibility in the motif. These became a very important identity, and in Whistler's case it is suggested that the form of the butterfly has strongly influenced the CG on Mackmurdo's design. Whistler used the butterfly symbol a great deal, and apparently the colour and placing of this signature on his paintings became very important, so important that there are many examples of unfinished paintings with the motif already in place. Once again it is the evolving form of brushwork script which is of most relevance to later design developments.

As previously stated, another influence on Mackmurdo was Ruskin. After Mackmurdo had given up his job to go to Oxford and attend Ruskin's lectures, it appears the two men travelled to Italy together in 1882. While not a lot more is said about this trip, Mackmurdo must have received some inspiration from both Ruskin and the countries they visited. It was also prior to Mackmurdo's famous book cover that his ideas began to appear in his furniture (Fig.3). Although there is nothing innovative about the design of the chair, which is typically Victorian, interest is contained in the chair back with its pierced, highly organic design. In fact the design is very similar to the book cover - both express movement, and an asymmetrical layout. Also, the design appears to have energy which is being restrained by the frames around it. It is this feeling of potential energy appearing ready to snap which will also begin to dominate design, surprisingly not in England, but on the Continent.

In other areas the industrial designer Dr. Christopher Dresser (1834-1904) had begun producing a new form of silverware. The outstanding quality of his designs was their strong geometric purity, and a distinct lack of decoration. Dresser was always revealed as a practical designer who considered functional requirements in objects of prime importance.

Architecture in the early 80s had not revealed much more advancement than the buildings produced by Godwin and Shaw in the 70s. Of interest, though, are the movements of the young architects Voysey and

Figure 3  Chair designed by A.H. Mackmurdo in 1881
Letharby, who later emerged as leaders in the 90s. In 1881 Letharby went to train under Shaw. Voysey in the same year had left Devey's office and had set up his own practice in Westminster. He was now 25 and his work began slowly with small building alterations. In 1883 he entered the competition for the new Admiralty Buildings, but was unplaced. During these early years Voysey's good friend Mackmurdo provided guidance in the technical aspects of producing wallpapers and textiles. Voysey's first important commissions in this field were in 1883, when he sold designs to Jeffrey and Company, for whom Mackmurdo had already been working. Today, Voysey's wallpaper and textile designs often appear as his most successful and influential work. He became a leader in this field during the peak years of Art Nouveau, and this success extended well into the 20th century. His designs were not only popular in England, but were also widely used on the Continent. In 1884 he was elected to the newly formed Art Workers Guild, which has already been mentioned as one of the many societies founded in the 80s.

In Scotland during the first five years of the 80s, Glasgow continued to expand due to the building boom of the late 70s. It is worth while noting that Glasgow was the only city in Scotland which eventually developed such strong new design ideas. This was caused by the enormous growth which occurred in the city during the 60s and 70s. An increased population and the enormous amount of industry which began during these years insured a great deal of wealth in the city. As with England, design development was influenced strongly by the artists of Glasgow. In 1879 the Glasgow Art Institute was founded, and the beginning of the 80s was dominated by a great deal of artistic activity. This was led by a group of painters who became known as the 'Boys from Glasgow'. This group would later influence work in Germany and Austria. These Scottish artists were further supported by the appointment of the Englishman Francis H. Newberry (1854-1946) as headmaster of the Glasgow School of Art in 1885. "He had been trained in South Kensington in London, and naturally was acquainted with the Arts and Crafts Movement in the beginning of the 1880s."

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20) Madsen, Stephan Tschudi Sources of Art Nouveau, p.283.
During these years Charles Rennie Mackintosh (1868-1928), one of the most prominent architects and designers of the Art Nouveau style, began his training. In 1884 he was apprenticed to the architect, John Hutchison, and worked on the Wylie Hill Store in Buchanan Street, Glasgow. At the same time Mackintosh also enrolled as a night student at the Glasgow School of Art, and from this year (1894) onwards featured as a regular in the School's awards. He also established a firm friendship with Herbert MacNair, a young draftsman who worked for the architects Honeyman and Keppie. As will be revealed, in later years MacNair and Honeyman and Keppie will appear many times in relation to Mackintosh and the development of a new design style in Glasgow.

It was also during this time that the Glasgow Tearoom phenomenon began, another area with which the developing style of Mackintosh would be closely connected, and where during the 90s he could fully evolve his unique decorative style. The tearoom movement emerged due to a social problem within the city. Unfortunately, as Glasgow's wealth increased, and the population rapidly grew in number, unemployment also increased. This led to people spending longer hours in the city's many bars. This steadily increased the problems of drunkenness and a larger number of alcoholics. To counteract this, tearooms were introduced to provide an alternative public meeting place to bars. The idea met with a great deal of success, and within a few years Glasgow was inundated with tearooms.

Scotland was also progressing rapidly in engineering. The most notable example of this was the construction of the all-iron railway bridge over the Firth of Forth between 1883 and 1889. When this was completed it had an enormous clear span of 1735 feet. This became a feature of the 80s, with engineers achieving unprecedented clear spans in iron construction all over Europe and America.

On the Continent during the 80s, France revealed the most advancement

22) Ibid., p.6.
23) Ibid.
24) Ibid., p.122.
towards a new style in various fields of the decorative arts, though in contrast to England, France achieved most in the design of glass, ceramics, and furniture. This was concentrated in two major centres, Paris and Nancy, which eventually developed separate distinct styles from one another. These two centres went on to dominate design developments and ideas in France for the two decades which followed 1890.

In Paris, Viollet-le-Duc had died in 1879, and while his books continued to have an influence, his ideas would not be fully expressed three-dimensionally in a building until the 90s. It was Jules Chéret's poster work during the 70s which would continue to influence design and graphics in the 80s, though Art Nouveau did not emerge to maturity until the early 90s. So it can be seen that Mackmurdo's graphics in England had developed earlier than Chéret in Paris, although a comparison can be made between Mackmurdo's newspaper Hobby Horse of 1884 and Paris's periodical L'Art Moderne of 1881, which began publishing the latest design work during these years. Between 1880 and 1881 innovative work was being created in ceramics, with the beginnings of Ernest Chaplet's (1835-1909) high firing techniques which fully emerged around the mid-80s achieving success at the 1889 Paris exhibition. Also as early as 1886 the artist Gauguin was experimenting with ceramics. While his ceramics are described as often crude, of relevance to Art Nouveau is the organic form and apparent movement expressed. Also in some of his work he introduces a soft female form which almost merges with other objects in his compositions. The introduction of the female form is as important here as it was with the Pre-Raphaelites in England. Feminine form gradually began to have an influence on design ideas during the 80s.

The date 1882 acts as an introduction to Hector Guimard (1867-1942) who, similarly to Mackintosh in Scotland, would become one of the most prominent architects of the Art Nouveau movement. Guimard commenced his training in 1882 at the Ecole Nationale des Arts Décoratifs at the age of fifteen. Three years later, in 1885, he


27) Pevsner, Nikolaus. The sources of modern architecture and design, p.55.
received his diploma and then enrolled at the Ecole des Beaux-Arts where he studied under Gustave Raulin, a disciple of Viollet-le-Duc. Guimard stayed at the Ecole for 4 years, then left without finishing his diploma.28 Most sources suggest he opted for a more practical form of training rather than academic, leaving the Ecole to work for a building contractor.

In Nancy early developments are credited to Emile Gallé (1846-1904) in glass design, Louis Majorelle (1859-1926) and Eugène Vallin (1856-1922) in furniture design. Gallé and the beginnings of his glassware were mentioned in the previous chapter. In his work around 1885 he is compared with Mackmurdo in England. While Mackmurdo concentrated on the development of a style in two-dimensional graphics, Gallé is credited with the first attempts at a new style in three-dimensional form.29 Also in 1885 Gallé and Vallin are mentioned together as being strongly influenced by Japanese Art. This was caused by their chance meeting of a Japanese botany student called Takasima, who was studying at the Nancy Ecole Forestière.30 Prior to his interest in furniture, Vallin had worked for the architect Biet, and was helped greatly by his structural understanding of buildings when he turned to furniture design.31 Majorelle had been studying at the Ecole des Beaux-Arts in Paris under Millet in 1877. He was forced to return to Nancy, however, in 1879 due to the premature death of his father. He then underwent a few years as a cabinetmaker, and extended the family furniture business he had inherited. This led to an extensive design development during the 80s, and the emergence of his highly influential designs later in the decade.32

In Belgium the early 1880s signifies much design development, which in some fields gave the country a lead over Paris. As mentioned in chapter one (Winter) this had been started by artists, and expressed through the magazine L'Émulation of 1877. It is suggested

29) Pevsner, Nikolaus The sources of modern architecture and design, p.50.
that Brussels was the epicentre of art during the 80s, with artists of the calibre of Renoir, Whistler, Cézanne, van Gogh, Rodin and Debussy having exhibited their work in the city prior to 1890. Also in this period emerged the work of the artist Fernand Khnopff (1858-1921). He was known for his hermit-like existence, but also drew attention through his distinctive style of painting. His work appears to be influenced by Pre-Raphaelite and Japanese art, which he developed into a very distinct form of Art Nouveau. He almost exclusively concentrated on developing an idealised female beauty. "Her features are sombre, her jaw heavy; hers is a never-smiling face with cold, penetrating eyes." Khnopff often gave the female head an animal body, and in some cases an influence from nature can be seen by the use of flowers and plant forms. Once again, similarly to England, the importance of the female in the developing style on the Continent can be seen.

In 1883 the progressive artists' group 'Les XX' was formed. While the group did not appear to have a common idea or programme, they achieved a great deal with their exhibitions. Also their work led to innovative developments in graphics and script, in a two-dimensional form similar to Mackmurdo in England. The most prominent designer in this field was Félicien Rops (1833-98), who joined 'Les XX' in 1884. His early development as a lithographer has already been mentioned. The group also held its first exhibition in 1884 and another prominent member, Khnopff, designed the signet for the title page of the accompanying catalogue (Fig.4). While the letters are not considered exceptional, the arrangement is, with the 'S' cutting into the overlapping of the 'X's, and the boxed-in vertical grotesque letters of 'Bruxelles'. This was painted with a fine brush in an imitation Chinese style. This work can be directly compared with the English developments of Mackmurdo and Whistler (Figs.1 and 2). While Khnopff's letters are more restrained than Mackmurdo's, both styles are influenced by the use of brushwork lettering, which provides the constant changes from thick to thin in each letter. This changing thickness of line later placed more

Figure 4  Fernand Khnopff: Catalogue signet for 'Les XX' 1890
emphasis on the apparent growth expressed by Art Nouveau forms. In architecture this led to superb iron and curved stone work, which appeared full of movement and energy.

Belgium also produced an architect who would become a pioneer of the new style in the 90s. This was Victor Horta (1861-1947), who in 1878 had set off from his home at the age of 17 to make his fortune in Paris. His previous education had been two years at the academy in Ghent, where he was born. There appears to be no record of the time he spent in Paris, but it is certain the city had a lasting influence on him. In his later years he was quoted as saying:

Paris set my aesthetic sensibilities tingling ... no school training could ever give me an enthusiasm equal to that which I always felt when looking at or reading about, her monuments.  

After returning to Brussels Horta began studying at the Académie de Beaux-Arts, where he was reported as an outstanding student. He left the Académie in 1881 and went to work for a well-known classicist architect Alphonse Balat (1818-95). Balat was one of the prominent architects in Brussels during the 60s and 70s (refer Winter). Horta's first commissions were two small funeral monuments, one in 1883 and the other in 1884; also he had apparently entered two competitions during these years. Following this he travelled during the years 1884 to 1886. His first building design was a group of three houses in Ghent in 1885. Although the design was not considered outstanding, there is perhaps some indication of his later style. The houses were considered practical, straightforward, with consideration of functional requirements. They were built of red brick with very little decoration, which tended to make the building stand out from its neighbours. I feel the most significant aspect of the design is the mention of plenty of natural light to interior spaces, an element of prime importance in the architecture of the 90s. Horta himself was quoted as saying about his design "I was not so pretentious as to try and create more beautiful works than Balat; but I wanted to act in accordance with my convictions".  Following this design Horta returned to Balat's office for a number of years.

37) Ibid.
Turning to Spain, more specifically Barcelona, many great advancements towards a new style were developing, particularly in architecture. The Spanish Renaixença movement which had begun in the early years of the century continued influencing designers to look to traditional crafts for inspiration. As previously mentioned, these ideas had culminated in 1878 with Montaner's article on the need for a national form of design. The transition from the revival of past styles of the Renaixença to a new style is marked by the years 1880-85, and by the following five buildings: the Casa Vicens by Gaudí (1880), the Balaguer Museum by Fontseré (1882), the Academy of Sciences by Domènech Estapá (1883), the Francisco Vidal Art Industries building by Vilaseca (1884) and the Montaner y Simón Publishing House, by Domènech Montaner (1885).38

The new style became known as 'Modernismo', the Catalan equivalent of Art Nouveau which would develop later in France. Modernismo continually tried out different ideas in a search for a new style, absorbing past ideas of the Renaixença, and new movements abroad. The Catalans had a strong enthusiasm for things medieval, being inspired by their own Middle Ages; their open-minded attitude to the machine and advanced structural ideas being inspired by Viollet-le-Duc. There was already a strong Catalan metallurgical industry, and this had led to architects concentrating on the use of iron, attempting to create exciting organic work, which is so closely related to Art Nouveau forms of the 90s. Following the influence of Renaixença-Arts and Crafts materials, Catalan architects also revitalised brick architecture. They were particularly keen on simplified forms, and vaulted and balancing arch construction.39

These developments are important, as they provide a firm background for the work of Gaudí to begin and develop. He is often considered as an isolated genius, but as already revealed Barcelona had many talented architects during this period. I feel it is important to see his work in context with the Modernismo Movement, from which he began. Indeed, some sources suggest that without this movement "... his work would be inconceivable".40

39) Ibid., pp.71-74.
40) Ibid.
Before concentrating on Gaudí, it is important to consider one of his lifelong friends and collaborators, Francesc Berenguer y Mestres (1866-1914). He is described as a quiet, careful organiser and a frequent worker. Berenguer and his family moved to Barcelona when he was 15, in 1881. His education began in the same year at the Escuela Oficial de Bellas Artes where he remained until 1886. Also during these years he attended the Escuela Superior de Arquitectura. It is suggested that Gaudí realised his friend was a superb draughtsman and offered Berenguer a full-time job. As Berenguer wanted to marry and was having financial difficulties he accepted the job offer, and left his studies without obtaining a degree.\(^{41}\) It was during this period (c.1886), and the years that followed, that Gaudí and Berenguer collaborated closely on many projects. The question which has arisen from this is how much of the work credited to Gaudí was actually Berenguer’s. If Berenguer’s personal work is compared with Gaudí’s, two separate styles begin to emerge. Also, Berenguer was reported as a fanatic for metalwork, and it has been said that his "... handling of ironwork surpasses that of every other architect of the epoch".\(^{42}\) I am using this quotation in direct reference to Catalonia, for if the author meant it in a wider sense, this could be strongly disputed by ironwork of the French in the 90s. As Gaudí was also involved in the use of ironwork, in all information presented I have attempted to highlight the differences between the two styles of these architects.

While Gaudí has already been introduced in the previous chapter, with a brief mention of his first projects, additional biographical information is now relevant. Both Gaudí and Berenger were born in the small market town of Reus, where both had attended Berenguer’s father’s school. This occurred at separate times, as Gaudí was 14 years older than Berenguer. Gaudí’s mother had died in his infancy, and his father and great grandfather were potters, a background which would have great significance in Gaudí’s later designs. Also during these early years his brother and his married sister died. Throughout his adult life Gaudí remained a bachelor, and assumed the care of his father and motherless niece, both of whom eventually lived with

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42) Ibid.
him in Barcelona. In 1869-70 he went to Barcelona to prepare for admission to the new School of Architecture at the University. It took him 8 years to get his degree, this being extended by military service in 1847-79. He was recorded as an unconventional and uncooperative student, perhaps because he had a preference for practical work rather than theory (a parallel with Guimard in France). His academic achievements were undistinguished, a contrast to the remarkable work which followed his studies. In contrast to Berenguer Gaudí is described as highly emotional, an idealist and a fervent talker. He always spoke in the native Catalan language, which often caused difficulties for those who did not understand the language. Politically he was a liberal in his early years, later turning to the conservative point of view and strongly supporting his friends Francisco Combó and Enrique de la Riba, both leaders of the Catalan party. Gaudí was often considered an eccentric in his lifestyle, partly caused by the unusual habits he adopted to fight a form of rheumatism he had incurred as a child.43 He adopted "... a frugal vegetarian diet, homeopathic drugs, a variety of bathing procedures and regular hiking - a pattern of behaviour that was bound to set him apart".44 Also it must be noted here that while Gaudí may have been influenced by the Modernismo movement, he had isolated himself from it "... for various religious and political reasons, as well as the obvious personal ones, brought him fame but at the expense of his contemporaries and the movement as a whole".45

By the time Gaudí graduated in 1878 he had already established himself with a number of clients and small projects. As previously noted, he had designed a showcase for the International Paris Exposition of 1878, and this had attracted the attention of Count Eusebio Güell, a wealthy merchant who would later become one of Gaudí's most important clients. Also, it is suggested the showcase had an influence on a young Hungarian architect Ödön Lechner (1845- ) who was also a friend of the influential architect Wagner in Vienna. Lechner later went on to produce a distinct form of Art Nouveau architecture

43) Developed from Collins, George R. Antonio Gaudí, pp.8-11 and Tarrago, Salvador Gaudí, p.5.
In Hungary. During 1878 Gaudí had also been involved in the layout of the Cuidella Park, a civic project; while his direct participation has been connected with the enormous monumental fountain, and the iron gateways at entrances to the park. None of this work provides an indication of his later style; though he may have participated in other aspects of the park, which would point to a very early interest in landscaping. He also worked as a draughtsman for two influential architects: Josep Fontseré i Mestres, and del Villar, the latter being the author of the first project for the Sagrada Familia, the cathedral Gaudí would eventually take over, devoting the latter years of his life to it exclusively. Gaudí through these early civic works was associated with the architect and medieval revivalist Juan Martorell, who was a highly prominent architect during this period. He is credited with introducing the ideas of Viollet-le-Duc and of John Ruskin to Catalonia.

Between 1878 and 1879 Gaudí designed a series of extravagant lamps (Figs. 5a,b,c) for a square known as Plaza Real in a then popular and wealthy area of Barcelona. These lamps deserve close attention, as they indicate the beginnings of many details which would mature in the 90s. The overall appearance of the lamps (Fig. 5a) reveals a great understanding and confidence in iron construction, which he would have acquired from his work on the Cuidella Park. Gaudí himself described the practicalities of his design.

The shapes of the post (the axis of the lamp) are those a column must have, the lower end of this put into the ground and the details of the same should facilitate industrial operation necessary for the polishing and finish of the iron to avoid long work on smelting and moulding.

This indicates a rational constructive approach, which was always included with a great deal of sensitivity: this appeared throughout all of Gaudí's work. Another aspect of style which the lamps reveal are the decorative elements which combine classical, pagan and

47) Tarrago, Salvador Gaudí, p.7.
49) Tarrago, Salvador Gaudí, p.9.
Figure 5  Antonio Gaudí: street lamps for the Plaza Real 1878
natural influences. The top of the lamp (Fig.5b) is finished with a classical Mercury winged helmet, a form which not only lends itself to metal construction but gives the lamp a monumental quality. Immediately below this are two spiralling snakes, which indicate his interest in pagan decoration. Perhaps this had come from his association with Martorell. Forms such as snakes, and particularly dragons, became an obsession with Gaudí and subsequently appeared in nearly all his design work. It is here that an interesting parallel can be made with interests in the dragon motif also occurring in Britain and Scandinavian countries, derived from the Celtic Arts. The base of the lamps (Fig.5c) reveals Gaudí's interest in nature, by decorating the column and circular shield with stylised leaves and vines. As will be revealed, nature not only inspired Gaudí's developing style, but also had an enormous influence on design styles all over Europe. Finally, the lamps were painted, and incorporated the heraldic colours of Barcelona's coat of arms.

Also in the years 1878 to 1882 Gaudí began his association with the workers' co-operative of Mataró. The project involved a large machine shed, workers' housing, and business and social buildings. This plan was so elaborate that it is believed to have been exhibited at the Paris Exposition (1878). Eventually all that was built of the project was the machine shed and a small adjacent kiosk. Although the shed is extremely bare and simple, it is of considerable structural interest (refer to half section Fig.6). This building signifies the introduction of Gaudí's use of the parabolic arch, which he employs in many of his later projects. The parabolic form is structurally very efficient, and the shed was an inexpensive building, due to the use of laminated plywood secured by bolts. Apparently in 1960 the building was as sound as when it was built.50 It was also in Mataró that recent research has revealed the only affair Gaudí was known to have had with a woman. Apparently one of two reasons caused this affair to end quickly: the girl was either of a different religion, or she decided on another man.51

In 1880 Gaudí was interested in town planning issues and prepared a design for the future growth of Barcelona. Incorporated in this

50) Collins, George R. Antonio Gaudí, p.11.
51) Tarrago, Salvador Gaudí, p.12.
Figure 6  Section through Antonio Gaudi's Machine shed for the Mataro Workers Complex, 1878-82
were enormous beacons of a comparable design to those for the Plaza Real, except far more elaborate and much larger. The beacons were to be located along the sea front of the city, and would have been almost twenty metres in height. This was intended to provide a monumental display to present Barcelona as a modern industrial city. The beacons could be seen from out at sea, and they also formed the focus of vistas down wide avenues Gaudí had created within the city in his plan. While this design was never realised, it is worth noting Gaudí's early interest in town planning issues.

Of most importance in this section is the small house Gaudí designed in 1878-9 for the tile merchant Manuel Vicens. Built between the years 1883 and 1885, the building, together with four others previously mentioned, signifies the beginning of the Catalan Modernismo Movement. Of special interest is the unorthodox methods Gaudí was reported to have used in the construction of the house. Apparently he did not use working drawings for the building, but controlled the entire design by using a 150mm tile as a module. He directed the entire project on site, and verbally guided the workmen in each step of the design. He made many alterations as the work progressed, an aspect he became well known for in later projects. The expense of the project nearly ruined Vicens and his small tile business, but he recouped all this following the ceramics fad caused by the house.52

The completed building and its facades indicate a considerable break with classical influences (refer Fig.7a). Also, where previous styles of architecture presented a lack of colour both internally and externally, this was radically changed by the Vicens house. Here Gaudí uses rich earth-coloured rubble and brightly painted ceramic tiles. The suggested influence on Gaudí for the style, unprecedented elsewhere in Spain, came from his interest in Moslem art and architecture. The original plan of the Vicens house (Fig.7b), while not radically innovative, does express a functional simplicity. One side of the building fronts onto a busy Barcelona street, and this has been left without door or window penetrations. All of the ground floor rooms are connected by a central hallway, each room appearing of reasonable dimensions and proportions. While the

Figure 7  Antonio Gaudí: Casa Vicens, 1878-85
a) Elevation
Figure 7  Antonio Gaudí: Casa Vicens, 1878-85

b) Plan
Figure 8  The Casa Vicens Palm Frond Fence
overall geometry of the plan is very rigid, perhaps the rounded staircase and hallway near the entrance provide an early indication of the undulating walls and surfaces which appeared much later in his work. Of further interest is the actual placement of the building hard against the street boundary. This obviously makes optimum use of the remainder of the site for a garden, once again perhaps indicating Gaudi's early interest in landscaping. The building placed in this position would also act as both a visual barrier and sound buffer between the garden and the street. This was ideal planning for an inner city house, creating a private garden environment strongly separated from the busy streets of the city. Also, each room in the house has been provided with windows looking onto the garden. An important element here was the gallery which originally formed an extension to the living room out into the garden. Unfortunately this was altered dramatically when the building and gardens were enlarged in 1925. The iron fence around two boundaries of the Vicens House (Fig.8) is an amazing piece of ironwork for the period. Unfortunately there appears to be some confusion over who designed the fence and when it was erected. Apparently early photographs depict the house without the fence, indicating it was added later. Also a recent source suggests that Berenguer was responsible for the design. Apparently Berenguer’s daughters and friends repeated a family story how "... one day, while in his garden, he noticed the chemaro palm tree in the garden next door, and this inspired him to the design for the railings".53 While it is not particularly important who the author was, the work remains a superb piece of iron design as an early forerunner to Art Nouveau. Internally the Vicens House almost defies description, with nearly every available surface covered in bright coloured foliage patterned tiles, here and there relieved by painted palm fronds. The building had a huge influence on Gaudi’s contemporaries, who took up building with brick, rubble, and ceramic tiles as an economical method. "The result was a renaissance of ceramic art all along the eastern littoral of Spain."54

Apart from architectural commissions Gaudi had also designed

54) Collins, George R. Antonio Gaudi, p.11.
furniture, first for Martorell's Gothic chapel in Comillas in 1878, followed by furniture for his niece's school at Tarragona in 1880-82. It was in 1883-84 that Gaudí took over the work on the Sagrada Familia Cathedral. This, his most important project, caused him to cease actively practising architecture in the early 1900s, devoting the remaining years of his life to its construction - an involvement which lasted for over 31 years. The original architect for the Cathedral was Gaudí's associate del Villar, who had given the project up in 1883 over a policy dispute. The architect Martorell, who had encouraged the situation, recommended Gaudí to take over the works. The project beginnings are also of relevance to Gaudí's religious and political beliefs: the building was dedicated to the Holy Family as the model for modern domestic life, to Saint Joseph the patron of the working class, and finally it was to be financed by donations rather than the regular income of the Church or State. These ideals came as an inspiring encouragement to the Catholic faith at a time when a general process of de-Christianisation had occurred in social ideas, supported by the Industrial Revolution. It is therefore ironic that from such high ideals, a vast amount of the money which went into the Sagrada Familia came from donations by the Vatican and Pope Leon XIII. Money which was collected from all over the world and paid to the Vatican was donated to the building.

The site for the church was purchased in 1881 and del Villar was appointed architect in 1882. He subsequently convinced his clients Bocabella and Rodriguez to change from an originally intended Italian style to a neo-Gothic building. When Gaudí began work part of the crypt had been completed. He took this and began to evolve a design which at times in the following years produced unprecedented structural problems. As this development belongs more in the next decade a full description of the design will follow in later chapters.

In 1883, again through his association with Martorell, Gaudí was commissioned to design a house at Camillas, part of a group that Martorell and Domenech were constructing. The completed building was called

"El Capricho" Santander, and used very similar materials to the Vicens house, the interiors again being decorated with bright coloured tiles and flower motifs, relieved by painted birds and foliage. The building was constructed using a square flower tile as a module similarly to the Vicens house. The early years of the 80s in Barcelona reveal a great deal of innovative design work. This would increase in the years which followed.

In the Austrian capital, Vienna, Otto Wagner began to emerge as the prominent architect of the 80s. His most notable work prior to this was the design for the Markart Procession in 1878. Also involved in this event was the young artist Gustav Klimt, who had designed some work for the Procession. He would later become one of the leading figures in Austrian Art Nouveau.

In another field of design Austrian Loetz Glass was winning international acclaim in 1879 under the direction of Max von Spaun. During the 1880s Vienna was suffering from overpopulation which had begun during the 60s. The working class suffered badly from slum conditions and a desperate need for more housing. In many districts such as Ottakring only 4% of the inhabitants had a room to themselves. Many rooms owned by a family were rented as sleeping berths, so that when one occupant went to work the room was rented to others. In contrast to this, the rich of the city, approximately a third of the population, owned inner city flats with more than seven rooms. The housing built to combat the poor slum conditions in the decades following the 80s usually consisted of three floors. On each of these a corridor ran along the rear wall which faced onto a small courtyard, and the doors of each dwelling opened directly onto the corridor from the kitchen, or in some cases a single room. None of the rooms had a toilet, and ten or fourteen people were often forced to share a single WC, which was located either in the passage or across the yard. In some cases there was running water, and this too would be in the corridor. If there was no running water there would be a pump in the yard.

These terrible social conditions were quite a contrast to the grand architecture of the Ringstrasse (previously mentioned).

During the 80s research has not revealed any major developments towards

59) Powell, Nicolas The Sacred Spring, p.49.
60) Ibid., p.19.
a new style. Only two projects of Wagner's are mentioned as showing some bold new ideas. These were his design in 1881 for the reception of Princess Stephanie of Belgium for her arrival in Vienna to marry Crown Prince Rudolf. Wagner's first building of interest was not built until 1890-91, and belongs in the next chapter.

As already mentioned, Germany was at first slow in evolving new design trends. This had changed slightly by the 80s, when a general prosperity had begun following the Franco-German war. A desire for luxury began to be expressed by the middle classes, but no well-designed goods were available. Imitation became the key word in materials and objects produced for the middle-class German during these years. Varnish was a substitute for the gold lacquer used in furniture for the rich; cement or stucco in place of marble; papier-mâché for leather; veneer instead of solid wood. These were the ideas and materials which dominated furniture design in the 80s. Germany, similarly to Austria, did not begin to develop a new design style until the 90s.

Italy—during the decade 1880-90—continued to be influenced by architectural eclecticism, expressed by the architects Boito and Selvatico in the 70s. Boito published a book in 1880 called The Architecture of the Middle Ages in Italy which subsequently had a big influence on the country's architectural development. In the introductory chapter, he divides a building into two main parts: the 'organic' and the 'symbolic'. The 'organic' part is the logical structural element of a building, determined more by function than aesthetics. The 'symbolic' is the development of beauty in building through "... allegorical abstract analogies", or aesthetic values. Through Boito's theories, the idea of adding aesthetic qualities to a building over an outdated structure, caused architecture to become civic decoration. Also, professional qualifications for architecture and engineering were not separated until 1887, and in this area there developed a distinct split between technical expertise and good taste. Because of this, technology became officially underrated.

63) Ibid., p.33.
The engineering profession suffered, and the beginnings of a true new Italian design style would not appear until the late 90s. In the area of town planning, ideas changed radically in Rome and Milan. In Rome the desire for vast green spaces within the city evaporated, and all of these were absorbed by buildings.\(^\text{64}\)

American architecture, although remaining isolated from the Continent during the 80s and the decades which followed, achieved advancement in three areas: introduction of Arts and Crafts, developments in domestic architecture, and the introduction of the skyscraper. In the final area America would lead the world for many years. English Arts and Crafts were introduced to Philadelphia by the architect Wilson Eyre Junior, and these design ideas would provide a source of inspiration for the following four decades. The most important aspect of this was the formation of the 'T Square Club' by Eyre in 1883. The goal of this club was to promote interaction of ideas through members, and regular friendly professional competitions were organised.\(^\text{65}\) Credit in the defeat of historicism goes equally with America as it does with Europe. As previously noted, America was the only other country apart from England to become involved in the domestic revival which had begun in the 70s. The contemporaries of Shaw, Webb and Godwin in England were the American architects F.L. Ames, H.H. Richardson and Stanford White of McKim, Mead and White. In 1880-81 Ames's Memorial Gate Lodge in Massachusetts provides an indication of the developing style. The house is given very strong heavy massing by random stonework, and achieves a very low-lying horizontal appearance, with a large shingled roof with wide overhanging eaves. White's design for a house in Rhode Island in 1887 (Fig.9) displayed more radical ideas than any of his contemporaries in England. It is believed White was able to accomplish this through the pioneering background of America's development as a young nation. Certainly even at a glance this house displays unprecedented form and use of materials, with its enormous low-pitched roof, asymmetrical layout of windows, and timber shakes cladding the facade.\(^\text{66}\)


\(^{66}\) Pevsner, Nikolaus *The sources of modern architecture and design*, p.35.
The same radical approach was applied by the Americans to their commercial architecture, and it was in this area that they would eventually achieve international leadership. The early skyscrapers were simply high houses, not particularly expressive of office purposes. The earliest development took place in Chicago, a younger city than New York. Because of this, Chicago's development was not slowed down by traditional building. The earliest designs were strongly influenced by English commercial buildings, which were characterised by a grid facade of stone piers and large windows. Chicago architects took this form and added the iron frame, a structure originally used in factories, now adapted to the high office building. This idea was first attempted by William Le Baron Jenney in the Home Insurance Building of 1883-5. The finished design is described as untidy and fussy, but by the late 80s this had been changed and improved by more talented architects. The most notable of these buildings were:

- Holabird and Roche's Racoma Building dates from 1887-9;
- Burnham and Root's Monadnock Building (not a steel frame structure) from 1889-91;
- Sullivan's Wainwright Building at St. Louis from 1891.67

Sullivan was to go on to become one of America's leading pioneer architects, and one of the very few to produce any forms similar to the continental Art Nouveau movement.

Design development in England in the second half of the decade conveniently begins with Whistler's famous 10 o'clock lecture. Here he promotes the value of Japanese art on design: "The story of the beautiful is already complete - hewn in the marbles of the Parthenon and broided with the birds, upon the fans of Hokusai - at the foot of Fusi-Yama".68 It was the simple clean lines of Japanese art which began to influence design ideas. Also the illustrator Walter Crane indicates how he learnt from Japan for the illustration of his children's books from 1865 onwards69 (as previously mentioned). Crane went on to become a prominent figure in Arts and Crafts, and in 1889 was arguing for plain materials and surfaces in preference

67) Pevsner, Nikolaus The sources of modern architecture and design, p.38.
68) Schmutzler, Robert "The English origins of Art Nouveau", c.15.
69) Ibid.
Figure 9  The W.G. Low House at Bristol, Rhode Island, America, by Stanford White in 1887
to inappropriate decoration serving no useful function.\textsuperscript{70} 1889 was unfortunately the year that John Ruskin, the great leader of English design, went out of his mind until his death in 1900. Apparently his first attack had occurred as early as 1878.\textsuperscript{71}

While the newspaper \textit{Hobby Horse} had achieved a great deal of success since the beginning, members of the Arts and Crafts were realising that two guilds, namely Mackmurdo's Century Guild founded in 1881 and the Art Workers Guild of 1884, plus one newspaper (\textit{Hobby Horse}) did not achieve enough coverage of current design ideas. Morris's firm, founded in 1861, was abandoned early in 1887, and an independent group of craftsmen and designers began to hold meetings. Their aim was to connect new design work with the commercial world. Following a number of meetings, the group decided that an exhibition of craftwork might improve both public and manufacturers' awareness. The idea of craftwork exhibitions was not new, as Ford Madox Brown, a painter and friend of Morris, had thought of a similar exhibition 30 years earlier. Also, there had been a small Fine Art and Industrial Exhibition in 1882 at Manchester, where Morris had displayed some work. This was followed by small private shows at the Art Workers Guild. The idea of the new group was to produce larger, more public exhibitions than the ones mentioned, and this was met with scepticism from Morris, who had joined the Art Workers Guild in 1888. The new group officially adopted the term "Arts and Crafts" in May 1887. The first exhibition of the Arts and Crafts Exhibition Society took place in October-November 1888, at the New Gallery in Regent Street.\textsuperscript{72} It is suggested that the importance of this event and its subsequent effect on design ideas cannot be overestimated.

Work was presented by many of the most prominent designers and artists of the time, the most notable of these being: William Morris, Cobden Sanderson, Burne-Jones, Philip Webb, Walter Crane, Herbert Horne, Selwyn Image and C.F.A. Voysey. Immediately following

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\textsuperscript{70} Pevsner, Nikolaus \textit{Pioneers of Modern Design}, p.29.
\textsuperscript{71} Pevsner, Nikolaus \textit{Ruskin and Viollet-le-Duc}, p.9.
\textsuperscript{72} Pevsner, Nikolaus and Shaw, George Bernard \textit{"Fifty Years of Arts and Crafts"}, pp.225-227.
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the exhibition an enthusiastic review was written by George Bernard Shaw. In this witty and interesting article he breathes a heavy sigh of relief that designers are finally realising painting is not the only form of art. He is also delighted that craftsmen are realising all work can have beauty and value (always one of Morris's prime objectives). Mr. Shaw uses as an example Sanderson's book-binding "... he bind his books, and makes them pleasant to open and shut, pleasant to possess, and as much of a delight as the outside of a book can be". The author follows this by a comment on the "illuminated manuscripts" presented by Morris, also providing a delightful comment on the designer's capabilities.

The smaller unbound pages in the same cases show better what Mr. Morris can do with his valuable time in his serious moments, when he is not diverting himself with wall-decoration, epic story-telling, revolutionary journalism and oratory, fishing and other frivolities of genius.73

Of interest in the review of the article is that Shaw concentrated on the work of many designers who had only begun to emerge in the 80s, but would go on to dominate English design in the 90s. In this field of specific craft and design exhibitions, England is credited with another first. The 1888 exhibition was followed at regular intervals with subsequent ones in 1889, 1890, 1893 and 1896.75

Another architect and follower of Arts and Crafts ideas was Charles Robert Ashbee (1863-1942), who is introduced with the founding of his Guild and School of Handicraft in 1888. He is credited with being a more original thinker and active reformer than Crane, believing in constructive and decorative arts as the basis of any design style. The Guild and School of Handicraft was originally set up in the East End of London, with the idea that every object should be produced under pleasurable conditions.76 Although more relevant to the next chapter, Ashbee in the early 1900s moved his Guild to Chipping Compden in the Cotswolds, a favourable centre for

73) Pevsner, Nikolaus and Shaw, George Bernard "Fifty Years of Arts and Crafts", p.229.
74) Ibid.
design work, when one recalls that Morris's Kelmscott Press had been established in the same area in 1871. Ashbee also played a major role in the establishment of Arts and Crafts in America in the 1890s.

Also in the late 80s, urban planning continued to develop, with another pioneering estate, Port Sunlight, constructed in 1888 by the company Levers. In another area, following the success of *Hobby Horse*, other periodicals were published. In 1888 the architectural publisher Alexander Koch launched the journal *Academy Architecture* in London. Koch later published many highly influential architectural periodicals on the continent, and played a key role in supporting the work of the Scottish architect Mackintosh and 'The Four'. *Academy Architecture* was followed by *The Dial* in 1889. This magazine was introduced by Charles Ricketts and Charles Shannon who, as previously stated, were strongly influenced by Mackmurdo's graphics. Magazines and journals were to play an extremely important role in circulating design ideas, but this did not become fully apparent until the 90s.

In Scotland two important events occurred relevant to Mackintosh's development. An architect who strongly influenced Mackintosh, James Sellars, died in 1888; his apprentice John Keppie (1862-1945) then joined John Honeyman. Keppie was educated at Ayr Academy and Glasgow University. He also attended the Ecole des Beaux-Arts in Paris for a brief time, and after a short period of work he became Sellars' chief draughtsman. John Honeyman (1831-1914), much older than Keppie, had a well-established architectural practice when Keppie joined him. In 1889 Honeyman and Keppie formed a partnership, with Mackintosh joining the firm in the same year. It has been suggested that Keppie may have kept some of his work at the Ecole des Beaux-Arts, which may have subsequently influenced Mackintosh in evolving his early design ideas. The employment and

77) Pevsner, Nikolaus *Pioneers of Modern Design*, p.176.
79) Ibid., pp.143 and 148.
81) Howarth, Thomas *op.cit.*, pp.56-61.
subsequent work by Mackintosh at Honeyman and Keppie signifies the beginnings of many innovative developments in a new style of architecture which did not begin to emerge until the 90s.

In Paris jewellery began to express new design ideas with René Lalique, who inherited a workshop in 1886. Many designers in all fields during the 80s and the following decades relied heavily on commissions from wealthy patrons. Without this interest many of the magnificent objects designed would never have been realised. Much of Lalique's work, for example, relied on the sympathetic support offered to him by Calouste Gulbenkion. Lalique had learnt his craft as an apprentice in 1876 to the famous French goldsmith Louis Aucoq. This was followed by a brief period at the Paris School of Decorative Art, and subsequent years as a freelance designer for Aucoq, Cartier and Boucheron. It is in the field of jewellery that many sources consider the Art Nouveau style achieved its greatest expression, and Lalique was one of the most prominent and gifted jewellers of the period.

In architecture, Guimard had carried out various designs, including a Café-Concert building in a public garden during 1886. This was followed in 1887 by further small projects: an orangerie, a café-restaurant (subsequently destroyed in 1909), and 10th place in the Calais Town Hall Competition. In the same year he also volunteered for the army. For Guimard, and designers in other fields, the most significant year in the second half of the decade was 1889 and the Paris International Exhibition. Guimard carried out further small projects during this year, but it is suggested he was strongly influenced by the furniture and glass exhibited by Gallé. The Nancy School led by Gallé began to emerge, and it was at the Paris Exhibition that Gallé's third phase of design, known as "Verre Double", appeared for the first time. This glassware is blown in one coloured glass, then overlayed with varying numbers of other colours. A design is then painted on the glass in acid-resistant wax, and the surrounding glass is etched away leaving the painted design in relief. During the earlier phases of Gallé's design work (already noted), his interest in nature is expressed by the appearance of


83) Cantacuzino, Sherban "Guimard", p.393.
dragonflies, other bizarre insects and flora. Also, along with Oriental influences, appear Islamic or Venetian styles which Gallé had studied. In another field, ceramics, Ernest Chaplet received a gold medal for his work at the Exhibition.

Also in 1889 another Frenchman, Henri Sauvage (1873-1932), had been sent to Paris to study Classics at the Ecole Gerson. Instead of this, due to his interest in the decorative arts and architecture, he enrolled at the Ecole des Beaux-Arts in 1890, to study architecture under Pascal. Sauvage, although rarely mentioned, was responsible for much pioneering work in architecture from the late 1890s extending well into the 1900s.

For the Paris Exhibition of 1889 two great engineering achievements were created: the Eiffel Tower and the Halle des Machines. The tower was designed by the engineer Gustav Eiffel (1832-1923): it was constructed of wrought iron, and was the highest structure to date (1000 feet). In the Halle des Machines, designed by the engineer Contamin and the architect Dutert, steel vaulting achieved the enormous span of 385 feet.

In Brussels Víctor Horta began his search for a new architectural style between 1886 and 1890, "... he set himself the task of creating a style, measured his own abilities, and broke with his masters." I would suggest the last part of the quotation meant that Horta went against the historicism practised by prominent architects of the time. Apparently during these years other architects were producing buildings, but no-one had yet broken with historical influences. The French had begun to influence Horta with their ideas. This came from Viollet-le-Duc's theories, and the close attention Emile Gallé and Eugène Grasset (1841-1917, Swiss architect and writer) were paying to nature which was inspiring organic forms in their designs. Horta during 1885-91 did not build any houses, but devoted his time to writing. It is also revealed that he was not

84) Garner, Philippe Art Nouveau for Collectors, p.42.
85) Ibid., p.59.
87) Pevsner, Nikolaus Pioneers of Modern Design, p.140.
satisfied with his designs prior to this period, and returned to his studies, particularly concentrating on flowers and plants. Then around 1892 Horta suddenly emerged with a totally new style. He is suggested as the first architect to express Viollet-le-Duc's ideas three-dimensionally in buildings. Also it is believed he may have been influenced by English designers who had exhibited their work in Brussels in the late 80s. More will be said about Horta's radical new style in a later section.

As well as architecture, graphics continued to develop in the late 80s, and was led by the group 'Les XX'. They continued to produce catalogues and work, always striving for a new style. In 1886 the members of the group first noticed a young artist, Henry van de Velde (1863-1957). He was mentioned as a skilful painter, and in his early years he had been influenced by the Neo-Impressionists, who were led by Seurat. Then, after an illness, the artist Finch, one of Seurat's followers, became interested in Morris and English Arts and Crafts. Van de Velde also became interested in the decorative arts, gave up painting, and joined 'Les XX' in 1889 along with another artist, Georges Lemmen (1865-1916). As well as Seurat, van de Velde had later mentioned contact with Van Gogh, and also mentioned personal inspiration from Japanese Art. Along with Horta, van de Velde became one of the leading designers in Belgium in the decades either side of 1900.

Between 1885 and 1900 the Modernismo Movement continued to develop in Barcelona, and parallel with this Gaudí's ideas evolved in the many projects he began to receive. In 1884 he gained his first commission from Count Güell, for the Güell Pavilions on the outskirts of Barcelona. Gaudí was involved with this project for three years, and the main work carried out consisted of two pavilions, an entrance wall and gate to the estate: also some minor modifications to the existing Royal Palace building which became a country house for the Güells. Of the two pavilions constructed one was a porter's lodge, and the other the stables. While both buildings are again decorated

externally similarly to the Casa Vicens and the house "El Capricho" Santander, some interesting modifications begin to appear. These reveal the beginnings of a search by Gaudí for a synthesis in his design ideas. In the stable and porter's building there is a very distinct contrast between the brightly decorated external faces of the building, and very plain smooth surfaces of the interiors. This was caused by two of Gaudí's design ideas which, although he felt they were inseparable, he found extreme difficulty in comfortably balancing and blending together. The first was his search for optimum structural solutions: in this area he was influenced by Gothic architecture, perhaps through Viollet-le-Duc. Secondly he strove for an aesthetically pleasing surrounding plasticity to the building: here his influences came from Arab art. Often the development of these two ideas occurred at different rates, and therefore instead of blending the two ideas, they remained distinct and separate. This point is clearly expressed in both the stables and porter's building at the Güell colony. In the stables the bright tile-covered exterior is strongly contrasted by the smooth white stuccoed brickwork of the interior. Once again Gaudí employs parabolic arches in the stables, similarly to the machine shed for the Mataro Workers, only in the stables he uses brick construction instead of timber. Of further interest in these buildings is the structure, which he developed from traditional Mediterranean vernacular. This was the use of earth walls, only in this case Gaudí improved on the traditional method. He used brickwork for all structural parts of the building, and used earth for non-structural walls. One of the biggest problems with earth construction is damage from rainwater. To counteract this he used a traditional Moroccan idea of overhanging pipes on the corners of the buildings, to discharge the water away from the earth walls.

Definitely more famous than the buildings at the colony is the bizarre iron dragon gate at the entrance to the estate (refer Fig. 10). This gate is not only an amazing achievement in ironwork, but also is structurally practical. One of the biggest problems with a gate of this size is to provide good diagonal bracing, to prevent the

92) Tarrago, Salvador Gaudí, pp.22-23.
93) Ibid.
Figure 10  Antonio Gaudí: Dragon Gate for the Güell Pavilions, 1884-87
Unsupported edge from sagging. In this gate it becomes even more essential due to the iron construction involving considerable weight. Therefore, the dragon is designed in a triangular form, and the chains connecting the hinged side of the gate with the free side provide excellent bracing. This is further supported by the latticework on the bottom half of the gate. Apart from these practical achievements the gate provides another example of Gaudí's obsession with dragons, which are used over and over in later works. It has also been suggested that there is a connection between St. George and the Dragon, by the use of a checkerboard of roses on the bottom half of the gate. The brick wall on either side also reveals some points of interest. In these early years of Gaudí's work, his forms tend to be very accurate and geometrical, with repetition of the square, triangle, hexagon, and arc or half circle. These forms decorate the wall, with the addition of his favourite structural form, the parabolic arch. Also infill decorative panels were achieved by using a mould covered with prefabricated waterproof pieces. Perhaps this was an early forerunner to the framework method used today to achieve decorative surfaces on reinforced concrete buildings.

Beginning in 1886 and continuing until 1891 Gaudí received a second commission from Count Güell. The project was a Palace for the Güell family in Barcelona. The family already owned a house in the Ramblas part of the city, and the new palace was meant to be a sort of museum for exhibiting antiques: also to provide a suitable background for holding many social activities, as Eusebio Güell was known for his intense social life. With this building in particular, and other important commissions from Güell, Gaudí was not limited by cost. This is always a crucial determining factor in architecture, and Gaudí was indeed fortunate in having little restriction in this area. This is quite a contrast to the life of poverty led by Gaudí in the latter years of his life.

The Güell Palace is indeed a lavish and expensive building. This is most immediately noticeable by the richly carved timberwork and the

95) Ibid., p.21.
96) Ibid., p.33.
97) Collins, George R. Antonio Gaudí, p.15.
large areas of polished marble to interior surfaces. The building is located in a very narrow street in a once fashionable and wealthy part of Barcelona. The main facade of the building has a very heavy, almost forbidding, fortress-like quality about it. This is not helped any by the present blackened state of the stonework. Architecturally it is described as Venetian Gothic in origin, and Gaudí himself is quoted as calling it "meager Viollet-le-Duc".98 If one looks further than the blackened surface of the facade, it reveals an interesting use of finished stonework on the bottom half of the building, framed on the top and sides by a rougher unfinished stone surface. This distinct change in stone surfacing may have been used to express the internal separation between public and private spaces. As already noted, the building was intended for many social functions, and the smooth stonework on the facade coincides with the more public spaces within the Palace. It appears that Gaudí also had problems with creating a suitable facade, and that he studied twenty-five elevations before selecting two of these. He presented Güell with the two elevations, seeking his client’s preference. Apparently Güell selected the one Gaudí himself preferred.99 This account is interesting, when another source has revealed that Berenguer drew all of the elevations for the Güell Palace, although it is not stated who actually created the design.100 The most interesting points about the facade are the double parabolic arched entranceways. These are decorated by highly contorted rhythmic iron gateways. Incorporated in the ironwork design are the letters E above the left arch and G the right, the initials of the owner's name (Eusebio Güell). A large part of these gateways consists of an iron meshing, which is contorted in such a way that one can see out but not into the building. On the portion of wall between the two doorways is a large iron escutcheon of Catalonia.101 Gaudí's unusual sculptural use of ironwork appears over and over in his later projects.

The two parabolic arches of the Güell Palace serve as carriageways, so that guests could be driven straight into the building. Carriages

99) Tarrago, Salvador *Gaudí*, p.34.
were then parked behind the main staircase, and the horses were led down a spiral ramp to the stables at basement level (Fig.11 sectional isometric). The most immediate impression of the interior is spaciousness. From the street level access to the main reception is by a grand central staircase, and while ascending this, richly carved timberwork leaves a lasting impression. At the top of the stair is a long hallway which extends the full width of the building. Off the stair side is a rooftop garden terrace. The hall itself is flanked on the street side by arcaded parabolic arches in polished green marble, which are lighted by the windows. Added to the marble wall surfaces is the rich dark colour of polished timber, and dark matt surface of decorative ironwork. From the hall one is led into a main central room through double doors inlaid with ivory and tortoise shell. This central room once again is dominated by a feeling of spaciousness which is immensely enhanced by a very high parabolic dome which appears to be floating somewhere over the space. This is achieved by side window lighting at the base of the dome. Also it is pierced by many small circular windows and a larger central opening which also allow natural light into the space. Against the dark blue tiled surface of the dome, these openings are like stars in the night sky. Apparently the amount of light can be regulated by roller shutters, as the dome is constructed as a separate inner skin to the roof of the building (refer Fig.11).

There are many interesting rooms off this central space, with carved timber ceilings which are incredibly intricate and lavish, unsurpassed by anything similar I have ever seen. The two floors above this first level are private rooms, and the connecting hall to these surrounds the central room. One of the most fascinating elements about this building is the feeling of spaciousness, which is emphasised by the contrast between dark and light surfaces: also by the changing amounts of natural light which penetrate some spaces from seemingly unknown sources. This adds an element of surprise to each space one enters. Once again in this building, as in the Güell Pavilions, Gaudí seems to be struggling with design ideas. This is most noticeable in the contrast between the fantastic strange sculptural forms on the roof of the building (Fig.11) and the more geometrical facade. Apart from the radical change between forms, the roof elements are covered in brightly coloured broken ceramic tiles, whereas the rest of the building is dominated by plain muted
ceramic covered sculptural vent and chimneys

ceramic clad main dome external 'skin' and internal skin of blue tiles

private bedoom level service stair

main domed reception room

public level

grand staircase

parabolic arched entranceway

street level

spiral ramp

brick mushroom columns

basement stables level

Figure 11  Antonio Gaudi: Isometric of Güell Palace, 1886-91
tones. The bizarre rooftops do serve a practical purpose. The large central core is the outer skin of the dome over the main room on level one. Other forms are flues for the stables five stories below, and the remainder are chimneys for the many fireplaces within the building. This contrast between Gaudi's sculptural organic forms and clean rigid geometric style continues to appear in his buildings, and remains unexplained; although I feel an answer may be found in the people he collaborated with, and other contemporary designers. But a fuller explanation of this will be more relevant later.

Apart from the aesthetic qualities of Güell Palace, structurally the building is also interesting (Fig.11). "The whole palace is supported at basement level by columns, with the exception of a few walls, so as to obtain maximum ventilation for the stables on that floor."102 The basement reveals a very interesting use of brick vaulting, and an early form of mushroom columns (some of these columns are of a huge diameter). Also there are more than 40 different types of columns throughout the building, ranging from brick in the basement to finer columns made of local Garraf marble on upper levels. Included with this is an imaginative hanging staircase, a ventilation system (previously mentioned), and unusual detailing in the wide variety of windows and doors used throughout the building.103

The Güell Palace was followed by the Episcopal Palace in 1887, and the Teresian College in 1888. Both of these buildings reveal a Gothic influence, and act as a very austere contrast to previous work. In the Teresian College the budget was limited and the austere character influenced by the religious order of the clients. Of interest externally is the combination of brickwork with random rubble in the facades, and the total use of crisp geometric forms as decorative elements. Internally the structure is openly expressed, with a wide use of brick parabolic arches in corridors. In most cases the brickwork is rendered and painted white. These "... form a perfect natural background for the walking to and fro of these

102) Tarrago, Salvador  Gaudi, p.34.
103) Ibid.
The Episcopal Palace was commissioned by Gaudí’s friend the Bishop of Astorgia. Only the bottom two floors were completed by Gaudí, as the Bishop died and the building was finished later by another architect. It was constructed in a greyish-white stone, and was criticised for its contrast with the red stonework of the nearby cathedral. While a Gothic influence is suggested, it is also the most castle-like building (existing) constructed by Gaudí, and is complete with a moat. Once again the form of the building is very geometric. Internally, surfaces are plain and undecorated, with smooth white vaulted ceilings, relieved occasionally with simple painted patterns.

Gaudí lived and practised in Catalonia all his life, rarely travelling out of the area; although in 1887 he did make an excursion to Andalusia and Tangier. This trip had been prompted by his interest in Moslem Art, enabling him to examine this work at first hand. Due to this trip, and the many commissions Gaudí received during these years, progress on the Sagrada Familia was naturally hampered; though he had completed del Villar’s design for the crypt, and also constructed the chevet walls and pinnacles by 1893.

Apart from Gaudí other architects were kept busy in Barcelona throughout these years. The most notable of these was Luis Domènech, and his designs for the Barcelona International Exhibition held in 1888. Domènech’s most important building prior to this was the publishing premises in 1881-85 (previously mentioned). For the Exhibition he was commissioned to design the Hotel Internacional and a Café and Restaurant. The hotel design was notable for the innovative constructional method used. It was five storeys high, with a main facade of approximately 500 ft. in length, and was built in a record sixty-three days. Apparently this was made possible by Domènech’s extraordinary organisational ability, and the clever use of prefabrication. He developed a system of recoverable foundations using

105) Ibid., p.67.
a grille of railway tracks. On these he constructed chambered brick counter vaults to distribute an even load. Then, retaining the brick as the building component while the walls were constructed, he skilfully co-ordinated the work of other fields such as: carpentry, roof structure, and ornamentation. This achievement is made all the more amazing when one considers "... the underdeveloped state of the building industry in Catalonia at that time".108 At the completion of the Exhibition the Hotel was totally dismantled.

The Café and Restaurant are considered to be of even more importance than the Hotel. With the building never entirely finished, it was spared of elaborate ornamentation which may have spoilt it. The value of the building lies in its spatial qualities and the high standard of materials and construction. Of most significance is the use of exposed iron in the roof arches and the facade lintels, which is quite an advanced achievement for the late 80s.109 Following the Hotel and Café Restaurant Domènech went on to become one of the leading figures of Catalan life, but he did continue building, and his most productive years, 1895-1905, coincided with many other architects throughout Europe.

What has been attempted in this chapter on the decade 1880-90, is to reveal that each country mentioned was striving for its own design style, something new, in some cases a complete break from historicism. Some countries were leaders in this development, and these were: England, Scotland, France (Paris and Nancy), Spain (Barcelona), and America. Once again this lead may be slightly exaggerated by my source material, but what does appear is that architecture developed parallel with other fields of the decorative arts. The designers who began to emerge during the 80s would go on to lead their respective fields in the two decades which follow. In England at the end of the 80s Morris is considered the leader in design, and Shaw the leader in architecture,110 with Mackmurdo and Voysey gaining increasingly important roles. Scottish architecture and design begins to develop new ideas, and Mackintosh's early training draws to an end.

109) Ibid.
Two schools of design emerge in France - Paris and Nancy. In Paris, architecture adopts new ideas with Guimard's work; Gauguin and Chaplet experiment with pottery; and Lalique begins his jewellery career. The Nancy design school emerges with Gallé's innovative glassware, and Vallin and Majorelle's furniture design. Many of the new French forms appeared at the 1889 Paris Exhibition. Belgian developments are concentrated in Brussels with many prominent artists such as: Van Gogh, Renoir and Khnopff, and the group 'Les XX' strongly influencing graphics. In architecture Horta's early years are of great significance. Architects in Barcelona also emerge with the ideas of Catalan Renaixença, which is taken over by Modernismo in the early 80s. Along with other prominent architects, Gaudí's pioneering work and unique design style also has a strong influence. Austrian decorative arts achieve international success with the work of Loetz glass, and in Vienna Wagner continues to fight current attitudes in architecture. Germany is slow in developing design ideas, and Italy suffers from poor communication with the rest of Europe, with architectural eclecticism dominating their work. Scandinavia continued to develop her traditional Arts and Crafts movement, strengthened by the foundation of Friends of Finnish Handicrafts in 1879. America remained isolated from design developments on the Continent, but became increasingly aware of English design. American domestic architecture adopted a new style, and led in the development of the skyscraper, incorporating an iron frame. In 1880 a movement similar to English Arts and Crafts began with the foundation of the 'T Square Club' by the architect Wilson Eyre.

What is common to nearly all design developments is the influence of each country's craft traditions; an influence from Japanese, Turkish and Indian arts; high quality design and craftsmanship; a use of new materials and construction methods; and finally an increasing number of designers turned to nature as the source of all design.

Many designers began to realise the importance of magazines and journals for reaching a wider number of people with their ideas. This was led by England, having introduced the Hobby Horse in 1881.

111) "Art Nouveau in Finland". [Appendix 1 - Brochures].
On the Continent France introduced *L'Art Moderne* in the same year, and in Brussels 'Les XX' had published catalogues for exhibitions, and a number of separate articles. The poster was realised as an excellent source of advertisement, and development in this field was led by Chéret in France.

The 80s also signified the birth of a new generation of architects, who would have an instrumental role in turning design ideas away from Art Nouveau and towards the 20th century style, which became known as the Modern Movement. Some of these architects were: Walter Gropius (1883-1969), Mies Van der Rohe (1886-1969), Erich Mendelsohn (1887-1953), and Le Corbusier (1887-1966).

This decade (1880-90) has revealed a considerable concentration of design activity and the search for a new style increased dramatically leading up to the final years of the decade. While this development is important, it only provides a slight indication of the fantastic explosion of design ideas and productivity which would take place in the two decades following 1890.
The events which have been examined prior to the 90s all began to concentrate on the one goal - a new design style. This aim combined with a number of key events in the 90s became the catalyst for a full emergence of this style. The successful launching of this did not occur by mere chance or luck, but by a sensible and clever campaign of advertising and promotion, through the use of magazines and posters.

As well as examining the many distinguishing points of design ideas, it will be revealed how in some cases the desire to be new at times governed some developments to the detriment of the overall style. It is also important to note that ideas which began in the 80s led to a split in design during the 90s. On the one hand designers felt the need for decoration as an integral part of their work, while others argued for functional design that was devoid of all forms of decoration. This split grew for the next two decades, and eventually caused considerable consequences in all fields of design. However, during the early 90s in each country an enormous amount of activity in all areas of the decorative arts was created. When these countries are combined, the sheer energy and input becomes a formidable driving force for any form of change.

Many sources suggest Art Nouveau only had a peak lifespan of one decade, and this occurred between approximately 1892-1895 to 1902-1905. I maintain that the period lasted longer. As revealed in the previous two chapters, the style had many years of preparation prior to the 90s. Also, each country became involved and developed at different rates; although it is interesting that a peak in design development was reached at similar times by all countries involved (c.1900), though many innovative Art Nouveau ideas were created right up to the years immediately preceding World War I in 1914. This event dramatically reduced design development in all fields. Following the war all traces of Art Nouveau had gone, and a new style rapidly began to emerge.

England began the 90s with Voysey promoting "... a new style of an original and highly stimulating nature".¹ This did not apply only

to architecture, as Voysey was also involved in textiles, wallpaper and furniture design. Up to the 90s his first phase in wallpaper had emerged. This was dominated by flowing patterns and curves which had been influenced by a close observation of botanical forms. It is further revealed that his textile designs were strongly influenced by his friend Mackmurdo, although the rhythm in Voysey's work is milder and a little more restrained than Mackmurdo's.2 Voysey's wallpaper and textile designs eventually became very popular on the Continent, and influenced the ideas of many designers.3

His involvement with furniture design did not begin until 1890, and from these early stages simplicity was the governing factor. His furniture and decorative work always aimed to satisfy "... such human needs as comfort, friendship, warmth, welcome and the security of family life".4 He achieved these goals by remaining faithful to the rigid simple lines and form of traditional English craft furniture, and obtained a feeling of warmth through the rich dark colour of oak, his favourite timber. Also, contrary to his Arts and Crafts friends, Voysey did not fight against the machine and methods of quantity production. He accepted these new developments and learnt how to use them to his advantage.5

In early decorative work and architecture Voysey already reveals himself not only as a capable designer, but as a level-headed businessman. Following his marriage in 1885 Voysey had designed a house for himself. Although this was never built, the plans were published in The Architect magazine in 1888. This design caught the eye of M.H. Larkin, who subsequently gave Voysey his first commission, a house at Bishop's Itchington. This was soon followed by commissions for other small houses. Also, a series of his designs appeared in the British Architect from 1889 onwards.6 In 1890 a perspective sketch for the Cazalet House in Castlemorton was published in the

2) Pevsner, Nikolaus The sources of modern architecture and design, p.68.
3) Brandon-Jones, John and others C.F.A. Voysey, p.98.
4) Ibid., p.67.
5) Ibid., pp.67-71.
6) Ibid., p.10.
Of more interest than these early designs, is Voysey's realisation of the importance of publicity. In this area architects are strictly limited by their professional institutes. As will be revealed, Voysey and many of his contemporaries throughout Europe and America not only honoured their professional obligations but managed to generate more work and promote design ideas with a clever use of publicity.

While Morris and the Arts and Crafts met with continued success, an element began to emerge which would case great difficulties within the movement. As Morris aimed for well-designed objects and better quality craftsmanship for everyone, he failed to see that the hand-made object would be far more expensive than machine-made goods.\(^8\)

The conflict against the machine continued but slowly began to weaken. Morris and his followers became inconsistent in their attitude to machine productions. Firstly, Morris in some of his speeches occasionally advocated mastering the machine. Later, Crane revealed that Arts and Crafts welcomed the machine, providing its use was properly mastered.\(^9\)

Another conflict which existed in Morris's philosophy was that a complete return to a medieval way of life did not lead to improved standards and advancement in a modern lifestyle.

During the 90s English graphics were greatly boosted by the work of Aubrey Beardsley (1872-98), who in his short working life between 1890 and 1898 made a huge contribution in two-dimensional graphics.\(^10\)

His simple curving linear forms had a great influence on evolving Art Nouveau ideas. In the area of magazines and journals Alexander Koch (1860-1939) introduced *Academy Architecture* to London in 1888.\(^11\)

Koch followed this by publishing many other magazines on the continent throughout the 90s. During these later years he became a strong supporter of the work of the Scottish designers, Mackintosh and his

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7) Gebhard, David "C.F.A. Voysey - To and From America", p.304.
10) Ibid., p.91.
group known as 'The Four'. Also, another magazine, The Architect, produced a series of articles as a campaign for better architecture between 1893 and 1894. One designer acknowledged these articles was Mackintosh.12

His employment with the office of Honeyman and Keppie continued and in the years following 1890 it is recorded that all major work in the office was handled by either Keppie or Mackintosh.13 His subsequent design development was greatly aided by this position. The senior partner, Honeyman, was interested in classical and historical styles of architecture, and this was reflected in the work produced by the office in the late 80s and early 90s. Keppie was a follower of Burnet and Sellers, but was increasingly influenced by Mackintosh through a strong friendship. Mackintosh also came into contact with Alexander ('Sandy') McGibbon, the senior assistant of the office. McGibbon was an excellent draughtsman, and instructed Mackintosh in pencil and ink techniques, and architectural design.15 Graphics played an extremely important role throughout Mackintosh's life, and his interest in sketching developed at a very early age. During his years at Glasgow College of Art he continued his sketching, and went on to become a key source for his developing design ideas. In 1890 Redclyffe was built, Mackintosh's first personal design for a pair of semi-detached houses, on the outskirts of Glasgow. While the design is not considered very innovative, the building has an efficient straightforward plan, and the exterior consists of cubic clean forms. In September of the same year he won the Alexander Thomson Scholarship of 120, for a design which was considered influenced by 'Sellers' Grecian'. (Sellers has already been mentioned as a prominent architect in Glasgow who was strongly by classical styles). In the following year Mackintosh used his prize money to spend several months in Italy.16

Galle's furniture and glassware at the 1899 Paris Exhibition and

13) Ibid. p.388.
16) Ibid. p.59.
strongly influenced Hector Guimard.17 Henri Sauvage was still studying at the Ecole, and had become friends with Jacques Majorelle, brother of Louis. Through this friendship Sauvage would later obtain important commissions from Louis Majorelle.18 It was also during the early development of Guimard and Sauvage that the architect Baudot, one of Viollet-le-Duc's pupils, was suggesting that "A long time ago the influence of the architect declined and the engineer, 'l'homme moderne par excellence', is beginning to replace him".19 This is an interesting occurrence in the late 19th century, as a parallel can be drawn with present-day attitudes. Personal experience has revealed that for a number of years some architecture schools, practising architects, and engineers, have been questioning the validity of the architect as leader of major building projects.

As a contrast to Morris's revival of a medieval society, leaders of European painting strove for a style which had not previously existed. Their work began to cast aside past ideas, and became dominated by pure simple line, form, and colour. The most powerful artists of this movement were the Frenchmen, Cézanne and Gauguin, and the Dutchman, van Gogh. These three artists heavily influenced the prominent artists and designers of the 90s.20

In the field of decorative design, Egyptian Art began to have a strong influence. Many sources suggest this was caused by Sarah Bernhardt's famous performance of Cleopatra in 1890. For example, the two Parisian architects, Eugène Grasset (1841-1917) and Emile André (1871-1933) studied Egyptian Art rather than make a traditional study tour of Italy.21 In the development of poster art Toulouse-Lautrec began working in this field. His work was inspired by the Japanese wood block technique, and he went on to develop more than any other artists in this field.22 Samuel Bing, who was already well known for his publications on Japanese Art, had published the magazines Japon artistique, and in London Artistic Japan, between

19) Pevsner, Nikolaus Pioneers of Modern Design, p.32.
20) Ibid., pp.69-70.
22) Garner, Philippe Art Nouveau for Collectors, p.70.
The Nancy school of design continued to grow around Gallé, who by the 90s was producing glassware which ceased to be influenced by traditional ideas. Clearly his inspiration and forms were increasingly derived from nature. Included with this was an interest in the use of inscriptions and verse with furniture and glassware design. This suggests an influence from Blake and the Pre-Raphaelites in England. Thanks to the use of verse Gallé's attitude to nature is revealed. The inscription above the door of his studio read: "Our roots are in the depths of the woods, beside the spring, upon the mosses". He also wrote in an article: "The forms furnished by plants adapt themselves quite naturally to line-work". Gallé became interested in furniture design around 1885, and subsequently designed many pieces. He supported his ideas in this field by writing at length on the subject. This inspired Majorelle, who eventually became a more important cabinetmaker than Gallé.

Belgian architecture in the 90s was dominated by Horta, although Paul Hankar (1859-1901) also emerged as a prominent figure. In 1889 Hankar had completed his first building, "... a relatively ordinary house in a simple neo-Renaissance style, built of brick, with light bands of sandstone and the traditional bay window". Of significance is the mention of a bay window. These became features of buildings during the 90s.

Throughout the 19th century Belgian silver and gold work was dominated by the firm of Wolfers in Brussels. Louis Wolfers had extended the firm in 1850, and by the mid-80s his son Philippe Wolfers (1858-1929) was emerging as a designer and sculptor. In the early 90s he had set up his own studios, and his early style, influenced by floral and plant forms, had begun to emerge. Wolfers rapidly became a leader in this sphere of Belgian design.

23) Madsen, Stephan Tschudi Sources of Art Nouveau, p.361.
24) Ibid., p.347.
25) Ibid., pp.177-178.
26) Ibid.
28) Madsen, Stephan Tschudi Sources of Art Nouveau, p.333.
29) Ibid., pp.337-338.
In graphics and typography the group 'Les XX' (more commonly known in these years as 'Les Vingt') continued their innovative work: a style which was strongly led by Fernand Khnopff, who was considered to be influenced by the English during these years.  

Similarly to Khnopff, Ferdinand Hodler (1853-1918), the Swiss artist, became a leader in his field in the 90s. Hodler developed a style which is described as expressing a "... sacred truth in terms of line and cool precise colour". 
In 1890 his painting, 'The Night', reveals his interest in simple line, and the expression of symbolism.

An equally prominent contemporary of Hodler and Khnopff was the Dutch artist Jan Toorop (1858-1928). He, similarly, had knowledge of English developments, and arrived at the use of symbolism in his work in 1890. Toorop's style perhaps reveals an influence from Blake's linear art, and the arts of Java. Toorop had been born in Java, and his father was part-Javanese. His success was further aided by the fact that Indonesian-Batik printing was in vogue in Holland during the 80s. The relevance of these developments to Art Nouveau, and more specifically architecture, cannot be overstressed. Decorative features, forms, and materials began to express symbolism through their connection with nature. This was expressed and emphasised through strong linearity and colour, particularly in iron, ceramics, and stonework.

Architectural attitudes in Holland continued to be influenced by ideas from the late 80s. Two schools of thought existed: one argued for historicism and a return to the Dutch neo-Renaissance style; and the other was based on Viollet-le-Duc's theories, promoting a sound use of materials and constructive simplicity. Holland's greatest period architect, P.J.H. Cuypers (1827-1921), appeared to be a supporter of historicism, although he had worked for Viollet-le-Duc and was interested in rational architectural solutions. He also re-introduced brick construction to Holland. At the beginning of the 1890s historical interests were gradually discarded, and the Dutch aimed for pure, simple, and undecorated architecture. They began to turn to the architecture of Egypt and the Near East for

30] Pevsner, Nikolaus  Pioneers of Modern Design, p.84.
31] Ibid., p.86.
32] Ibid.
The leader of Dutch applied arts in the 1890's was Gerrit Willem Dijsselhof (1860-1924). Through his work a new style emerged which had also been influenced by Indonesian-Batik Art work. Dijsselhof produced textile designs, and was also involved in developing a neo-Dutch style in book illustration. An equally prominent designer was T.A.C. Collenbrander (1841-1930) who specialised in textiles and pottery in a peculiar batik-inspired style.

A strong interest in Catalan craft traditions continued in Barcelona with Doménech y Montaner and Gallissa's workshop acting as a centre for this activity; while elsewhere the most innovative architectural developments occurred in Gaudí's work. Prior to the 1890's Gaudí had completed many major designs, and on some of these his friend Berenguer had collaborated. While Gaudí did not begin any new projects in 1890, he was still involved with the Güell Palace, and perhaps work on the Güell estate out of Barcelona. Count Güell had already been mentioned as a great host, fond of frequent social events. Through these the youthful character of Gaudí is recalled: "Equally famous is the apparent dandyism of his youth. Handsome, vain about his appearance and the darling of the artistic and intellectual soirees of the Güell family." This early description of Gaudí will be revealed as quite a contrast to his later lifestyle.

Following collaboration with Gaudí on the Güell estate and the Güell Palace, Berenguer produced his first personal design. This was begun in 1888 and located at Garraf, known as Bodegas Güell, and it consisted of wine cellars, porter's lodge and chapel (Fig. 12). The exterior form of the chapel and wine cellars is extremely interesting, and reveals many similarities between the styles of Berenguer and Gaudí. The most immediate and obvious example is the

34) Ibid., pp.52-53.
Figure 12  Francesc Berenguer: Wine Cellars and Chapel at Garraf (outside Barcelona), 1888
use of the parabolic arch, apparently one of Berenguer's favourite structural features. He also uses an interesting combination of random rubble and smooth finished stonework. Strong geometric forms predominate, but rounded organic forms also appear on the building. These can be seen in the capping to the wall pier (left of Fig.12) and the decorative forms on the vertical projection of the building.

Sources continue to dispute which forms belong to Berenguer, and which are influenced by Gaudí. I feel that many of these features must be credited to Gaudí, merely because he was fourteen years older than Berenguer and had used such features in buildings while Berenguer was still studying; although I do feel he tended to be influenced more by strict geometric forms than Gaudí. As the younger architect collaborated so closely with Gaudí, often two styles can be seen in the one building. Gaudí's later work tended to become more and more flowing and organic, and when this is combined with strong geometric forms the difference is emphasised and the two styles highlight each other. These conflicting forms, which I had noticed but had not understood during my visit to Barcelona, can perhaps be explained by the junction of the work of these two architects. It is important to emphasise at this stage that Gaudí's earliest buildings, such as the machine shed in 1878 and the Güell stables building of 1884, revealed that he also was interested in strict geometric forms; though, as already mentioned, a conflict between the geometry of structure and the plastic non-structural elements of building had already begun. This combination of geometric and organic forms is much more clearly revealed at a later date, as the Sagrada Familia is constructed.

By 1890 some Italian architecture schools had become more active, and increasingly receptive to the design ideas developing elsewhere on the Continent. The cities where these new developments began to take place were: Naples, Bologna, Palermo, and particularly Milan and Turin. In these cities a strong concentration of trades and industries, and the development of extremely skilful craftsmanship, stimulated new artistic ventures.38

In Vienna Wagner's architecture was still influenced by historicism. His work of the early 90s is described as "... almost Florentine neo-Renaissance style, his more plastic shapes occasionally suggesting the neo-Baroque spirit. His interiors varied from neo-Rococo to neo-Renaissance".39 An artist friend of Wagner, Klimt, was awarded the 'Kaiserpreis' in 189040 for his painting of the interior of the Burgtheater. Klimt had started his career as a decorative painter, working with his brother Ernst, and Franz Matsch. Later Klimt worked for a short period as a scenery painter. He eventually became one of the leading artists of Vienna during the 90s, and a founding member of the Vienna Secession.41

Similarly to many other countries, design in Germany was dominated by historicism in the late 80s. At first neo-Renaissance was the dominating style, but an interest in neo-Baroque and a lighter form of Florentine Renaissance also became popular. Coupled with this historical influence was a growing interest in German Folk Art. This interest was strongly supported by art historians, and eventually folk art became particularly popular in Munich and Dresden.42 By 1890 nature was beginning to influence design ideas, which led to a great upheaval of ideas in the country. With this inspiration from nature, and increasing nationalistic tendencies, Germany also wanted to develop her own design style. Due to an interest in and awareness of English events, designers such as Ashbee and Baillie-Scott began to influence German work, particularly in furniture.43

Later in the 90s two schools of design would emerge, one in Munich and the other at Darmstadt: a comparable situation with the Paris and the Nancy schools of designers. In Darmstadt the publisher Koch had begun producing the periodical Zeitschrift für Innendekoration in 1889.44 As with other countries, this was only the beginning, and many magazines would follow.

39) Madsen, Stephan Tschudi Sources of Art Nouveau, p.399.
40) Powell, Nicolas The Sacred Spring, p.114.
41) Ibid., pp.130-131.
An artist considered much greater than Toorop and Hodler during these years was the Norwegian Edvard Munch (1863-1944). Like many other artists of his generation he had gone through an early period of Impressionism. This was to change when he moved to Paris and came under the influence of Pissarro and Gaugin. By 1890 he had developed a highly original style, which simplified and left out all non-essential features in the objects he painted.\(^{45}\) As this style developed, an increasing amount of detail was left out, until the form and movement in brushwork expressed the subject of a painting. Another artist, the German Hermann Obrist (1863-1927) was beginning to develop decorative motifs with a linear rhythm, which would lead to the German equivalent of Art Nouveau, known as 'Jugendstil'. Originally Obrist had studied geology and chemistry, but in 1888 he had changed to applied art. His early work was strongly influenced by an interest in nature.\(^{46}\)

Between 1885 and 1890 steel began to take the place of iron in American buildings. Steel became synonymous with the development of the skyscraper.

Hence it ought to be realized that, from 1890 onwards, the most advanced architectural thought and the visual qualities of progressive buildings can no longer be fully understood without taking steel into consideration...\(^{47}\)

The first skyscraper to incorporate the use of steel was Sullivan's Wainwright Building in St. Louis, designed in 1890. The structure used was a combination of steel and masonry, with Sullivan following the internal structural grid of steel on the exterior faces of the building. The author Pevsner suggests this building is "... a milestone in the evolution of the Modern Movement"\(^{48}\) - a statement derived from the bold, simple, undecorated vertical and horizontal lines of the building. However, it is worth emphasising the decorative swirling elements on the spandrel panels between windows, and the top cornice of the building. These belong very much to European Art Nouveau decorative ideas of the 90s.

\(^{45}\) Pevsner, Nikolaus \textit{Pioneers of Modern Design}, pp. 86-87.
\(^{46}\) Madsen, Stephan Tschudi \textit{Sources of Art Nouveau}, p. 416.
\(^{48}\) \textit{Ibid.}, p. 141.
Another building mentioned as a forerunner to the Modern Movement is the Monadnock Building, by Burnham and Root, constructed in 1890-91. This was one of the last big masonry towers in America; though of more interest than the enormous masonry structure is the use of ferro-concrete in the cellars of the building. Apparently many American buildings of these years were incorporating the material in construction. While this material is hidden, and used purely for its excellent structural qualities, this does continue the history and development of reinforced concrete in the 90s. On a smaller scale, it has already been mentioned that Voysey's house in England had been published in an American magazine. An important interaction between American and English ideas in the 90s was established through the magazines published in each country.

1891

While Mackmurdo achieved most success towards a new style in his furniture and graphics of the 80s, he did design a number of buildings. In 1891 he designed a house at No. 12 Hans Road, London. This house followed his design style of the 80s. The bold simple lines and forms in his domestic work indicated a break with historical influences, although many of his buildings were still decorated with classical elements, such as statuettes capping off columns. In the same year Mackmurdo's friend Voysey produced a house near London, in Bedford Park (Fig.13), and a studio in St. Dunstan's Road, West Kensington (Fig.14) Both of these buildings display similar bold clean lines and form to Mackmurdo's houses, although Voysey's buildings are completely free of decorative elements. Already strong massing and sculptural form is evident in these designs, and this element becomes a regular feature of Voysey's domestic architecture. The buildings are also finished externally in light coloured roughcast. Some sources suggest Voysey deliberately used this to emphasise the massing of the buildings, with the

49) Pevsner, Nikolaus Pioneers of Modern Design, pp.142-143.
Figure 13  C.F.A. Voysey: House in Bedford Park (outside London), 1891
Figure 14  C.F.A. Voysey: Studio, St. Dunstan's Road, West Kensington, London, 1891
help of light and shade. Voysey later maintained the finish was used to reduce costs. Another element which is noticeable in these buildings is the strong verticality in the forms. This is most clearly seen in the Bedford Park house (Fig.13), in the proportions of the main body of the building, and also in the front extension. In both buildings the vertical element is more clearly expressed in the window proportions. It is also suggested that Voysey's use of roughcast later influenced the work of Mackintosh in Scotland.52

Textile and wallpaper designs by Voysey began to change from floral and botanical forms to bird motifs, which remained a predominant feature in his design work for the rest of his career.53 Much of his work continued to be published in various magazines. Again in America his designs appeared in a number of exhibitions. One of these was the annual exhibition of the Boston architectural club. It was also suggested that Voysey's work, as well as that of other English designers, may have been introduced in Chicago and the midwest by Walter Crane. He was giving a lecture tour in this part of America during 1891-92.54

In London theatre a young female American dancer emerged, who would eventually captivate the imagination of many artists in the 90s. Her name was Loïe Fuller, born in Chicago in 1862. Her unique style of dancing emerged through an improvisation. In 1881 she had a minor role in a play in London, and her producer asked her to create an illusion of hypnoticism. She accomplished this by wearing a single length of flowing silk, which had been given to her as a gift. Apparently the combination of the silk, lit by the footlights, enraptured her audience. She immediately became the highlight of the production, and the flowing silk became a trademark of her unusual style of dancing. This was later described as "... a magically intangible evocation of the Art Nouveau Style".55

The Glasgow school of painters exhibited their work in Munich in 1891, and it was their innovative style which secured a continual

54) Gebhard, David "C.F.A. Voysey - To and From America", p.306.
German and Austrian interest in Scottish design development. It was through this groundwork by the artists that these two countries came to be aware of Mackintosh’s work in later years.56 Also in 1891 Mackintosh was using his scholarship money from the 1890 competition, touring throughout Italy. While he was in Italy his drawing skills were put to frequent use to compile workbooks. These books contained notes and detailed sketches of many of the places he visited. It is well known that in later years these sketchbooks were constantly used for inspiration in design work. In the Italian sketchbooks he developed a style which he continued to use until the early 1900’s. This is characterised by a lack of colour, and a concentration on detailed aspects of buildings, from classical porticoes down to iron door latches. Due to the importance Mackintosh placed on his sketchbooks, these become extremely accurate records of his changing ideas and design development.57 In the same year he is recorded as giving a lecture to the Glasgow Architects. This brought him up against the problem facing most architects of the day, which was the role tradition should play in design ideas.58 Meanwhile he also continued his studies at the Glasgow School of Art.

The first record of the Macdonald sisters Margaret (1865-1933) and Frances (1874-1921), at the Glasgow School of Art, appears in 1891. The two sisters in their early work revealed a remarkable similarity with the style of Mackintosh and MacNair. It was due to this that the headmaster, Newberry, suggested the sisters should work with the two young men. Prior to the introduction by Newberry, MacNair claims he and Mackintosh were unaware of the sisters.59 When the group began to produce work together they became known as 'The Four'. Another architect and contemporary of Mackintosh, George Walton (1867-1933) revealed innovative Art Nouveau design ideas between 1891 and 1893. Walton later worked with Mackintosh on some of Miss Cranston’s famous Glasgow Tearooms.60

57) Billcliffe, Roger Architectural Sketches and Flower Drawings by Charles Rennie Mackintosh, pp.9 and 12.
59) Ibid., p.25.
60) Ibid., p.234.
The magazine *Revue Blanche* began publication in Paris in 1891. It was responsible for bringing together many important artists such as Toulouse-Lautrec, Pierre Bonnard, Edouard Vuillard and Félix Vallotton.\(^{61}\) Elsewhere, the architect Guimard had finished the Hôtel Roszé (Fig.15) at 34 rue Boileau in Paris.\(^{62}\) This building reveals characteristics which appear in his more mature works around 1900. Similarly to Voysey, the massing and window proportions express a strong verticality. Guimard also begins to combine many different materials such as brick, random rubble, ceramic tiles, and finished stonework. While the majority of the building is free from decoration, there are some strange heavy pieces of ornament over the left-hand window and near the doorway. The ironwork of the gateway provides an early indication of the flowing rhythmical forms Guimard became a master of. Another element is the roofline of both the building and the canopy over the gateway, which is emphasised by an extended broad eaves line. This emphasis of roofline also appears in Voysey's houses (Figs.13 and 14). I feel that broad prominent eaves which became a regular feature in buildings of the 90s in all countries, suggests a further influence from the Orient. This is particularly the case with Guimard, and the roofs he positions over gateways in some of his early buildings.

Typographic development continued in Belgium with the young artist and graphic designer Georges Lemmen (1865-1916). In 1891 Lemmen produced a highly innovative cover (Fig.16) for the catalogue of an exhibition by 'Les Vingt'. Lemmen reveals a strong influence from Gauguin in the swirling moving linework of the cover.\(^{63}\) Obviously this was a similar use of the brushwork of Mackmurdo and Whistler in the 80s.

Gaudí in 1891 began the 'Casa De Los Botines' in Leon for a friend of Güell, Fernández-Argós, a textile merchant. The building is located in the heart of the city, with the ground floor and basement acting as stores for cloth, and the upper floors as a residence for

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63) Pevsner, Nikolaus *The sources of modern architecture and design*, p.70.
Figure 15  Hector Guimard: Hôtel Roszé, 34 rue Boileau, Paris, 1891
Figure 16  Georges Lemmen: Les Vingt catalogue of 1891
It was completed in 1894, and is very similar in its medieval castle-like appearance to the Episcopal Palace (noted in the previous chapter). At a glance it is hard to believe this is one of Gaudí's buildings, but closer examination reveals his characteristic sculptural work over the main doorway, and an unusual iron fence surrounding the building. These elements alone may not definitely prove the hand of Gaudí, except that the unusually spiked top to the iron fence is a favourite feature of his fences in Barcelona. The remainder of the building is extremely simple in form, square in plan with circular turrets on each corner. External facades are free of ornament, and the castellated parapet of the four walls creates a distinct separation between the white stone and the dark bluey-black tiled roof. The facades have added interest by the combination of smooth dressed stone around windows, and occasionally provided with a strong horizontal band encompassing the building. This is emphasised by the remaining stonework, which is roughly finished in a random bond. While at times it is difficult to understand the extremely different approaches in building form Gaudí uses, it is important always to consider each architectural solution in its environment. That is, it is difficult to know how much Gaudí's clients may have influenced the finished building. Also, the immediate surrounds of a site have a role to play, such as: what materials are available, the style and scale of surrounding buildings, and the climate. These reasons may provide an answer to many of the unexplainable variations in styles discussed in this dissertation.

Ödön Lechner, mentioned in a previous chapter as Hungary's answer to Gaudí, had completed the Museum of Decorative Art at Budapest in 1891. While the exterior of this building is strongly influenced by Gothic, the details are considered "... fantastic, and the interior is full of Indian borrowings, inspired by such Anglo-Indian buildings as the Calcutta railway station".65

The American architect Frank Lloyd Wright began his career in Louis Sullivan's office during the period 1887-1893.66 While both these

64) Tarrago, Salvador  Gaudí, p.69.
66) Pevsner, Nikolaus The sources of modern architecture and design, p.213.
architects are not normally associated with Art Nouveau, their work during the early 90s must be. Wright began to revolutionise domestic design in the 90s, and this began with the Charnley House in Astor Street, Chicago, in 1891 (refer Fig.17). This house can be compared with Voysey's buildings in England (Figs.13 and 14), and Guimard's in Paris (Fig.15). Similarly to Guimard, Wright uses a combination of materials, stonework at street level, and brick for the three storeys above this. The building is finished with a predominant overhanging eaves line. The windows express verticality in their proportions, though not as obviously as European equivalents. The building is also left free and uncluttered from ornamentation, although the panels on the balcony express similar patterns to Sullivan's Wainwright Building of 1890. The eaves fascia on the balcony and the roof of the house are also decorated. Eventually all forms of decoration would disappear from the external facades of Wright's houses, but the wide overhanging eaves line would remain.

1892

Again the use and expression of 'line' in the new design style is becoming more and more important. Lecturing in England in 1892, Walter Crane says:

Hence LINE is all-important. Let the designer, therefore, in the adaptation of this art, lean upon the staff of line - line determinative, line emphatic, line delicate, line expressive, line controlling and uniting.68

As will be revealed, in all areas of design linework became a dominating feature, whether it was expressed in rhythmical two-dimensional graphics, or in the three-dimensional form of ironwork in buildings.

1892 is suggested as the year in which Mackintosh's unique style began to emerge. This eventually became known as the 'Glasgow

68) Waddell, Roberta  The Art Nouveau Style, p.x.
Figure 17  Frank Lloyd Wright: Chernley House, Chicago, 1891-92
style', and the earliest example of this is the painting by Mackintosh titled 'The Harvest Moon' of 1892. He later presented the painting to his close friend and employer John Keppie in 1893.\(^{69}\) This early work revealed Mackintosh's interest in soft pastel colours, and flat two-dimensional forms, without any attempt at perspective. The overall compositions with their dreamlike figures presented an air of mystery. In this area his work can be closely related to continental graphic developments.

Guimard, in Paris, executed two minor designs, a monument for Columbus, and a tomb.\(^{70}\) The most innovative work was carried out by Toulouse-Lautrec with posters based on simple brightly coloured surfaces, reduced to a flat two-dimensional form.\(^{71}\) On a lighter side, 1892 was a significant date for Count Robert de Montesquiou. In later years he was considered "... Art Nouveau itself ...".\(^{72}\) He was an aristocrat, and a great supporter of the new design style, being particularly influenced by Diaghilev's Ballets Russes. Count Robert had a strong friendship with Gallé, and commissioned various works from the Nancy designer. Another link is established between Count Robert and Sarah Bernhardt, when they had experienced a brief affair as early as 1876. He was well known for his poetry, and early in 1892 he released his first volume of poems, Les Chauves Souris (The Bats). To a small group of select friends he sent copies of this anthology, and these were considered works of art in themselves. "These special china-paper volumes came wrapped in silk on which had been printed a design of bats, and had delicate silk fly-leaves printed in fin-de-siècle grey on mauve with further bat motifs."\(^{73}\) Apparently Count Robert presented himself as a human form of new design ideas in the way he dressed and acted. It is well known this was a conceit dear to an Irish contemporary, the playwright Oscar Wilde. The idea of people becoming works of art was strongly promoted by Wilde and his 'aesthetic' friends during

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71) Pevsner, Nikolaus Pioneers of the Modern Movement, p.77.
73) Ibid., p.121.
the 90s. It is further suggested that Count Robert was the model for Wilde's famous book, *The Picture of Dorian Gray*.

The most innovative design developments of 1892 occurred in Brussels, with the emergence of Victor Horta's unique style, and the early works of his contemporary Henry van de Velde. Between 1892 and 1893 Horta's first house was built, in the best residential quarter of Brussels, for Professor Tassel (Figs.18a and b). The address is 6 Rue Paul-Emile Janson (originally 12 Rue de Turin). Apparently the plan differs from traditional Belgian houses, by providing more space for the staircase, and introducing a circular hallway. For the exterior (Fig.18a) it is suggested Horta was influenced by the neo-Gothic style, particularly noticeable in the column bases and capitals, and the design of the windows. His bold use of exposed iron both internally and externally follows Viollet-le-Duc's ideas.75

It is suggested that "Horta is the first architect to pick up the challenge laid down by Viollet-le-Duc a whole generation earlier".76

Ignoring historical influences, the street facade of the Tassel House reveals an early indication of suggested movement, in the undulating curve of the large bay windows on the second and third floors (Fig.18a). Also the strong verticality of the windows, an element Horta shares with his contemporaries, in this case strongly influenced by traditional surrounding buildings. Of more importance than this is the increased size of the bay windows, introducing more natural light into interior spaces. Also, it is in these large windows on the top two floors that thin iron columns are used, boldly exposed.

The interior of the house provides quite a contrast to the exterior, and it is here that the full expression of Horta's style is revealed (Fig.18b). The most immediate impression is one of light and flowing iron forms. In the space illustrated at least half of the ceiling is glass skylights with a thin iron frame, giving full expression to the two materials which had been developed throughout the 18th and 19th centuries by the engineers. It is in the use of these materials

Figure 18  Victor Horta: 'Maison Tassel',
6 Rue Paul-Emile Janson (originally
6 Rue de Turin), Brussels, 1892-3
a) Elevation
Figure 18  Victor Horta: 'Maison Tassel', Brussels
b) Interior
that "Art Nouveau must retain the credit for the discovery of the aesthetic possibilities of iron and glass".77 Horta not only expressed these organic rhythmic forms in ironwork, but also covered the ceilings, walls, and ceramic-tiled floors with the same swirling linear designs. He also used stained glass panels extensively throughout the house, and the design of these also incorporated the same undulating and whiplash-like curves. The flat two-dimensional quality of these forms is considered to be strongly influenced by the work of Beardsley, Toorop and Mackmurdo.78 As colour and linework became increasingly important in buildings, stained glass also gained in popularity with architects during the 90s and early 1900s. The importance of the Tassel House cannot be overstressed, and some sources credit the building as the beginning of Art Nouveau.79

Looking for sources of inspiration for the emerging forms used by Horta, one cannot ignore nature. As previously noted, he had been studying botany in the late 80s, and the decorative elements used in the Tassel House are undoubtedly plant-inspired. It is believed this was further stimulated by a knowledge of the work of 'Les Vingt', particularly their brushwork graphics and linework; also by the ideas of Viollet-le-Duc and the work of Gallé and Grasset in France.80 There is some uncertainty as to whether he was further influenced by English designers such as Morris and the Arts and Crafts Movement. Horta's knowledge of English design is firmly established by his use of one of Voysey's wallpapers in 1893 for the Tassel House.81 Through this compliment to English design, one would assume Horta had a liking for and an interest in English ideas. Finally, Horta's former employer Balat, a well-known classicist, after seeing the Tassel House "... was silent and dried a tear in bitter disappointment over his favourite pupil".82 It is also worth noting that from 1892 till his death in 1942 Horta was connected with the University.

77) Pevsner, Nikolaus The sources of modern architecture and design, p.95.
78) Pevsner, Nikolaus Pioneers of Modern Design, p.98.
81) Brandon-Jones, John and others C.V.A. Voysey, p.100.
82) Madsen, Stephan Tschudi op.cit., p.389.
Since joining 'Les Vingt' in 1889, van de Velde (refer to the previous chapter) had been actually developing a style. This first example of his new graphic art is the title page for Max Eskamp's book Dominical (Fig.19). The design is a woodcut and was made in 1892. Immediately noticeable in the cover is the use of brushwork to create the undulating thicknesses and movement of line. It is obvious that he has been influenced by Lemmen's title page for the 1891 'Les Vingt' catalogue (refer Fig.16). Of further interest in van de Velde's design is the word Dominical, written in uneven and bending capitals, with the acute angles of M and N rounded off to soften their form. These organic forms would continue to influence van de Velde's ideas when he began to turn his attention to other fields of design.

During Berenguer's early years in Barcelona he worked for the architect Augusto Font in the mornings, and for Gaudí in the afternoons. Berenguer stopped working for Font in 1892 and went to work in the Architect's Department of the Barcelona borough of Gracia. It appears that he continued to work for Gaudí, and also produced many personal designs. Unfortunately records and dates of this work have not been uncovered, and to make matters worse it seems that much of Berenguer's work in the Architect's department was signed by his supervisors. This makes it extremely difficult to provide a clear distinction between Berenguer's and Gaudí's styles. It is known that during the 90s Berenguer collaborated with Gaudí on many designs. So if more of Berenguer's personal work was uncovered he may receive credit for work which has previously been given to Gaudí.

Between the years 1892 and 1902 Wagner was occupied with the Viennese 'Stadtbahn' railway network. In his designs for this project Wagner developed an interest in rationalisation and reduction in design ideas, which remained with him for the rest of his working life. His aim was to develop simple structures devoid of any historic

Figure 19  Henry van de Velde: Title page design for Dominical, of 1892
influences. This idea of a rational expression in design strongly influenced many of his pupils in their later projects. As many of the buildings involved in the 'Stadtbahn' were not erected until later in the 90s a more extensive description of these will be provided at the relevant date.

At the beginning of 1892 the Viennese artists Klimt, his brother Ernst, and Franz Matsch had just moved their studio. Later in the same year Ernst and his father died. This had an enormous effect on Klimt, apparently causing a long pause in his creative development. He had been very attached to his brother, who had only recently been married to Helene Flögge; they had a daughter, of whom Klimt became the guardian. Helene Flögge and her sister Emilie owned a dressmaker's shop, which had been decorated with collages by Kolo Moser. Emilie became Klimt's mistress, and by living together unmarried they caused quite a scandal. It is subsequently believed that the combination of these events led to the strange form of sexuality which began to dominate Klimt's paintings. Because of this, the years which followed were characterised by public outcries whenever his work was exhibited.

The young German designer Hermann Obrist had founded an embroidery workshop in Florence in 1892, which he transferred to Munich in 1894. It was during these years that he produced the embroidered piece called 'Whiplash' (Fig.20). This design is obviously influenced by Obrist's keen interest in nature. He aimed to "... glorify nature never seen till now, its powerful life and gigantic divine forces". Of most interest in this design is the way Obrist has stylised the stem leaves and flowers of the plant and arranged the forms like a whip ready to crack. He has given the whole design a kind of potential energy.

In another field the artist Munch had exhibited his paintings in


87) Powell, Nicolas *The Sacred Spring*, pp.131-132.

88) Pevsner, Nikolaus *The sources of modern architecture and design*, p.106.
Figure 20  Hermann Obrist: Embroidered Wall Hanging known as 'The Whiplash' (originally titled 'Cyclamen'), 1892
Berlin, which met with a great deal of controversy. Also signifying the unrest which had begun with the French and Dutch artists, the Munich Secession was founded in 1892. Vienna would soon follow this example with the establishment of her own secession of painters, all this being caused by an increasing struggle by artists to break with past influences and styles.

In art work the technique of woodcuts became increasingly popular. This method was re-introduced and made popular by Gauguin, and, as revealed, van de Velde in Brussels was also using the technique. This was also taken up by the Swiss artist Félix Vallotton (1865-1925), whose work met with a great deal of success. He had discovered woodcuts in 1890, and during the following years his style was increasingly characterised by eliminating detail and concentrating on simple lines and forms. It was through this highly stylised approach that he was able to become so successful in poster work, which began in 1892. This idea of simplifying form also began to appear in buildings. Intricate complicated designs were replaced by strong sweeping curves, not only in decorative work but also in overall massing.

While it has already been suggested that Continental and American developments remained separate from one another during these years, it is interesting to note that, while many Continental artists were striving for the elimination of detail in their work, a similar attitude was being promoted in American Architecture. In the manifesto 'Ornament in Architecture' by Louis Sullivan in Chicago 1892, he argued for architecture which was free from the use of decoration. This signified the split which was mentioned at the start of this chapter: one form of architecture arguing for ornamentation normally associated with Art Nouveau; and the second group of architects striving for buildings without decoration, which has become generally known as the Modern Movement. Sullivan, who is considered to represent the latter group, said in his manifesto:

Ornament is mentally a luxury, not a necessity,  
... it would be greatly for our aesthetic good  
if we should refrain entirely from the use of

90) Ibid., pp.76-77.
ornament for a period of years, in order that our thought might concentrate acutely upon the production of buildings well formed and comely in the nude.91

These ideas promoted by Sullivan would strongly influence his young assistant Frank Lloyd Wright. However, these ideas are quite a contrast to the highly decorative elements which Sullivan had used in his Wainwright Building (1890-91), and Wright in his Charnley House of 1891 (Fig.17). Also, in Sullivan's projects which follow, such as the Guaranty Building of 1895 and the Carson Pirie Scott store begun in 1899, he used extremely intricate Art Nouveau-inspired decorative elements.92

1893

For England perhaps the most significant event concerning design was the publication of The Studio magazine.93 This would become one of the most influential sources throughout Europe of latest design ideas for a number of decades. In the first issue one of Beardsley's drawings was printed, titled 'Siegfried'.94 In this work he reveals a style strongly influenced by nature, melodious forms, and his characteristic contrasts between black and white masses. In this work his ideas are a strong contrast to his continental contemporaries. The drawing is more complex, using intricate linework, and he also introduces depth and perspective. However, other work of the same year also reveals a flat two-dimensional quality, simple linework and forms.95 This later style links him more closely with Toorop and Hodler, and I feel is generally more characteristic of Beardsley. His mysterious style began to strongly influence the graphics of many European artists. The early issues of The Studio also published work by Voysey and Crane, Toorop, and

91) Pevsner, Nikolaus Pioneers of Modern Design, p.28.
92) Pevsner, Nikolaus The sources of modern architecture and design, p.40.
94) Ibid., p.93.
Voysey continued producing wallpaper designs for Essex and Co., and he also constructed another house - 'Perrycroft' in Cornwall.97

The forms he used in this building were becoming more and more associated with the Modern Movement. He continued to use simple massing, a light-coloured roughcast surface finish, and a strong overhanging eaves line. The buildings were further characterised by a lack of ornamentation. Voysey actively promoted this, and was quoted as saying "... discarding the mass of useless ornaments would be healthy and desirable".98

Just as artists of these years moved away from naturalism and an interest in detail, so literature followed. Writers such as Wilde and his play 'Salomé' of 1893, the Belgian Maeterlinck and his 'Pélléas et Mélisande' of 1892, the German Hauptmann and 'Hannele' of 1893, and even earlier the Frenchmen Verlaine, Mallarmé, and Rimbaud. All of these well-known writers began to follow the latest design ideas, becoming increasingly interested in symbolism.99

In Scotland, Mackintosh and MacNair had left the Glasgow School of Art,100 and Mackintosh had begun work on the Glasgow Herald Building in Honeyman and Keppie's office. It is in the Herald Building that the first indications of Mackintosh's mature style appear; while a large part of the building reveals strong classical forms, typical of the work produced by Honeyman and Keppie, and suggesting that both partners dominated the final design of the Herald Building.101

It is in details, and in the corner tower of the building, that Mackintosh's hand is revealed. The perspective drawing produced by Mackintosh in 1893 (Fig.21) emphasises the verticality of the tower. Due to a highly restricted site, Mackintosh realised that unless the proportions of the tower were increased it would be hidden by

98) Pevsner, Nikolaus op.cit., p.29.
99) Ibid., p.89.
101) Ibid., pp.61-62.
Charles Rennie Mackintosh:
The Glasgow Herald Building,
Mitchell Street, Glasgow,
circa 1893.

Figure 21
Glasgow Herald Building:
Detail of stone carving
over main doorway.
surrounding buildings. The increased corbelling of the turret, with elongated shields, gives added emphasis, and the left-hand face of the turret is angled outwards further than the right-hand face. A possible reason for this may be that Mackintosh realised a splayed face would counteract any distortion caused by viewing the tower from along Mitchell Street. Also, while it is suggested that he was influenced by other Scottish buildings for the tower design, I feel a stronger influence has come from Italian forms. It has already been revealed that he had sketched the tower on the back of one of his Italian sketches of 1891. Although this does not suggest he sketched the tower in the same year, I feel he designed it from inspiration provided by the Italian sketches. This influence is particularly noticeable in the slightly bulbous sides of the tower, and the unusually wide timber eaves of the roof. This wide overhanging eaves line is particularly Italian, almost Florentine.

Of further interest in this building is the appearance of Art Nouveau stone carving around doorways, windows, and in places along the horizontal stone bands. An excellent example of this is the section over the main entrance doorway (Fig.22). These soft, sinuous curves begin to appear more and more in Mackintosh's later work. As previously mentioned, Mackintosh, MacNair, and the MacDonald sisters were influenced by Voysey's work, which had now been made more available in Scotland through the introduction of *The Studio* magazine.

Jules Chéret advanced the French poster with his advertisement for Loïe Fuller at the Folies Bergères. The poster was typical of current ideas - bold sweeps of colour, simple linework, with no attempt at depth or perspective in the composition. Similar ideas appear in building when Guimard designed two houses, the more notable being the Hôtel Jassédé at 41 rue Chardon-Lagaché, Paris (Fig.23). All the same elements occur which were mentioned in the Hôtel Roszé (refer fig.15). Though in the Jassédé house Guimard has become more adventurous in his use of materials and colour. Retaining a vertical

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104) Garner, Philippe *Art Nouveau for Collectors*, p.70.
Figure 23  Hector Guimard: Hôtel Jasséde, 41 rue Chardon-Lagache, Paris, 1893
emphasis in the building, the external forms have become more asymmetrical, as have the location of windows. Guimard reveals an increasing interest in materials, by using random grey-white rubble and red brickwork on different faces of the building. As well as the subtle earthy colours, which emphasise the French vernacular form of the house, he has introduced brightly coloured ceramic tiles in segments above and below windows. The tiles have a highly intricate floral pattern of greens, blues and yellows. Guimard's interest in materials is further emphasised by using unusual roof tiles, which were specially designed and made for the building. Historical ornamentation has completely disappeared, and his use of ironwork on the fence and windows remains very simple in form. Of further interest is the main entrance gate with its peculiarly large pitched roof. This is the only part of the building which has a slight Oriental flavour. Apart from its large size, the roof appears to hover over the gateway. This illusion is emphasised by the apparent break between the heavy masonry of the wall and the roof, which is supported by a dark painted timber frame. This idea of a roof over a gateway has been carried through from his earlier building, and is extremely successful in establishing the main entrance to these houses.

English ideas were promoted in Belgium by The Studio, which had been made available by the 'Musée Cinquantenaire'. Also, a new Belgian magazine was published by some members of 'Les Vingt' called Van nu en straks. Among the designers responsible for this were van de Velde and Lemmen. During 1893 van de Velde had been formulating and writing about his new style. This was characterised by plastic, abstract, and linear forms, always accompanied by a fine sense of proportion and logical construction. He said of his work "All my designs owe their character to one source alone - reason, and obedience to the laws of reason in conception and in construction". In another field Philippe Wolfers had just exhibited his jewellery, which was characterised by an unusual combination of ivory and gold.

His work won him immediate acclaim.\textsuperscript{109}

The Dutch architect H.P. Berlage (1856-1934) was beginning to evolve a new style, and this was displayed in his villa in Bussum, Holland.\textsuperscript{110} While the external form of the building has very traditional lines, it can be compared to Voysey's work in England. The building has the same verticality, with simple undecorated surfaces. Berlage continued with this style until the last years of the century, when he would become a leader of Dutch Architecture.

Gaudi continued his work on the Sagrada Familia, and by 1893 he had completed del Villar's Gothic-inspired apse and the raising of the chevet walls. Gaudi had made a slight modification to the crypt, increasing the height of the vaults to allow more natural light and air into the space. Of further interest is the foliated pinnacles of the chevet walls (refer Fig.60b), which are believed to be derived from his favourite authority, Viollet-le-Duc; as are the flowering crosses that terminate many of Gaudi's secular buildings (refer Fig.54a).\textsuperscript{111}

The architect Joseph Maria Olbrich (1867-1908), who during this decade would become one of the most influential men in his field, was working in Wagner's office. He remained in the office for five years, working on the 'Stadtbahn' railway project.\textsuperscript{112} One of Olbrich's contemporaries, Adolf Loos (1870-1933), also a pupil of Wagner, had spent some time in England, followed by three years in America \textsuperscript{2.1893. Here he was introduced to the Chicago school, the work of Sullivan, and the possibilities of machine-made objects.}\textsuperscript{113} Eventually Loos and Olbrich moved in totally different directions: Loos argued for buildings free of all kinds of decoration and ornamentation, Olbrich following the forms of Viennese Art Nouveau, which was initially led by Klimt and the Secession.

German design developments continued with the artists. The Norwegian

\textsuperscript{109) Garner, Philippe  \textit{Art Nouveau for Collectors}, p.98.}
\textsuperscript{110) Madsen, Stephen Tschudi  \textit{Sources of Art Nouveau}, p.390.}
\textsuperscript{111) Collins, George R.  \textit{Antonio Gaudi}, p.14.}
\textsuperscript{112) Powell, Nicolas  \textit{The Sacred Spring}, p.60.}
\textsuperscript{113) Howarth, Thomas  \textit{Charles Rennie Mackintosh and the Modern Movement}, p.282.}
artist Munch's highly simplistic style emerged in his woodcuts and lithographs, and the Dutchman Toorop had exhibited his work in Munich. Toorop's work of this period is most unusual and mysterious. This is emphasised by a strong contrast in light and shade. Also, his forms are dominated by extremely stylised figures. Nature is always present, with stylised plants appearing everywhere. All of his forms are expressed by controlled rhythm and undulating linework.

Of perhaps most significance in American design is the 1893 World's Columbian Exposition, in Chicago. Here, it seems, English ideas were once again strongly promoted by Voysey, who exhibited his architectural work and some of his wallpapers. In the same year the American version of The Studio was introduced. This was known as The International Studio, and once again Voysey was involved; designing the cover of the first issue. In the years which followed articles by him and about him appeared in this magazine and many others. Apart from English influences, Wright continued to evolve a new domestic style with his design for the Winslow House in Illinois (Fig.24); while he has continued to use decorative elements, in this case extensively over the first floor facade. A departure from his European contemporaries is the horizontal emphasis of the building, and windows reduced to a square form. He retains the use of a large roof with wide oversailing eaves, another feature which emphasises horizontality. In the years which follow, the 'ground hugging' appearance of Wright's houses would become increasingly characteristic features of his style.

1894

As mentioned in 1890, The Architect magazine ran a pictorial campaign for better architecture from 1890 to 1894. Apparently the material ignored commercially popular work and concentrated on modern buildings influenced by vernacular, with highly simple lines

Figure 24  Frank Lloyd Wright: Winslow House, River Forest, Illinois, 1893
Strange enough, Voysey's work was left out, while those included were: Shaw, Webb, Sedding, Devey, and many others not previously mentioned in this Dissertation. This idea of simplicity must have had an effect on Mackintosh, as he mentions five of the above architects in his lecture notes. Another architect who was strongly influencing Mackintosh was the Englishman, W.R. Lethaby (1857-1931). This is emphasised by the fact that Mackintosh holidayed in England each year between 1894 and 1899 to study Lethaby's work at first hand. The first indication of a change towards this simple style by Mackintosh was a small inn (now demolished) at Lennoxtown just out of Glasgow. It was described as a simple little house with plain roughcast walls, very similar to the style being promoted by The Architect.116

Meanwhile in Glasgow, Frances and Margaret Macdonald had graduated from the School of Art, and had opened a studio in the city. Their time was devoted to the applied arts, concentrating on: embroidery, repoussé metal, gesso, stained glass, and book illustrating. Mackintosh and MacNair occasionally helped the sisters with furniture design and decorative panels. This group, now well known as 'The Four', continued their close association with the School of Art, and were given the liberty to attend classes or use studios whenever they wished.117

During this time Guimard had obtained one of his most important commissions: the Castel Beranger, but as the project lasted between 1894 and 1898, and was modified in 1895, a more detailed description of this building will be provided at a later date. He also carried out other minor designs, exhibited his drawings at the salon of the Société Nationale des Beaux-Arts, and visited England.118 His visit took place in the summer of 1894, and he returned with many personal sketches of contemporary English red-brick villas in Uckfield and Chislehurst. His sketches from Chislehurst also included ground and first floor plans.119 During the 19th century it is considered

France led the world in establishing an aesthetic appreciation of iron, influenced by the ideas of Labrouste and Viollet-le-Duc. During these years the country would again take the lead with the use of reinforced concrete. In 1894 the architect Anatole de Baudot (1834-1915), initially a pupil of Labrouste, then of Viollet-le-Duc, decided to use exposed concrete for the Church of St.-Jean de Montmartre. The exterior of the building is faced in brickwork, and is slightly medieval in appearance. Internally the character is more Gothic, with pointed and round arches, and rib vaults. Baudot was followed by François Hennebique (1867-1941), an engineer who built many factories in reinforced concrete, discovering the value of grid principles for design. Hennebique's buildings are extremely modern in form, free from ornamentation, and expressing a vertical and horizontal grid on the building facade.  

Throughout these years the most adventurous art exhibitions on the Continent were conducted by 'Les Vingt' in Brussels. The group of artists had now changed their name to 'La Libre Esthétique', and displayed at their 1894 exhibition were illustrations by Beardsley and Toorop, silver by Ashbee, and a studio interior by Serrurier-Bovy. Gustave Serrurier-Bovy (1858-1910), originally an architect, had abandoned his studies in 1884 and travelled to England, where he fell under the spell of Morris. On his return to Belgium he devoted his time to interior decoration, and by 1894 he had emerged as a furniture designer. His early furniture is very similar to the work of Voysey and the Arts and Crafts. Serrurier-Bovy's furniture is characterised by a complete lack of decoration and unpainted wood, though he departs from English influences in using an asymmetrical form, which eventually becomes synonymous with his work. This form also gives a slight Oriental flavour, which is further emphasised by the simple straight horizontals and verticals of his furniture. It is interesting how much influence English ideas were having in Belgium at this time. As previously noted, van de Velde had been inspired by the Arts and Crafts, and

120) Pevsner, Nikolaus The sources of modern architecture and design, p.150.
121) Waddell, Roberta The Art Nouveau Style, p.x.
122) Madsen, Stephan Tschudi Sources of Art Nouveau, pp.318-320.
Horta had used Voysey's wallpaper in his building. Now another prominent Belgian designer, Serrurier-Bovy has emerged through English ideas.

In Vienna Wagner was appointed as Director of the 'Akademie der Bildenden Kunst' in 1894. His inaugural lecture titled "Modern Architecture", was published in 1895 and came as an unwelcome revelation to other practising architects. Wagner believed architecture should reflect and serve the needs of modern civilisation; also, if practical problems of a building were solved and the appropriate materials used, the architecture should naturally follow. He argued against pre-conceived designs, and his revolutionary ideas totally contradicted traditional teaching and the revivalist architecture of the Ringstrasse. Although he was rejected by his contemporaries, he was enthusiastically welcomed by the younger generation architects. Wagner went on to say, "nothing that is not practical can be beautiful" - a point which was strongly supported by the young architect Loos. In the same year Olbrich, mentioned as an assistant in Wagner's office in 1893, won the Rome prize at the Academy, and he travelled through Italy and North Africa. Two contemporaries of Olbrich, Joseph Plečnik (1872-1957) and Josef Hoffmann (1870-1956) were also studying under Wagner. Hoffmann was in his final year, and had established himself as an outstanding student. Much later Wagner, without success, actually recommended Hoffmann to take his place as professor.

German design was boosted, when Obrist moved his embroidery workshop to Munich, and held his exhibition in the 'Odeonplatz' in 1894. At the same time, the artist Otto Eckmann (1865-1902) had developed a graphic style which expressed his interest in symbolism, though his work has none of the rhythm of Toorop or Crane. Eckmann had begun as a landscape painter, gradually turning to graphics.

125) Ibid.
126) Powell, Nicolas The Sacred Spring, p.60.
127) Ibid., p.66.
typeography, and later furniture. Also during these years he became interested in nature and underwent an intensive period of study. Both Obrist and Eckmann later became prominent members of a group known as the Munich School. 128

Finally, the graphics of Chéret were introduced to America, when he designed posters to advertise a New York theatrical production. At last American artists became aware of developments in Europe, even if for the present it was only in the field of graphics. Chéret's work caused a great interest, and many American art journals thrived on broadcasting the latest continental ideas. In the following years 'poster mania' had developed, and many American graphic artists developed highly Art Nouveau styles. 129

1895

By 1895 it is revealed that the leading artists and designers of all the countries I have mentioned began to share a common goal - the desire to be new. 130 As revealed to date, many fields of design had been striving to escape from the influence of past styles, to create something totally new.

Voysey's work met with continued success in furniture and textiles. He also began producing ceramic designs for the Pilkington Tile and Pottery Co. 131 During this time he included a stylised figure, which became synonymous with his earlier bird and heart motifs, as a trademark of his work. He also ventured into metalwork design, and examples of this first appear in the large decorative hinges he often used on his furniture. One of his most elaborate and early pieces was a hinge with a central panel filled with a silhouette of a shepherd and his family. 132 Elsewhere the architects Dunbar Smith (1866-1933) and Cecil Brewer (1871-1918) had built the Mary Ward

Settlement at Tavistock Place, London (Fig.25). This building, with its bold simple forms, and lack of ornamentation, gives an example of the direction English architecture was taking. The top of the projecting wings are reminiscent of Voysey, but the recessed central section, with exposed brickwork and wide projecting eaves line, is considered to point to the Modern Movement.\textsuperscript{133} I disagree with this, and feel the building expresses the English form of Art Nouveau. This is particularly noticeable in the massive undulating forms of the stone projecting entranceway. Also, the combination of different materials on the facade of the building, and the strong overhanging eaves line, have already been revealed as belonging to Art Nouveau as much, if not more so, than the Modern Movement. The entrance portico is particularly interesting when compared with Mackintosh's School of Art forms later in the 90s. Also, the field of town planning was further advanced by the company Cadbury's, who built the town Bournville in 1895.\textsuperscript{134}

It appears that Smith and Brewer's building received wide publicity, and that Mackintosh in Glasgow was aware of the building.\textsuperscript{135} Also, his sketchbooks reveal an increased interest in Scottish vernacular buildings. This is considered a further influence from Lethaby.

It is also known that Mackintosh was not only systematic enough to compile sketches as workbooks, but that he kept with him hundreds of other drawings, photographs, diaries, account books, letters and journals. He retained this habit until his death in 1928.\textsuperscript{136}

Around 1895 he was involved with another two buildings in Honeyman and Keppie's office. These were: Queen Margaret's Medical College (Fig.26), and the Martyrs' Public School (Fig.27). While both buildings provide examples of simple functional internal planning, the exteriors again reveal elements of Mackintosh's emerging style. In the Medical College (Fig. 26), two elements which appear in his later buildings are the thin narrow vertical windows and the stepped-back gable on both wings. This achieves two main purposes: firstly

\begin{itemize}
  \item \textsuperscript{133} Pevsner, Nikolaus \textit{Pioneers of Modern Design}, p.162.
  \item \textsuperscript{134} \textit{Ibid.}, p.176.
  \item \textsuperscript{135} Walker, David "Charles Rennie Mackintosh", p.361.
  \item \textsuperscript{136} Billcliffe, Roger, \textit{Architectural Sketches and Flower Drawings By Charles Rennie Mackintosh}, p.10.
\end{itemize}
Figure 25  Dunbar Smith and Cecil Brewer: Mary Ward Settlement, Tavistock Place, London, 1895
Figure 26  Charles Rennie Mackintosh: Queen Margaret's Medical College, Glasgow, 1894. (Perspective from one by Mackintosh)
Figure 27  Charles Rennie Mackintosh: Martyrs' Primary School, Parson Street, Glasgow, 1895
it reduces the apparent mass of the roof, and secondly, of perhaps more importance, it emphasises the vertical rectangular massing of the wings. In later years Mackintosh and 'The Four's' work was dominated by extremely exaggerated vertical forms. Architecturally this is a predominant feature of Scottish vernacular, particularly obvious on any of the traditional castles, for example Craigievar near Alford, Aberdeenshire, completed in 1626. The Martyrs' School (Fig.27) is very similar in form to the Medical College; though different points worthy of attention in the Martyrs' School are the large unusual roof ventilators, and the scooped extended eaves line. This overhangs some three feet past the wall face, and is supported on unusual timber brackets. Mackintosh also uses similar Art Nouveau style stone carving to that previously used in the Herald Building (refer Fig.22). Also internally in the school, he takes the opportunity of developing the structural timber trusses in the main hall as decorative elements. This visual improvement of exposed structural components is a feature he develops in later buildings.\textsuperscript{137}

In another, more decorative, area Mackintosh and his friends ('The Four') had exhibited work with the School of Art at the Liège Exhibition of 1895. Their work met with moderate success, and the first link between these Glasgow designers and the Continent had been forged. Also during these years MacNair had continued to work for Honeyman and Keppie, though he resigned from the firm in 1895 and opened his own office. Mackintosh had also opened a small studio, where he would often get a few hours sleep after working all night with Keppie on competition drawings. 'The Four' also became known for their excellent parties, which were held in Mackintosh's studio,\textsuperscript{138} "for the nineties were gay, even in Glasgow, and the 'Mac' group was soon numbered among the brightest stars of the city's artistic constellation".\textsuperscript{139}

While Guimard had received the commission for the Castel Béranger in 1894, he had subsequently made a visit to Holland and Belgium in

\textsuperscript{137} Howarth, Thomas \textit{Charles Rennie Mackintosh and the Modern Movement}, p.66.

\textsuperscript{138} \textit{Ibid.}, pp.40-41.

\textsuperscript{139} \textit{Ibid.}, p.41.
1895. While in Brussels he met Victor Horta and Paul Honker. He was influenced by Horta's Tassel House, and it is suggested that he saw the Maison du Peuple, still on the drawing board, as this building was erected in the same year. On his return to Paris Guimard considerably altered his original designs for Castel Béranger, adding stained glass windows, decorative ironwork, and at a later date he added a diagonally set bay window to the main facade of the building. Splaying off corners of buildings became a notable feature of his later work.\textsuperscript{140} Also, while Guimard may have admired Horta, he did criticise the Belgian for using the work of English designers in the Tassel House. It was through this that Guimard revealed his developing design theories. The architectural critic L.C. Boileau reported in the magazine \textit{L'Architecture} that:

\begin{quote}
Mr. Guimard does not believe that it is possible to obtain any serious unity in his work, however complex, except by drawing everything in the most minute detail.\textsuperscript{141}
\end{quote}

Also, Guimard reveals that by 1895 he was designing under three principles he had evolved, and adhered to for all his work which followed. He revealed these principles in an article he wrote at a much later date, in June 1902, for \textit{The Architectural Record}. Beginning with his prime source he says, "Nature is a big book from which we can draw inspiration, and it is in that book that we must look for principles".\textsuperscript{142} Guimard's three principles were:

i) Logic - taking into account the infinite number of conditions of a commission which an architect must deal with (refer to the introduction of this Dissertation).

ii) Harmony - placing a construction in its context, \textit{i.e.} not only satisfying practical structural issues and cost restrictions, but also considering what is right for the building's surroundings.

iii) Sentiment - as the complement of 'Logic' and 'Harmony' - the aesthetic qualities of a building, "... lead by emotion, to the highest expression of art".\textsuperscript{143}

\begin{flushright}
\textsuperscript{140) Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Cantacuzino, Sherban "Hector Guimard", p.15).}
\textsuperscript{141) Dunster, D. \textit{Hector Guimard}, p.42.}
\textsuperscript{142) Guimard, Hector "An Architect's Opinion of 'L'Art Nouveau'" , p.127.}
\textsuperscript{143) \textit{Ibid.}, p.131.}
\end{flushright}
With these principles in mind, he had also exhibited designs for a Parisian room in the salon 'Société Nationale des Beaux-Arts', and completed two more buildings, the Hôtel Delfaut (Fig.28) at 1 rue Molitor, and the Ecole du Sacré-Cœur (Fig.29a,b), 9 avenue de la Frillière, both in Paris. In the first building (Fig.28), he expresses similar forms and ideas to the Hôtel Jassezé (Fig.23) and the Hôtel Rosze (Fig.15); although in the Hôtel Delfaut he restricts the number of materials used to light-coloured brick and stone, ironwork, and standard dark blue slate for the roof. Guimard displays an increasing interest in asymmetry by exaggerating the stone gable of the dormer window, and also increasing the verticality of the whole composition. This reveals a slight indication of sculptural eccentricity, which later becomes evident in parts of his work. In this case, the element appears in the contrast between the exaggerated stone-faced dormer and the smaller one on the left, with the small vertical stroke of the chimney apparently randomly placed further up the roof. Also of interest is the introduction of curving forms into the ironwork on the balcony, and the iron bas-relief in the flattened arch below the right dormer. The subject of the composition is a cock, "... the Gallic emblem, proudly facing the sun".\footnote{Dunster, D. \textit{Hector Guimard}, p.26.} The iron perhaps indicates an influence from the work of artists with similar organic curving lines in the balcony, and the introduction of symbolism into the ironwork.

For the Ecole du Sacré-Cœur (Fig.29a), many of Guimard’s previously used elements appear again: with one major difference, the building is set up off the ground on iron pilotis (Fig.29b), and the structure supporting the building is boldly exposed. To obtain this unusual structural achievement, Guimard was strongly influenced by Viollet-le-Duc’s \textit{Entretiens}, Vol.II, where he had proposed a similar building (Fig.30a). Another influence came from Viollet-le-Duc’s smaller pilotis (Fig.30b) for a balcony. By comparing both buildings it can be seen that while Viollet-le-Duc has inspired an idea, the final result of Guimard’s Ecole is quite different. Also, the Ecole was actually constructed, while Viollet-le-Duc’s building remained an idea. It is important to make a point about Guimard’s fine sense of structure, as this appears frequently in his buildings.
Figure 28  Hector Guimard: Hôtel Delfaut, 1 rue Maliton, Paris, c.1894-95
Figure 29
Hector Guimard: Ecole du Sacré-Cœur, 9 ave. de la Frillière Paris, 1895

a) Elevation

b) Detail of Cast-Iron Pilotis
a) Proposed building supported on 'V'-shaped iron columns

b) Iron balcony support

Figure 30

Viollet-le-Duc: Proposals for iron column supports from Volume II Entretiens sur l'architecture, c. 1872
Apart from Viollet-le-Duc, whose *Entretiens* was the Bible for most architects of this period, it has already been noted how Guimard had been impressed by the engineering achievements at the 1889 Paris Exhibition. Also, it is believed that he must have known most of the iron buildings in Paris, particularly Eiffel's early work, and Boileau, whose son was a friend of Guimard.\(^\text{145}\)

Of specific interest with the Ecole of 1895 (Fig. 29a), is that the building has been placed against the back boundary, and stretches the entire width of the site. By locating the building in this position he has made full use of playing space on a very restricted site. This was further increased by raising the building off the ground, leaving more sheltered playing space underneath. The building is surrounded by a random rubble structural wall on three sides, which rises above the single pitched roof to form a parapet. The front brick facade is supported on two pairs of V-shaped cast-iron columns set in exposed concrete footings (Fig. 29b). These, combined with the end walls, support a large longitudinal I-beam which supports the secondary structure - a row of smaller I-beams encased in concrete and infilled by brick arches (perhaps a forerunner to the modern precast concrete T-beam). These smaller girders clear span at right angles, between the main I-beam and the rear random rubble wall, supporting the above three floors. Above this innovative structure Guimard uses concrete window sills, even realising such practical needs as drip grooves on the underside of these. Also, just as his contemporaries, Mackintosh in Glasgow and Horta in Brussels, were beginning to experiment with the aesthetic qualities of structure, Guimard also achieved this in the Ecole. With his increased knowledge of ironwork, he has incorporated plant-like forms and sinuous curves in the cast tops of the V-shaped columns, and in the tensional tie at the base of the 'V' (Fig. 29b). The structure is enhanced even further by his use of red brick for the small vaulted arches between the I-beams, with a much lighter-coloured brick for the remainder of the facade. Internally the planning is functional and simple, with all rooms facing onto the playground.\(^\text{146}\) Ample natural light is provided by the unusually

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\(\text{145}\) Pevsner, Nikolaus and Richards, J.M. *The Anti-Rationalist* (from: Cantacuzino, Sherban "Hector Guimard", p.43).

large groups of windows.

Guimard's most revolutionary design during this year was the Castel Béranger (Figs.31a,b,c,d), and though a detailed description of this follows, it must be kept in mind that the building was not completed until 1898. His client was Mme. Vve. Fournier, who, having complete confidence in Guimard, provided him with the opportunity of putting his theories into practice. The result was an example of total design. He not only created all parts of the building and its decoration, but also produced furniture, fitments, and a catalogue of the building's contents when it was completed.  

Castel Béranger comprises thirty six flats (Fig.31a - ground floor plan), all of a different plan layout. This is most interesting, and perhaps provides a lesson to present-day designed flat blocks, where every flat is often a repetition of the others. Guimard was obviously aware of the importance of individuality in housing when he designed this building; though it is only fair to add that these were built for people with moderate incomes, and as each flat has an individual layout they would have been relatively expensive. An examination of the ground floor plan (Fig.31a) reveals two main parallel blocks around a central courtyard which is generously proportioned, allowing increased natural light into the flats. Also, a smaller courtyard and lightwell is provided in the block at the back of the site. The two blocks conveniently divide the building into equal halves with three flats in either side. By this clever layout Guimard has managed to fit a considerable amount of accommodation onto the site. I cannot help wondering what kind of restrictions were placed on him by Paris building regulations, i.e. whether he was limited to six storeys and an attic, and whether there was some kind of regulation as to a site ratio (what building volume was allowed on a site of this area). As these kind of regulations would be doubtful during these years, perhaps cost restrictions or the client's wishes has determined the size of the building.

Figure 31 Hector Guimard: Castel Béranger, 14 rue La Fontaine, Paris, 1894-98
a) Plan
Figure 31  Hector Guimard: Castel Béranger, Paris
b) Corner Perspective
Figure 31  Hector Guimard: Castel Béranger, Paris

c) Main entry corridor and iron gate
Figure 31  Hector Guimard: Castel Béranger, Paris

d) Cast-Iron Tap
The flats themselves are quite compact, with no rooms overlarge; though the floor below the eaves, and the attic, house four artist's studios which are increased in size by balconies and large dormer windows. Also, as previously mentioned, Guimard added dormer windows to the middle two floors on the street side block (left side) [Fig.31b]. These not only add more light to their respective spaces, but also increase the apparent size of the rooms. The only place where the planning (Fig.31b) may be criticised is in the awkward acute angles formed between some walls and the unusable smaller left-over rooms, e.g. the one on the lower left-hand corner, which was supposed to be an office.

The block facing onto the street provides the main entranceway and staircases for the whole building, with a third smaller block running at right angles to these, providing entrances and staircase access to the smaller end flats. The main entrance vestibule provides an immediate impression of the culmination of Guimard's decorative ideas. It is in these elements that he comes closest to Gaudí's ideas and forms in Barcelona. In Castel Béranger not one area has been left untouched by Guimard. In the main vestibule (Fig.31c), the ironwork is totally derived from the curved and undulating forms of plants, very similar to Horta's ironwork in the Tassel House (refer Fig.18b). This iron gateway (Fig.31c) has almost become an identifying symbol of Guimard, as it displays a masterly understanding of iron work. Here he has created an amazingly sculptured feature in the combination of wrought iron and copper. Similar forms have been expressed in the carved stonework, which is incredibly sensitive and elegant. The stone takes on a malleable appearance, and seems almost soft like putty. The tiled floor mosaics and the iron strapping over the ceiling once again echo these curving forms. Finally, the wall panels, modelled in some form of plaster, almost defy description with their strange undulating writhing rhythmic forms.

Arriving at the main stairwell and reception area from the vestibule, the atmosphere is heightened by a sense of colour and natural light.

151) Ibid.
A dappled white light illuminates the main staircase from a glass brick wall, and coloured stained glass windows provide broken views to the central courtyard. The patterns expressed in the wallpaper, ceramic floor, and stained glass windows continue the forms in the vestibule. These decorative elements blend with and complement the planting in the courtyard. In the courtyard Guimard has not missed anything: he provides specially made ceramic borders to planted areas, and finally, the most bizarre element, a cold water tap almost unrecognisable and presented as a sculptural feature of the courtyard (Fig.31d). Once again this cast-iron form is given a soft flowing appearance, as though it were melting and flowing away. These forms appeared even in the smallest details, such as the door handles of white or blue china. To shape these, it seems Guimard took a ball of soft clay, and by simply closing his hand around it left the impression of his palm, creating the handle.

The external form of the building (Fig.31b) expresses the culmination of the style of all his previous buildings, in which I have suggested a strong French vernacular influence - an earthy simple quality and appearance. In the buildings which follow, Guimard seems to begin a different phase, with his decorative elements already pointing to this. The Castel Béranger is dominated by an adventurous use of elegantly curved and finished stonework, random rubble walls, different coloured brickwork and decorative ironwork. The forms are again dominated by asymmetry, which is emphasised by the abrupt change of materials. Also, the unusual decorative masks in the iron balcony railings, and the iron sea-horse wall ties, with their pulling mouths and pushing tails, actually appear to be holding the walls together.152 Another functional and decorative use of iron can be seen in the exposed columns and I-beam lintels over the dormer windows. Finally, it appears that Guimard must have been pleased with this building, as he modified the ground floor apartment (left-hand corner) as his studio (Fig.31a).

During the years between 1895 and 1898 Guimard was also a frequent visitor to Alexandre Charpentier's (1856-1909) studio, which became a popular haunt of many famous artists, architects and sculptors of

the day. It is believed that this was where Guimard met and became friendly with the young architect Sauvage. Both Sauvage and his friend Jacques Majorelle had been frequent visitors to Charpentier's studio throughout their Ecole years and later. Sauvage quit the Ecole in 1895 without getting his diploma (similar to Guimard), even though he had a brilliant college record. He later (1898) married Charpentier's daughter, Marie-Louise, and his father-in-law subsequently influenced the use of sculptural forms in Sauvage's furniture and buildings.\(^{153}\) Also in 1895 Charpentier, with four other artists, formed a group called 'Les Cinq', and exhibited their work. This group subsequently changed its name, with the addition of another member, to 'Les Six' in 1896.\(^{154}\)

In other fields in 1895, the high Art Nouveau style of Mucha crystallised after a poster commission for Sarah Bernhardt. The actress was so overwhelmed by his work that she retained him as her poster designer under contract for six years. She also commissioned jewellery from Lalique, whose talent was just becoming known. In the same year he gained general acclaim when he first displayed his work at the Paris Exhibition. Bernhardt further helped another young jeweller, Georges Fouquet, who had just taken over the management of his father's firm.\(^{155}\)

Perhaps the most significant event of the year occurred on Thursday December 26, 1895, when the art-dealer and Japan specialist Samuel Bing opened his shop to promote the current interest in decorative arts. In the previous year Bing had commissioned a relatively unknown English artist, Frank Brangwyn, to paint murals for the exterior and interior of the shop.\(^{156}\) Of most significance, though, was the name of the establishment, displayed on a bizarre sign outside, and best described by Arsène Alexandre, editor of the *Revue des Arts Décoratifs*.

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Above the two enormous sun orioles with their round discs, violently exaggerated, without taste and style, can be read these two words with their delightful modesty: *art nouveau.*  

Both the name and opening exhibition met with enormous success. The term Art Nouveau was quickly adopted as the name of the new design style which was beginning to appear in all fields. For the opening Bing had commissioned Grasset, Toulouse-Lautrec and others to provide designs for stained glass, which would be executed by the American Tiffany. There were sculptures by Rodin, paintings by the Dutchman Knooppff, posters by the Englishman Beardsley, the American Bradley, and the Scot Mackintosh, glass by Tiffany and by Gallé from Nancy, and finally jewellery by Lalique. Many sources feel Bing's shop heralded the beginning of Art Nouveau. While his exhibition achieved a great deal of success it was received with some derisive comments. Once again Arsène Alexandre wrote, this time in the newspaper Le Figaro, "It all smacks of the vicious Englishman, the Jewess addicted to morphine, or the Belgian spiv, or a good mixture of all three poisons".

Brussels also had a share of interesting design developments, with van de Velde turning his talents to architecture, and designing himself a house between 1895 and 1896. This building combined with his numerous publications and lectures on architecture and interior decoration, led to a great deal of success in international art circles. He was also fortunate in meeting a great patron of the arts, Karl Ernst Osthaus, who became one of van de Velde's patrons, enabling him to work freely without financial difficulties. His position was further helped by Bing and the German art patron, Julius Meier-Graefe, who visited van de Velde and were enthusiastic about his work. As already noted, van de Velde was commissioned to furnish and decorate several apartments in Bing's new shop in Paris. Other French guests of van de Velde's were not as kind

157) Madsen, Stephen Tschudi *Sources of Art Nouveau*, p.81.
159) "Paris Art Nouveau", p.173.
as Bing and Meier-Graefe; Toulouse-Lautrec's remark has become famous: "unheard of eh? But at heart only the bathrooms, the lavatories, and the nursery painted in white ripolin are really good." 161

A further three important buildings were designed by Horta in 1895: the Hotel van Eetvelde, the Hotel Solvay, and La Maison du People. All three were completed between 1898 and 1900. The first building was designed for Baron van Eetvelde, King Leopold II's foreign minister, not for Belgium but for the King's private realm, the Independent State of the Congo. The house by Horta is located at No.4 Avenue Palmerston, and is described as a steel and mosaic construction. This was later added to by a stone extension and became No.2 of the same avenue.

The Hotel Solvay is of more interest in revealing Horta's style. It was designed for Ernest Solvay, a manufacturer and friend of Horta. The house is located at 224 Avenue Louise, a major arterial road in Brussels. Of immediate interest is the main facade, where undulating stone and iron faces take on a wavelike form (Fig.32a) The overall composition is made up by two large vertical bay windows on either side of the facade, and these begin on the second floor. Between these there is a deep recess which provides a wide balcony between the bays on the second floor. Of further interest is the carved outward sweep of the stone parapet, emphasising the junction of roof to facade. Also, the whole composition is symmetrical, and Horta relies primarily on three materials: finished stone, glass, and iron. These two points act as a contrast to Guimard's buildings in Paris. Apart from the fine stone carving over windows, Horta once again boldly exposes the fine iron frame of columns and lintels supporting the windows. A closer examination of the metalwork (Fig.32b) reveals a further development of the swirling iron tendrils which first appeared in the Tassel House (refer Fig.18b). Horta also had an excellent eye for detail (Fig.32b), revealing a masterly understanding of the junction between materials, e.g. iron I-beams and stonework, etc. He even continues the rhythm of curving lines

161) Madsen, Stephan Tschudi Sources of Art Nouveau, p.327.
Figure 32
Victor Horta: Hotel Solvay, 224 avenue Louise, Brussels, 1895
into his timber work (note the main entrance door), decorative bronze kick plates, footscrapers, and an Art Nouveau script number for the house, carved into the stonework either side of the main entrance.

Behind these entrance doors (Fig.31b) is a wide carriage drive through the house. Apparently inside the building, once again Horta boldly exposes the iron structure of I-beams complete with rivets, slender columns entwined by more decorative tendrils. Over the main staircase is a metal and tinted glass vault. Ascending the stair to the main floor (first balcony level), the dining room with its terrace overlooking the garden commands attention. Above this level is a winter garden off which the private rooms open, and finally, above this the attic, which accommodates the servants' quarters.\(^{162}\)

The architectural coherence of the house is centred in the great complex of freely inter-penetrating stair spaces and in their relation to reception areas defined only by more or less transparent glazing. The decorative coherence arouses continual amazement.\(^{163}\)

La Maison du Peuple (Fig.33), definitely one of Horta's most important buildings (unfortunately demolished c.1965),\(^{164}\) was considered "... the Art Nouveau version of the American office building - both dependent on iron, but in exactly opposite ways".\(^{165}\) In America the steel structure controls the form and appearance, but is clad externally in stone. In the Maison du Peuple iron frame, glass and brick are woven together, and all elements are exposed externally and internally. The whole building is given a restless rhythm by Art Nouveau curves, which can be seen everywhere. The four-storey structure was designed as a vast social centre housing: a bank, a general retail store, a restaurant, offices, and meeting rooms for working class organisations, and finally a large central auditorium.\(^{166}\) It is interesting that in this building it is not just the decorative

\(^{162}\) Kaufmann, Edgar "Victor Horta", p.126.  
\(^{163}\) Ibid.  
\(^{164}\) "We are Not Alone", p.19.  
\(^{165}\) Pevsner, Nikolaus The sources of modern architecture and design, pp.95-96.  
\(^{166}\) Ibid., p.95 and Kaufmann, Edgar "Victor Horta", p.125.
Figure 33  Victor Horta: Main facade of the Maison du People (1895-99, demolished in 1965-6)
or individual structural elements which express Art Nouveau curves or undulations, but the entire form of the building.

In Catalan Architecture, Gaudí's contemporary Luis Domènech began his most productive period between 1895 and 1905. During these years he constructed many well-known buildings, which taken as a whole reveal a strict constructional rationalism beneath his floral ornamentation. Coupled with this he had become a leading figure in Catalan politics, an area he had been actively involved in since 1892.167

Wagner continued to struggle against historicism in Vienna. His earlier inaugural speech at the Academy, and a book titled Moderne Architectur, were published in 1895. The book strongly criticised the current archeological attitude towards architecture, suggesting this prevented any new developments in the decorative arts.168 He also wrote that the 'New Style' was not to be a rebirth, but a birth, "... modern life alone must be the starting point of artistic creation".169 In construction areas, Wagner was still involved with the 'Stadtbahn' railway, and a competition in 1894 which combined the development of the Danube Canal with the railway was also won by Wagner. The canal project extended throughout 1895 to 1905. This involved the design of the Nussdorf dam, including six lines of metropolitan railway. The completed project, a combination of engineering and architecture, has since operated without any major changes for seventy-five years. During 1895 he also designed a department store and the Anker Building. Both incorporate innovative glass curtain walls on their major facades, extending from ground to the top of the first floor. The Anker Building also has a glass photographic pavilion on the roof, with a similar appearance to a miniature palm-house.170 A further encouragement to Viennese design was the publication of the periodical Der Architekt (1895-1922).171

168) Madsen, Stephan Tschudi Sources of Art Nouveau, p.400.
170) Powell, Nicolas The Sacred Spring, p.51.
171) Waddell, Roberta The Art Nouveau Style, p.x.
In Germany two events occurred which would rapidly advance the new rational design style for which artists had been striving. In Berlin, J. Meier-Graefe published the magazine called *Pan* (1895-1900); also, following his visit to Belgium with Bing, he began to promote the work of van de Velde. The Germans were delighted with van de Velde's work, and he was subsequently invited to lecture at Krefeld. At the same time he designed some brocade patterns for a German silk firm. His clear, unambiguous theories and ideas appealed to the German mentality, and he rapidly became a leader of their developing style. Apart from van de Velde, German artists and designers continued to make their own advancements. The leaders in this area were Obrist, Eckmann, and Munch. The last-named artist's lithograph 'Madonna' was the most remarkable piece of work in 1895, after a painting of 1894 (Fig.34).

The long wavy hair and the sinuous movement of the figure, the swaying lines in the background, and above all the odd frame with the embryo and the floating spermatozoa, make this work one of the most remarkable instances of Art Nouveau in painting.

While Munch later changed his style, the sexuality of this work is important. This mysterious and unusual aspect of Art Nouveau became a very strong underlying element, particularly in jewellery, and even aspects of buildings. Perhaps it all lies with the predominant obsession with the female form, which had begun with the Pre-Raphaelites in England. This curious aspect of design cannot be overlooked, as in much of the later work it is often sensed but not seen.

Italian design began to emerge with a style which was also influenced by the Pre-Raphaelite artists between the years 1895 and 1914, with the year 1895 generally accepted as the birth of Italian Art Nouveau. In the same year the Italian magazine *Emporium*, inspired by *The Studio*, was launched. The magazine was established by Vittorio Pica in Bergamo, and rapidly became the most authoritative source for

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174) Pevsner, Nikolaus *Pioneers of Modern Design*, p.95.
Figure 34  Edvard Munch: 'Madonna', 1895
national and international design development. Emporium first appeared during an Italian political crisis, the revolution of the 'fasci' in Sicily - a desperate bloody protest of workers suppressed by the army; also, the defeat of the country in Ethiopia. So, while leaders argued for military revenge in Africa, Pica and the Emporium proclaimed a 'new style' should be based on the 'Socialism of Beauty', and published the furniture of the English from Liberty and Co. The magazine made a special note of the good design and modest prices of the furniture - indicating beauty was not necessarily only available to the rich.  

1896

Continuing with an increasingly popular style, Voysey designed the lodge of Merishanger on the Hog's Back near Guildford, Surrey. The building is typical of his past designs, characterised again by its clean white crisp lines, strong buttresses, far projecting eaves, also a distinct vertical massing, and an asymmetrical layout. In this case the roof is very large, providing the building with a ground-hugging appearance, similar to Wright's early houses in America.

In another area of Surrey, at Compton, a small chapel was erected as a gift to the community by Mrs. Watts, wife of G.F. Watts, the artist. Externally the building appears slightly Byzantine, but of most interest is the decorative panelling around the entranceways, and the gesso-work to the interior surfaces. This work is unmistakably of Art Nouveau form, being totally dominated by curling, writhing vine patterns, with stylised plant and human forms.

It is a mixture of Bavarian Rococo and Art Nouveau with colours taken from the sea bed. The light coming in at high level and catching remnants of the gold and blue-green paint, deepens the illusion of being in a pool of clear water.

This building is unique for England, as a heavily decorative form of Art Nouveau never became popular. Its importance lies not only in the forms which have been used but the colours, which are comparable with Gaudí in Barcelona.

The German architect and writer Herman Muthesius (1861-1927) was attached to the German Embassy in London from 1896 to 1903. He was particularly interested in British design developments, and kept a constant interest in the latest trends. He later promoted British work and architects in Germany.\textsuperscript{178} The English architect Ashbee made his first visit of many to America in 1896, and began promoting Arts and Crafts ideas.\textsuperscript{179} Also, the Arts and Crafts held another exhibition in London with 'The Four' invited to exhibit some of their so-called 'modern style' furniture, craftwork and posters.

Frances and Margaret Macdonald submitted a pair of narrow beaten metal panels titled 'The Star of Bethlehem' and 'The Annunciation', a metal clock case of beaten silver, and various posters. Mackintosh also submitted posters, furniture, and an unusual watercolour. Their work evoked a storm of protest from the public and critics, who were shocked by the unnatural forms of the human figure and the strange linear patterns. The Arts and Crafts Society developed a derisive attitude to the group, and 'The Four' were not invited again to exhibit south of Scotland. Fortunately for the group, Gleesean White, editor of The Studio, had withheld judgement on their work, and later visited them in Glasgow. He returned to London full of enthusiasm for their work, and became one of their strongest promoters in the south, frequently publishing their designs.\textsuperscript{180}

It is believed that the design style of 'The Four' reached maturity in 1896.\textsuperscript{181} Their style was characterised by symbolism and the use of inscriptions, an influence from the Pre-Raphaelites, and the weird elongated human form (predominantly female) which began to appear more frequently in their work (Fig.35). The development of

\textsuperscript{178} Muthesius, Herman "A 1904 German Appreciation of the Glasgow Style", p.12.
\textsuperscript{179} Gebhard, David. "C.F.A. Voysey - To and From America", p.306.
\textsuperscript{180} Howarth, Thomas Charles Rennie Mackintosh and the Modern Movement, pp.38-39.
\textsuperscript{181} Ibid., p.191.
Figure 35  Margaret and Frances Macdonald: A beaten brass Sconce (one of a pair), 1897
these figures is credited to the Macdonald sisters, and it was the kind of work which led to 'The Four' being further nicknamed 'The Spook School'. Mackintosh also began to introduce these figures into his interiors. An example of the use of inscriptions by 'The Four' appears in Mackintosh's metalwork: a piece of beaten brass bore the legend "Art and Literature seeking Inspiration at the Tree of Knowledge and Beauty", and in another panel "Part seen, imagined Part". This form of symbolism was added to by 'The Four's' ornamentation. This consisted of stylised and markedly abstracted hearts, buds, sprouting bulbs, and egg-shaped forms. These forms are associated with life and growing force, and were used to represent the artists, who regarded themselves as 'germinators' of a new age and style. This interest in symbolism follows a parallel development with the work of Continental artists at this time.

On a more personal level, Mackintosh had become interested in Margaret Macdonald. This caused him to break off his engagement with Jessie Keppie, the sister of John Keppie of Honeyman and Keppie. This event caused a great change in the previously close friendship between Mackintosh and Keppie, although it did not seem to dampen the design output during 1896 as Mackintosh was involved in four important projects: Ruchill Church Halls, the Ingram Street Tearoom, the Glasgow School of Art Building, and Queen's Cross Church.

The Ruchill Street Church Halls (Fig.36), while not generally considered of much importance, do reveal many important ideas which in later buildings became synonymous with Mackintosh's style. The building comprises two storeys: on the ground floor a large meeting hall, side room annexes and a store. Access to the first floor is by way of stone stairs in an engaged conical turret. This floor accommodates a small hall and committee room, a store, and a toilet. Of specific significance is the dark stained timber wall panelling and doors throughout the building, with the inclusion of small

182) Nuttgens, Patrick "A Full Life and an Honest Place", pp.198-199.
184) Ibid.
185) Ibid., p.262.
Figure 36  Charles Rennie Mackintosh: Ruchill Church Hall, 24 Ruchill Street, Glasgow, 1896
stained glass panels in the doorways. In the main hall on the
ground floor, Mackintosh has again exposed the timber roof structure,
similar to the Martyrs Primary School of 1895. The rounded form of
the stone staircase also becomes a feature of his work. In the
small hall and meeting room on the first floor he has provided a
large movable partition. This can be easily opened to convert the
two rooms into one large space, an early indication of Mackintosh's
concern for internal flexibility. Externally the Ruchill Street
facade (Fig.361) deceptively reduces the apparent internal size of the
building. Again he recesses the gable ends to reduce the apparent
mass of the roof and emphasise the light-coloured random bonded
stonework. The composition is asymmetrical in window positioning,
and the contrast between the rounded end (left) stair wall and the
sharp corner of the right hand end. The undulating forms of the
carved stonework over the doorway and windows are comparable with
the work of Horta in Brussels or Guimard in Paris. Apparently
Mackintosh also designed the church house located nearby, but he
did not receive the commission for the church, to complete the
group. He supposedly lost the commission due to an unsatisfactory
handling of the Church Halls. This was considered to be caused
more by his personal attitude than the design, which from a planning
point of view is difficult to criticise.\textsuperscript{187}

Of all Mackintosh's design work nothing brought him greater fame in
the decorative field than his series of tearooms designed between
1896 and 1904. The Glasgow tearoom movement had been made popular
in the late 70s and the 80s, and one of the pioneers of the movement
was Miss Cranston, who in 1884, with the reluctant help of her
father, opened her first tearoom at 114 Argyle Street. This quickly
developed a very good reputation, and was extended in 1892. By the
mid-90s she had acquired two more premises, at 205-9 Ingram Street
and 91-93 Buchanan Street. The reputation of her rooms had also
increased, and she was one of the best-known figures in Glasgow.
By efficiency and hard work "Miss Cranston (subsequently) raised the
tea-room business in Glasgow from the level of mundane commercialism
to that of a profession, if not a fine art".\textsuperscript{188}

\textsuperscript{187} Howarth, Thomas \textit{Charles Rennie Mackintosh and the Modern

\textsuperscript{188} \textit{Ibid.}, p.123.
It is believed that Mackintosh was introduced to Miss Cranston in 1896 by Newberry (Headmaster, School of Art). She later employed Mackintosh to work with the architect Walton on the Buchanan Street Tearooms. It appears Walton was in charge of the overall project, designing all of the furniture and equipment in the main apartments, and the hoarding for the building. Mackintosh's work seems to have been confined to the mural decorations in a number of rooms, which were noted for their interesting use of colour, unusual human and vegetable forms, and the constant two-dimensional 'flatness' of the work. The Tearoom was enthusiastically reported by Gleesan White in *The Studio*, and it concentrated on Mackintosh's work, giving the impression he had been responsible for the entire project.  

The Glasgow School of Art Building, often considered as Mackintosh's greatest architectural achievement, began as a competition. In September 1895, ten years after Newberry's appointment, a special meeting of the School's Board of Governors was held to discuss the possibilities of a new building. This was soon followed by the purchasing of a site, and the announcement of a design competition early in 1896. The submission of the designs was set as the 1st October 1896, and two of the School Governors resigned to take part in the competition - John James Burnet and W. Forrest Salmon. In January 1897 Honeyman and Keppie were announced as the winners. The design, obviously drawn by Mackintosh, was on view to the public at the Annual Exhibition of students' work in February 1897. The winning design immediately became the centre of a stormy controversy, and was heavily criticised for its apparent Art Nouveau forms.

This so-called outrageous design was successful for two main reasons: firstly it was well known that Newberry had gone to great lengths to ensure the success of Mackintosh's building, and secondly the design managed to successfully incorporate all of Newberry's grand accommodation requirements, and still meet the ridiculously low budget set for the building. These financial restrictions cannot be overstressed, as the challenge of the problem was to produce a building which would be a worthy image for the School, and at the same time cost less than an ordinary board school. Therefore the

design had to be achieved by simple mass and void. It is believed that had it not been for these restrictions Mackintosh's mature style would not have developed until much later. The building's Memorial Stone was laid in 1898, and although only the eastern half of the building was constructed, the foundations for the whole design were laid. This first section was subsequently open in 1899.\(^{190}\)

The actual design of the building took place between March and October of 1896. The original plan was apparently far too extravagant, and was modified from five to two storeys above street level, with an additional useful basement floor. This was naturally lit by stepping the building back from the street, and taking advantage of the difficult steeply sloping site. This was also restrictive in area, and similarly to his Continental contemporaries such as Guimard, Mackintosh managed to provide a vast area of accommodation in the building.\(^{191}\)

Referring to the original plan of 1896 (Fig. 37a, ground floor), the functional simplicity of Mackintosh's previous buildings can be seen. As natural light is extremely important, he has located all of the studios on the north face of the building, keeping private rooms and stores etc. to the south. The main access to the building is by the central staircase on Renfrew Street.\(^{192}\) Upon entrance to the building the skilful three-dimensional planning and massing, for which Mackintosh became famous, gradually became evident. The building leads the visitor through a series of experiences, from the low vaulted narrow entrance vestibule, into the central timber stairwell, floodlit by natural light from above. To the left and right is the wide corridor giving direct access to the studios. The main studios have a floor-to-ceiling height of twenty-six feet, and are well lit by the huge northern windows of the building. The tall easels were also designed by Mackintosh, and the lower half of walls between studios were removable, so that the spaces could easily be opened up and enlarged.\(^{193}\) This was, in fact, a forerunner to the

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\(^{191}\) Ibid.

\(^{192}\) Ibid.

\(^{193}\) Nuttgens, Patrick *op.cit.*, p.201.
Figure 37  Charles Rennie Mackintosh: The Glasgow School of Art, 167 Renfrew Street, 1896-1909

a) Ground-floor plan as designed in 1896
Figure 37
Charles Rennie Mackintosh
The Glasgow School of Art
167 Renfrew Street,
1896-1900

b) North facade

c) East facade
idea of flexible spaces or buildings. On the first floor surrounding the main staircase is a large exhibition space lit by the skylight over the stairwell. Everywhere, the dark-stained timber structure is exposed, the timber roof trusses, floor joists and wall panelling.

The structure consists predominantly of masonry, brickwork, iron and glass. The north, east and west facades (Fig.38) are constructed in solid stone, and the south wall is brickwork with a roughcast finish. All internal load-bearing walls are brick, with major spans in steel lattice or iron beams, encased in brickwork. The roofs are predominantly flat, constructed in timber and covered with asphalt; remaining areas consist of glazed rooflights. Most floors are of timber construction, although he surprisingly used a concrete slab of 150 to 175 mm thick on the top floor. Concrete is also used for all footings and basement floors. While this structure does appear to be abreast of current engineering practice of the day, one source has suggested this is not true, and that this aspect lets down the finer points of the building, such as the innovative handling of interior spaces. I would suggest that the structure used may not display major engineering feats, but it is in harmony with Mackintosh's style, which was, after all, strongly influenced by his native vernacular. This combination of old and new in his style is extremely important, and should not be separated.

In the area of mechanical servicing to buildings Mackintosh was not only innovative, but a pioneer. In the Art College, below the basement corridor, is a large horizontal duct running the length of the building.

Air was sucked in from the front, filtered through a screen sprayed with water to give it the right humidity, blown by a belt-driven machine made in Baltimore across hot pipes to warm it, and then into the duct.

Sliding shutters in the walls were opened, and the warm air blew

up vertical ducts located in internal spine walls, and entered the rooms at a high level through grilles. This revolutionary system became an early forerunner of today's air conditioning. Apparently the system ran for forty years without major trouble, although one disadvantage was that the ducts would get dirty and sometimes deposit this in the studios. The building was also one of the first to be completely planned for electric lighting, with allowance made for ducts to carry electric conduits. All this reveals a practical aspect in Mackintosh's design, and a knowledge which was gained from the many technical innovations made in Glasgow during the 19th century.  

Externally the building is equally fascinating, revealing Mackintosh's increasing skill with massing and form. Each facade is a confident expression of this ability. Of most immediate interest are the Northern and Eastern facades; the west is equally interesting, but was dramatically altered in 1906-1907 when the library wing was added. Because of this the facade will be examined in a later section. The North facade (Fig.37b) is dominated by the enormous studio windows, which are set forward to preserve the surface of the facade. The narrow Renfrew Street makes it difficult to obtain an overall appreciation of the composition, but the windows are asymmetrically located either side of the main entrance, which is slightly off centre. Instead of a stone cornice finishing off the facade, the timber eaves of the flat roof have been allowed to project over, exposing the rafters on the underside. To emphasise the main entrance against the huge mass of surrounding glass, this section of the building has been designed like a huge stone sculptural feature. The composition is again asymmetrical, and constantly broken by recessed balconies and an arched window, with a counteracting rhythm of a projecting bay window carried up from the ground to the first floor. The whole facade is further complemented by characteristic carved stonework, and a decorative and functional use of iron. An example of this is the iron brackets which extend out from the wall at right angles below the windows. From the outer edge of these another band of iron curves up to meet the window frame in a ball of intricate iron. Realising the problem of cleaning

windows, Mackintosh provides these to support cleaners' planks. They also serve a structural function in stiffening the twenty two feet high window frames. OF further interest is the combined iron and stone fence in the foreground. While the decorative iron-work is undoubtedly Mackintosh's, the wall does have a striking similarity to the one surrounding the Mary Ward Settlement (refer Fig.25). Also, some of the stone forms at the entrance to the School of Art are comparable to the entrance portico of the London building.

The East facade (Fig.37c) is a total contrast to the North, appearing far more severe and uncompromising; although again there is the sculptural element of massive forms - a contrast between the almost totally blank masonry wall to the right (north) and the undulating surface and penetrations by windows on the left. The overall impression is of traditional Scottish defensive structures, such as the castles mentioned in an earlier section. This is emphasised by the use of small domestic-sized windows, and the polygonal oriel which projects out from the wall surface, terminating well above the parapet. A more practical aspect is the provision of an entry to the basement taking advantage of the extremely steep slope of the site.

Little has been said about the South facade, mainly because it is extremely difficult to obtain an overall view of this side of the building. Unfortunately this has been made even more difficult by a large building which has been erected below the south face. Apart from these difficulties it is important to make note of the extreme contrast between this and the Northern facade. Personally, I feel the Southern facade is a traditional back to a building. It appears as though it is unfinished, and was designed with much less care than the other facades. This is not helped by the change in finishes from stone to roughcast, or the apparently haphazard placement of windows. Of course, a possible answer to this is the initial low budget of the building, and the prestigious expensive requirements of the clients, which have been expressed in the main Northern facade.

Following the completion of the School of Art design, Mackintosh

198) Howarth, Thomas Charles Rennie Mackintosh and the Modern Movement, p.82.
turned his attention to the project for Queen's Cross Church (Fig. 38a). This commission was most likely originally presented to Honeyman and Keppie, with Honeyman the specialist in such work turning it over to Mackintosh. The project moved very slowly, with the foundation stone not being laid until June 1898, and the subsequent opening of the building in September 1899.

Externally, the church appears quite compact. Being located on a small corner site, a strong impact has been successfully achieved by bold massing of the corner tower (Fig. 38a). For the unusual form of the tower and its polygonal turret, it seems Mackintosh again turned to his sketchbooks. His design appears to have directly come from a sketch he made of the Merriott Church Tower, Somerset, in 1895 (Fig. 38b). Not only is the form of Queen's Cross tower very similar, but Mackintosh has also included a wrought iron weather vane on the turret. These often become a characteristic feature of his buildings, as weather vanes were also used above the turrets on the School of Art. The remainder of the building tends to express internal functions, and many interesting and characteristic forms are used. To the left of the tower is a plain stone wall finished with a pointed gable end, and relieved by a large stained glass window, which forms the backdrop to the chancel. The facade to the right of the tower is far more irregular. Firstly, he creates a rhythm with two pointed gables to the upper level gallery. This is broken when the facade is recessed for two bays, and Mackintosh has made unusual use of a small flying buttress between the outer and inner walls. It is difficult to understand the use of this, except that it relieves the facade, and adds to the overall compactness of the building. I cannot help feeling there is more than a little novelty value in this feature. Next to this is the secondary entrance to the church, which is given emphasis by the tall flanking buttresses and the unusual treatment of the window above the door. The characteristic stone carving of Mackintosh is again apparent, and the church is given a more welcoming appearance by the use of the warm coloured red stone on all exterior faces.

The interior, as a contrast, is far more spacious, with seating in

a) Perspective Sketch (from the one by Mackintosh in 1895)

Figure 38
Charles Rennie Mackintosh:
Queen's Cross Church,
866 Garscube Road, Glasgow
1896-99

b) Merriott Church Tower,
Somerset (Sketch from one by Mackintosh in 1895)
Figure 38
Charles Rennie Mackintosh:
Queen’s Cross Church,
Glasgow

c) Timber Carving
to altar

d) Timber Carving to
doorway panelling
the main congregation increased by a large southern gallery and a smaller one opposite the chancel. Once again the timber structure of these galleries is exposed, and the interior is dominated by light-coloured timber wall panelling with carved motifs. The timber-panelled pulpit, circular in plan, is an excellent example of these timber motifs (Fig.38c), as is the carved timberwork either side of doorways (Fig.38d). In both of these designs a strong influence from plant forms is evident, except that Mackintosh has expressed them in a very stylised and elongated form. Also, his favourite elements appear over and over - buds, egg-forms, flowers (Fig.38c), and the heart (Fig.38d). Apart from the aesthetically pleasing appearance of these designs, the sensitivity and craftsmanship must be admired. This applies to other work as well, particularly in the way forms are expressed, appearing as though they have actually grown. This is emphasised by undulating forms which in places are just visible above or below the surrounding flat surfaces; elsewhere they boldly emerge in a full three-dimensional form.

Similarly to some Continental contemporaries, Mackintosh's work was also characterised by increasing unity of design. Throughout the buildings mentioned in this section, particularly the School of Art, his hand can be seen in all aspects of the work, from the largest - building massing, down to the smallest - furniture and fittings. It was about this time that his unusual elongated furniture began to appear. In this, and in his decorative design, a contrast in his style began to appear. As already mentioned, characteristic decorative elements such as plants, buds, sprouting bulbs and other rounded organic forms gradually began to be combined with straight vertical and horizontal lines, and the square as a motif. These also became the distinctive decorative forms used by Viennese architects such as Hoffmann. Apart from the great contribution made to design by Mackintosh and 'The Four' in their decorative developments, Mackintosh's understanding of three-dimensional space became another great contribution to architecture.

Mackintosh is supremely the architect of space. Space is not just volume .... Space is the manipulation of volume and mass, .... , to make a meaningful interior in which the human being will feel at home and in scale, able to measure his activities against the three-dimensional
Guiard exhibited his 1894 English sketches, and designed two houses and a tearoom in 1896. Sauvage opened a wallpaper shop at 3 Rue de Rohan in Paris. He remained active in this venture until 1904, and his early designs were influenced by Viollet-le-Duc and his tutor Pascal from the Ecole. Also, much of his work during these years leading up to the First World War, were dominated by medieval forms.

The work of van de Velde in Belgium was greatly complimented by the members of 'Les Vingt' who asked him to undertake the ornamental design of their magazine Van nu en strake for the whole year of 1896. His work continued to be promoted by Meier-Graefe in Germany, who said: "van de Velde possesses a combination of qualities of so rare a kind as to place him first among the artists of Europe today".

Following Meier-Graefe's Pan in Berlin, the designer Eckmann founded a lighter, wittier journal called Jugend (1896-1914) in Munich. This magazine quickly became identified with the new design style, and led to the name 'Jugendstil', the German equivalent to Art Nouveau.

The young Viennese architect Hoffmann, one of Wagner's students, won a scholarship and toured throughout Italy in 1896. On his return to Vienna he worked for a year in Wagner's office, which at this time numbered approximately seventy architects, engineers and draughtsmen.

In Hungarian Architecture, Lechner had designed the Budapest Geological Institute (1896-98), a building which reveals a Baroque and

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200) Nuttgens, Patrick "A Full Life and an Honest Place", p.205.
206) Powell, Nicolas The Sacred Spring, p.66.
Hungarian folk art influence, though more importantly his mature style - undoubtedly of Art Nouveau forms. This is most predominantly expressed in the wavy rhythm of facade parapets, the unusually shaped window forms, and the undulating internal surfaces of ceiling vaults, arches, and balustrades. Although the decorative elements are inspired by plant forms, they remain very traditional in their design. As previously mentioned, Lechner's designs in many areas are similar to the Catalan architecture of Gaudí and his contemporaries.207

Along with English influences from The Studio magazine and the designer Ashbee promoting Arts and Crafts in America, in Chicago the magazine House Beautiful was founded in December 1896. For the many years which followed this became the principal American source for the Arts and Crafts Movement. In its pages articles were frequently published on Morris, Crane, Ashbee, and Voysey. This information became a prime source of inspiration during the formative years of the American movement.208

1897

English Architecture continued to develop with Voysey who had completed a house at Shackleford, Surrey, of similar form to his previous domestic work.209 In London, however, the architect C. Harrison Townsend (1852-1928) developed a style which came closest to expressing continental forms of Art Nouveau. Townsend had been involved in the design of a church with the architect William Reynolds-Stephens. It was located near Brentwood in Essex, and while the exterior of the building is of a very traditional form, the interior is decorated with timber screens and embroidery inspired by tree and leaf patterns.210 Of most significance in

Townsend's work of this year is his design for Whitechapel Art Gallery in London (Fig.39).[211] For me the sculptural form of this building and others which follow are very similar to those of Mackintosh in Glasgow. The most notable feature about the Whitechapel Gallery is the break with symmetry on the ground floor, and the strong massing of the facade. The lower portion becomes asymmetrical by locating the large arched entranceway off-centre, which provides quite a contrast to the small square windows, and exit door to the right. The building is given strong impact by predominant large stone forms. This is emphasised by the twin vertical buttresses on the upper levels with their unusual hipped cappings. Another unusual feature is the horizontal band of small square windows below the buttresses, and between these the totally blank recessed wall section, with its strong overhanging eaves line. These smooth surfaces are only slightly relieved in places, by horizontal stone stringers, and the bands of leaf decoration on the base of the buttresses and around the small square windows. The overall appearance of this massive facade is somewhat softened by rounding the edges of the stonework. The composition becomes an excellent example of the handling of masses to achieve an aesthetically pleasing appearance. While these forms are far more restrained than contemporary continental work, they do reveal a similar attempt to give stonework a soft almost malleable appearance.

In The Studio Gleesan White again promoted Glasgow design work in two articles. The first, in July 1897, concentrated on Mackintosh and the Macdonald sisters; the second on MacNair and Talwyn Morris in September of the same year.

At one stroke, Gleesan White disclosed the presence in Glasgow of a flourishing and well-integrated school of design with its own distinctive characteristics, a school, it seemed, that was completely independent of the English Arts and Crafts movement.[212]

At the 'Salon Nationale des Beaux-Arts', Guimard exhibited a room setting; elsewhere he carried out two small projects, and most


Figure 39  C. Harrison Townsend, Whitechapel Art Gallery, London, 1897-99
importantly designed the Humbert de Romans Concert Hall (1897-1901) at 60 rue Saint-Didier, Paris. This building has been considered of equal significance to the Castel Béranger, but unfortunately it was demolished in 1905. His client was a disgraced priest who envisaged the Hall and its complex of rooms as a school for 'divine art'. From the descriptions which remain of the building, it must have been a masterpiece of Art Nouveau architecture. The main concert hall was designed to seat 1200 to 1500, and to accommodate a massive organ loft. The planning was extremely functional, with large vestibules forming direct links from the hall to the outside. This indicates an early concern, and allowance for fire escapes; a point which is taken further by the structure of these vestibules, which were "... built of stone, iron and cement, like all the lower part of the edifice, and thus are practically fire proof".213

It was the interior of the main hall which received the greatest praise. "The whole building was an exercise in an organic frame where decoration and structure melted imperceptibly into each other".214 The external forms of the building again revealed Guimard's fascination with asymmetry. Also, the apparent size of the vast concert hall is reduced by the surrounding smaller rooms, and the recessing of the whole building behind a courtyard.215 The subsequent demolition of this magnificent structure was caused by the unusual ideas and background of the client.

French Decorative Arts were further promoted by the German critic Meier-Graefe, who opened a shop in opposition to Bing.216 Meier-Graefe also published the magazine L'Art Décoratif, a French counterpart of his Dekorative Kunst in Munich. Also, a competitive magazine was published titled Art et Décoration which imitated the layout of The Studio.217 As the artist Mucha continued to produce work for Sarah Bernhardt his mature style began to emerge. A commission he received during these years was for Job cigarette papers which depict "... women with demented scrolling hair, and with an air of mysticism.

213) Dunster, D. Hector Guimard, p.17
214) Ibid, p.46.
215) Ibid.
217) Waddell, Roberta The Art Nouveau Style, p.x.
achieved by one dares not guess what mixtures of grasses in their cigarettes". As do the women in his lithograph series 'The Four Seasons' (1896) and 'The Four Flowers' (1897). This led to a great deal of popularity, and a stream of commissions for his work. In the same year Lalique received the Légion d'Honneur for his remarkable jewellery designs, and the colourful figure, Count Robert de Montesquiou, promoted Art Nouveau and the work of Gallé and Tiffany in his book Les Roseaux Pensants (1897). Work had continued at a feverish pace in Nancy, and 1897 heralded the emergence of Gallé's most exciting glassware technique. This is very similar to marquetry work in furniture, and involved embedding different coloured semi-molten glass into the main glass body while it is still warm and soft. The design, when it had cooled, was later finished by wheel carving. The word molten is significant, and can be related to many forms which began to emerge in all areas of design. In the same year Majorelle's furniture had begun to adapt Gallé's floral forms. However, the constructive elements of Majorelle's designs were often transformed into plant stalks and are often completed with floral decoration. In his design work he was less bound by tradition in construction, and more plastic in form than Gallé. To achieve many of his most important designs Majorelle would model them first in clay. This was apparently a common technique of several Nancy artists.

As previously mentioned, the architect H.P. Berlage is credited with the revivalism of brick construction in Dutch Architecture. The most dramatic step forward in this was accomplished by his design for the Damrak Stock Exchange in Amsterdam (1897-1903). His design was modified three times, and the undecorated simple forms and lines of the completed building, while considered revolutionary by Dutch standards, are tame when compared with the work of Horta or Mackintosh. Though, as with Berlage's house of 1893, again his work

218) Garner, Philippe Art Nouveau for Collectors, p.73.
219) Ibid., pp.97 and 121.
220) Ibid., p.45.
221) Madsen, Stephan Tschudi Sources of Art Nouveau, pp.348-352.
is comparable with Voysey's. Berlage is described as "... essentially a believer in the possibilities of developing native traditions towards modern goals".\(^{223}\) His inspiration was derived from brick architecture of the Dutch Middle Ages, and the associated fine craftsmanship - ideals not unlike those of Morris and the Arts and Crafts.

The single most important design event which occurred in Vienna in 1897 was the founding of the Secession. While the new ideas of this group had been building up for many years, this final breakaway was considered to be led by a number of artists. The elected leader was the artist Rudolf van Alt (1812-1905); other artists included Gustav Klimt, Carl Moll, and Felicien Freiherr von Myrbach. It is important, however, to point out that the two remaining founding members, Josef Hoffmann and J.M. Olbrich, were architects. The ideas of this group would strongly influence Viennese Architecture in the years which followed.\(^{224}\) Another disturbance in design circles was being caused by the architect Loos, who began to expound revolutionary ideas on interior decoration, furniture, and clothing, in the columns of the Neue Freie Presse. His campaign was against ornament of all kinds, and he enthusiastically promoted the work of engineers.\(^{225}\)

Nearby in Germany no less than four new magazines were introduced in 1897: Kunst und Handwerk, Dekorative Kunst, Deutsche Kunst und Dekoration, and Kunst und Dekoration. Of these magazines, Alexander Koch again emerges as the publisher of Dekorative Kunst in Munich and Deutsche Kunst und Dekoration at Darmstadt.\(^{226}\) Also, an organisation was founded by the group Obrist, Pankok, Paul, and Riemerschmid called Münchener Vereinigte Werkstätten für Kunst im Handwerk (1897). This was followed by a similar one founded in Dresden by Karl Schmidt called Dresdener Werkstätte für Handwerkskunst (1898).

\(^{223}\) Pevsner, Nikolaus Pioneers of Modern Design, pp.171-172.

\(^{224}\) Powell Nicolas The Sacred Spring, pp.90-91, and Howarth, Thomas Charles Rennie Mackintosh and the Modern Movement, p.150.

\(^{225}\) Howarth, Thomas op.cit., p.282.

\(^{226}\) Madsen, Stephan Tschudi Sources of Art Nouveau, p.414, and Howarth, Thomas op.cit., p.271.
Both organisations aimed to create a national German art, independent of stylistic imitation, and on a sound constructive basis, through the medium of co-operation between artist and artisan.227

German Applied Arts were presented at the Glaspalast Exhibition (1897). Here work was displayed by Eckmann, Obrist, Riemerschmid and Endell. Also another exhibition was held in Dresden which included whole sections of Bing's shop 'L'Art Nouveau', and the work of van de Velde. It was during this time that the architect Auguste Endell, as well as presenting work at the Glaspalast Exhibition, designed his Atelier Elvira Studios in Munich (Fig.40). While the flat facade of this building appears to be converted to Art Nouveau by the huge strange crustaceous ornament, and the script of the building's name, a closer examination reveals the unusual asymmetrical window layout and form. This is added to by the curved tops to the door and windows, and the strange bent glazing bars.228

Internally the main staircase, similar in form to Horta's Tassel House, is far more bizarre and plantlike. Everything seems to be in movement from the wavelike balustrade to the whiplash plant tendrils, which seem to cover every surface.

While many designers appeared to be immersed in the rhythm of nature on the Continent, the English seemed to have played a significant part in the foundation of American Arts and Crafts. "On 22 October 1897, the Chicago Arts and Crafts Society was founded".229 The movement achieved such great success that within six months it had expanded to approximately 128 members. In a more decorative area, the designer Tiffany had cleverly adapted stained glass techniques to make electric light shades. The designs were often mushroom-shaped, consisting of insects, buds, and web-like motifs, with many different colours of glass. These 'Tiffany Lamps' enhanced the appearance of the common light bulb, and the quality of light. The shades became extremely popular, and were his most successful commercial venture. His designs can be directly linked with the already

227) Madsen, Stephan Tschudi Sources of Art Nouveau, p.414.

228) Pevsner, Nikolaus The sources of modern architecture and design, p.31.

Figure 40  August Endell: Atelier Elvira, Munich, 1897 (destroyed 1944)
popular use of stained glass by architects in building on the continent.

1898

During this year Voysey designed three houses, of which two were built on Lake Windermere: Broadleys and Moorcrag. The former is often considered one of his best country houses. Both buildings are finished externally in roughcast over local stone walls which are two feet thick. These were necessary due to the exposed aspect of both sites. Once again the houses are dominated by bold heavy massing, large numbers of windows in the facades, and predominating roofs with wide overhanging eaves. At Broadleys the wide eaves are supported by thin iron brackets, and their delicacy adds an element of lightness to the facade. Also, Voysey has taken advantage of views over the lake by providing large bow windows, which continue up through the roof line, and are capped with their own overhanging eaves.230

Town planning took another step forward with the publication of Ebenezer Howard's book *Tomorrow* (1898). This was followed by another titled *Garden Cities of Tomorrow* (1899), creating a new attitude in these areas of design.

Let us leave the old cities, vast, dirty, cramped, noisy, and build new ones, to a manageable size and a human scale with their own factories and offices, gardens and spacious parks.231

This was the beginning of the idea of cities surrounded by vegetation and open spaces, which became known as the garden city movement; ideas not unlike those promoted by Morris and the Arts and Crafts over twenty years earlier.

In English decorative arts the architect C.R. Ashbee, perhaps


231) Pevsner, Nikolaus *The sources of modern architecture and design*, p.195.
through exhibiting regularly on the continent, began to produce silverware strongly influenced by Art Nouveau. Although he publicly professed a dislike for the style, nevertheless his designs acquired an enhanced grace and lightness. This was most notable in silver and jewellery after 1898, through his use of multiple wire threads separating at their ends in plantlike tendril forms. In the same area Christopher Dresser's work was widely acclaimed. He was considered one of the greatest industrial designers of the day, who similar to Morris, attempted to make good design available to all levels of society. While his forms can be connected with continental designs, his work was always dominated by functional simplicity. This may connect him more with the Modern Movement, which was about to emerge and break away from Art Nouveau.

As well as continuing with the enormous amount of work begun in 1897, Mackintosh designed a gravestone at Kilmacolm, near Glasgow, and submitted a competition design for the National Bank, which was proposed for the corner of St. Vincent and Buchanan Streets in Glasgow. The gravestone is of interest in its characteristic motifs, again of elongated figures, plants and buds, and its distinct soft malleable appearance. Of most interest is that Mackintosh apparently modelled his design full size in clay before submitting it to the stonemason. A similar technique to that used by the Nancy designers. The bank design appears to have been overlooked as being outside the mainstream of Mackintosh's design development; though it does provide an example of the lengths he would go to in design to win the attention of a client. The design incorporates much more of his characteristic decorative elements than the School of Art. A suggestion is again made that if the budget for the School of Art had not been so restrictive his design may have incorporated many more decorative embellishments. The bank design is used to support this theory.

In the same year a competition was announced for the design of

pavilions for Glasgow's second great International Exhibition to be held in 1901 (the first was in 1888). The firm Honeyman and Keppie entered three schemes, and two of these were commended by the assessors. One of the schemes had been designed by Mackintosh. This was not constructed, but the drawings further emphasise his unique style. The building had a long low form, terminated at either end by a pair of towers, which were characteristically polygonal in plan and completely free of ornament. The whole building was dominated by a great dome. Included with this design was another for the Exhibition Concert Hall. This was designed to seat 4,221 people and was circular in shape. The structure was designed around twelve large cast iron half trusses which provided a clear internal span of approximately 165 feet, and a maximum central ceiling height of 50 feet. This gave the dome a very flat saucer appearance, which was emphasised by twelve enormous buttresses providing surrounding support to the dome. During all of this work, 'The Four' had continued to develop their unique decorative style, but during the summer the group was split up when MacNair was appointed Instructor in Decorative Design at the School of Architecture and Applied Art, Liverpool University.

Guimard designed four buildings during 1898. These were: the Hôtel Roy (now demolished), two private houses, and the Coilliot Shop and Residence (Fig.41). The final building is located outside Paris at 14 rue de Fleurus, Lille, and indicates the beginning of the second phase of Guimard's design style. Externally this building is an amazing example of mature Art Nouveau forms and sculptural massing. While the facade is basically symmetrical, asymmetry is skilfully introduced by the masterful vertical stroke of stone beginning between the door and window on the ground floor. The whole composition is provided with added interest by recessing the upper floors and allowing the timber structure of the balcony to project forward over the space. The unusual pointed arch expressed in stone and echoed by the timber, is similar to the form of the Humbert de Romans Hall. In the Coilliot building, apart from the

237) Ibid., p.42.
Figure 41  Hector Guimard: Coilliot Shop and Residence, 14 rue de Fleurus, Lille, 1898-1900
tree-like form of the timber structure and balustrade, the stonework appears still soft and as though many of the forms have been poured. This is very similar to the clay moulding of Majorelle’s furniture in Nancy, and Mackintosh’s methods in Glasgow. These unusual flowing and undulating forms of stonework dominate the buildings in this phase of Guimard’s work. In a letter to his friend, the architect L.C. Boileau (1898), Guimard wrote of his work: "I have merely applied the theory of Viollet-le-Duc, but without being seduced by medieval forms".239

As can be noted in the distinctive sign above the doorway and window to the Coilliot Building, Guimard’s client was a ceramics retailer. People involved in ceramics during this time certainly appear quite enlightened when it came to the latest trends in design. As already revealed, Guimard’s contemporary, Gaudí, had received one of his earliest commissions from a ceramics manufacturer. Finally, during the same year, Guimard published an album fully illustrating the Castel Béranger,240 and he commissioned his friend Sauvage to produce wall hangings for the same building.241

The art critic Meier-Graefe founded the magazine *L’Art Décoratif* (1898) as a French counterpart to his German magazine *Dekorative Kunst*.242 The magazine *Art et Décoration* published an article which drew attention to the unusual enamelled jewellery of Eugène Feuillâtre (1870-1916).243 The jeweller Lalique was also interested in enamelling, and this led him to experiment with all-glass creations.244 The significance of this work is that the forms used by these designers can be closely related to those being used by Guimard, or Horta in Belgium. These were carried even further by the Belgian jeweller Wolfers, who was attempting to minimise the distinction between gems and their settings, to give them a look of being an inseparable part of the metal. An example of this is a

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243) Garner, Philippe *Art Nouveau for Collectors*, p.93
244) Ibid., p.97.
buckle he produced in 1898.

The curvilinear design in relief gave the unpierced metal the appearance of having the consistency of one of the fleshier succulents. The design is a highly conventionalised plant form, and the stones placed along the outer edges of the buckle are no doubt symbolic buds or seed cases, but are more suggestive of a watery exudation as if the metal were mysteriously perspiring.  

Similarly to Guimard, Horta had begun a second phase in his design style, which is dominated by elegantly flowing stonework. This had begun with his Hotel Solvay of the previous year, and progressed further in the house and studio he built for himself in 1898. As well as this he designed many other villas during this year. Unfortunately there is a distinct lack of detailed information on these buildings.

It is fascinating that Gaudí in Barcelona should also reveal a change in style during this time, just as Mackintosh, Guimard, and Horta had in recent years. Gaudí's liberation to his fully mature style appears again in a project for Güell, the Colonia Güell. He also designed a luxurious town house for the textile manufacturer Pedro M. Calvet. The building became known as the Casa Calvet (1898-1904), and is typical of Gaudí's previous work, although slightly more austere in character. Gaudí also designed some of his extremely distinctive furniture which was characterised by rich dark timber, with a highly polished surface. This furniture appears to be a combination of curling organic forms mixed with traditional heraldic scrolls and rounded smooth surfaces, occasionally relieved by carved leaves or flowers. It is these organic forms which act as a foretaste of elements which appear in later buildings.

Of more importance is the Güell Colony, where Count Güell built a textile factory and an adjacent workers' colony. Once again, it appears Berenguer took charge of the development, while Gaudí concentrated on the small chapel belonging to the colony. While this


246) Pevsner, Nikolaus Pioneers of Modern Design, p.112.
was designed in 1898 construction did not begin until 1908. Gaudí used a traditional Catalan system of construction consisting of domes made from brick and plaster, exploiting this elastic form to its limits.\footnote{247} The whole structure appears to be set in motion; windows of constantly changing shapes appear to be arbitrarily placed on facades; and columns bend or lean in the direction of the force being transferred to them by the brick vaults.\footnote{248} For some reason in 1913 Gaudí apparently passed over the unfinished work of the chapel to Berenguer.\footnote{249}

Italian design changed from an English Pre-Raphaelite influence, to a more softened Franco-Belgian curvilinear form between 1898 and 1901. The architect Ernesto Basile built the Hotel Villa Igiea in Palermo (1898), which presented an unusual mixture of Gothic, Mauresque, and Catalan styles. Apparently the result"... created odd effects which had wittiness more than any sort of stylistic resemblance to Art Nouveau".\footnote{250} During this experimental period symmetry was abandoned and building materials were frankly exposed, and, typically for the Italians materials were "... worked with 'organic' gusto".\footnote{251} Also during this year the architect Raimondo d'Aronco had returned to Italy after designing many buildings in Turkey between 1893 and 1898. His work in 1902 would formally introduce the mature Italian Art Nouveau Style.\footnote{252}

Following the beginning of the Secession in 1897 one of the founding members, the architect Olbrich, was chosen to design the Secession Building (1898-99) (Fig.42). His design revealed a strong influence from Wagner's work, and it is interesting that Secession Architecture never differed from these linear, cubic massings. The most striking feature of the building is the cupola surrounded by four vertical stacks, and mounted on a square. It is understandable that the Viennese later developed such an avid interest in

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\begin{itemize}
  \item [248] Pevsner, Nikolaus \textit{Pioneers of Modern Design}, p.112.
  \item [249] Collins, George R. \textit{Antonio Gaudí}, p.31.
  \item [250] Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Nicoletti, Manfredi "Art Nouveau in Italy", p.36).
  \item [251] \textit{Ibid.}
  \item [252] \textit{Ibid.}, p.40.
\end{itemize}
Figure 42  Josef Olbrich: The Secession Building, Vienna, 1897-99
Mackintosh's work, as an affinity in design ideas can already be seen. The cupola was constructed of open cast-iron work, composed of gilded laurel leaves and berries, and became known as the 'gilded cabbage'. The remainder of the exterior was rendered in white stucco, in places relieved by gilded incised stem and leaf designs. The interior received ample natural lighting by both wall and ceiling glazing. Flexibility of exhibition spaces was introduced by the use of movable partitions.253 Both the building and the exhibitions held by the Secession met with immediate success, and Vienna's new style rapidly progressed.

Elsewhere Olbrich had also designed the Villa Friedman, near Vienna. It is described as having high-pitched roofs with overhanging eaves, which crown the upper partly-glazed balcony, and give the house a distinct 'Chinese' appearance.254 Wagner, it seems, was not averse to learning from his students, as he too joined the Secession between 1898 and 1899, and built his first Secessionist buildings. The most notable of these was Majolica House, which was given a severe facade by the use of plain windows without lintels; although some warmth of appearance was provided by the use of terracotta-coloured majolica over the whole front above the second floor balconies. Applied to this was a red flower design of approximately half a metre diameter, which branches out over the whole facade. Added to this, between each window on the top storey is a lion's head in high relief surrounded by a bunch of red and blue flowers. The top of the building is finished with a decorated overhanging cornice. It seems that majolica was an unusual cladding material in Vienna, though it has succeeded in withstanding the cold winters of the city, where other materials have deteriorated.255 Examples of Wagner's 'Stadtbahnstationen' also began to appear during this year (Fig.43), and apart from an interesting form, the structure of these buildings is of most significance. Many used corrugated copper roofing, and exposed iron 'T' and 'I' girders, with infill panels of glass and stone.256

253) Powell, Nicolas The Sacred Spring, pp.60-61.
254) Ibid.
255) Ibid., pp.51-53.
256) Ibid.
Figure 43 Otto Wagner: Stadtbahnstation, Karlsplatz, Vienna, 1898-99.
The architect Loos was also promoting new design ideas, but in a different direction to the Secessionists. He was against any form of decoration, and in his early designs, for example the shop and fitting rooms (1898), the work was characterised by the use of rich materials in the place of decoration. He had also established a reputation for his excellent lectures, and articles for Ver Sacrum.\textsuperscript{257} This magazine had also just begun (1898-1903) and quickly became the leading source of information for Austrian artists. It is described as one of the most beautiful Art Nouveau journals, and a strong rival to the Berlin magazine Pan.\textsuperscript{258}

Magazines continued to promote new design ideas in Germany. In Meier-Graefe's Munich magazine \textit{Dekorative Kunst} three important articles appeared. In one of these the art dealer Samuel Bing wrote of the delight which had swept through Europe when English designs had first begun to appear.\textsuperscript{259} Also the architect August Endell compiled a study on the emotional effect of different kinds of window proportions.\textsuperscript{260} Finally Alexander Koch presented a constructive and well illustrated article on the work of the Glasgow designers. This is considered the first occasion that their work had been reviewed in a continental journal. Within a short time after this article they had become widely acclaimed as leaders in the new art movement.\textsuperscript{261} Prior to 1898 Richard Riemerschmid (1868-1957) was a well-known German artist, closely involved with the latest Jugendstil ideas. During these years he began to produce furniture, which became characterised by its simple functional qualities and complete lack of decoration; a style considered strongly influenced by English Arts and Crafts forms,\textsuperscript{262} and perhaps even by Voysey's designs.

\begin{thebibliography}{9}
\bibitem{257} Powell, Nicolas \textit{The Sacred Spring}, pp.83-85.
\bibitem{258} Waddell, Roberta \textit{The Art Nouveau Style}, p.x.
\bibitem{260} "Auguste Endell", p.98.
\bibitem{262} Madsen, Stephan Tschudi \textit{Sources of Art Nouveau}, pp.420-421.
\end{thebibliography}
Two houses were designed by Voysey in his now characteristic style, one for himself - 'The Orchard' at Chorleywood, and the other for the writer H.G. Wells - 'Spade House', Sandgate, Folkestone. Voysey not only designed his houses and many of their fittings, but he also showed an interest in gardening, and during this year designed a garden layout for a house at Tooting Beck. Unfortunately this was never carried out, but his plan reveals a reasonably formal layout, with many of the designs similar to his furniture motifs, such as the heart. He also included topiary in yews, clipped to the initials of his client. By this time his metalwork, particularly the elaborate strap hinges for his furniture, were well known, and they were included in an Arts and Crafts exhibition in their own right. It appears that for many years now Voysey, and many of his English contemporaries, had been exhibiting their furniture and work widely throughout the continent. Much of this is credited with influencing the new styles which had developed, and one of the designers who had emerged was the architect M.H. Baillie Scott (1865-1945). It seems he started designing later than many of his contemporaries, and was strongly influenced by Voysey. Of most interest to date are the interiors for the houses he had designed. Throughout these buildings all reminiscences of the Victorians are gone, with carpets and wallpaper left plain, horizontal surfaces cleared of bric-a-brac, with the room as a whole simple, light and clear. Still his work remains romantic, with lawn green carpets, sky-blue ceilings, and floral wall decoration. Care for cultivated nature and interiors were considered characteristic of the English by continental countries. It was considered impossible for the English designers to start the surfaces of a whole room undulating, similarly to continental designs such as Horta's Tassel House (refer Fig. 18b).

263) Brandon-Jones, John and others  C.F.A. Voysey, p.49.
264) Ibid., p.132.
266) Pevsner, Nikolaus  Pioneers of Modern Design, p.162.
English silverware developed two main schools of design: the Arts and Crafts group and Liberty and Co. Ashbee, a member of the Arts and Crafts, designed work which was half-way between the polished form of continental Art Nouveau and popular 'English folksiness'. Liberty and Co. launched the 'Cymric' range of silverware which was considered the best example of English design in this field around the turn of the century. The word 'Cymric' was chosen due to the elaborate celtic decorations used on the work. Also, many of the designs used formalised plant motifs, or strong German whiplash line-work. Finally, Mackmurdo's chair (refer Fig.13), designed in 1881, was illustrated in an 1899 issue of The Studio. English hostility towards the Scottish designers had grown to the point where objects presented for the Arts and Crafts Exhibition (1899), under the presidency of Walter Crane, were firmly rejected. The London movement published an article which strongly established its attitude. They expressed no interest in the art of new ideas, a standpoint they had taken since the death of Morris in 1896.269

In Scotland events continued to change for 'The Four'. Following MacNair's appointment to Liverpool University, he returned to Glasgow and married Frances Macdonald at St. Augustine's Church in June 1899.270 In the same year Mackintosh received the first of his two most notable domestic commissions. A number of years earlier he had been introduced to the Davidson family of Kilmacolm (perhaps by Newberry).271 In 1899 the eldest son, William Davidson, asked Mackintosh to design a house. This later became known as 'Windyhill', and was also located at Kilmacolm. The layout of the building is simple and functional, with Mackintosh favouring an L-shaped plan, including his characteristic semi-circular staircase. Externally the building has a dominant roof with an unbroken ridge, and on the main elevation an unbroken eaves line. Again the roofs are terminated with gables at the extremities of each leg of the 'L'. The facades are plain with little surface modelling, and small rhythmically placed windows. Mackintosh paid close attention to the aspect

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269)  "Herman Muthesius on Mackintosh", p.13.
271)  Ibid., p.33.
of this house, and in this case the open steeply sloping site is linked with the house by the use of garden furniture and timber screens, also designed by Mackintosh. Again the forms used are bold and sculptural, with buttress-like chimneys emphasising this characteristic. The exterior of the building merges with the interior, where Mackintosh's distinct style can be seen everywhere, from the furniture to the light fittings.

Guimard held an exhibition of drawings, photographs, and furniture at the salons of 'Le Figaro', and also designed a number of villas. The most notable of these was the Castel Henriette, at Sèvres (outside Paris - unfortunately demolished in 1969). This building displayed total asymmetry, and Guimard at his most eccentric. Here random rubble, finished stone, timber, and iron are all combined. External forms are interconnected and express strong verticality, which is emphasised by a central tower. Of most importance is the introduction of curving walls in the interior planning. Also, there appears to have been some interference by building regulations, as changes to the design were initiated between the submission of plans to local authorities and the completion of the building.

Guimard's contemporary Sauvage received his first major commission, a villa for the Nancy furniture designer Majorelle. It is believed he obtained this through his friendship with Majorelle's brother Louis and the sculptor Charpentier, who subsequently collaborated with Sauvage on the design. The requirements of Majorelle were for a luxurious villa, to be located on an elevated site in the centre of a vast park. The resulting design reveals an amazing contrast between the exterior forms and the interior planning (Figs.44a and b). It is suggested that for the exterior Sauvage was strongly influenced by a neo-Gothic vocabulary, and Viollet-le-Duc's ideas. I would suggest a further influence from Guimard's Coilliot Shop (Fig.41), for Sauvage's treatment of gables, windows and the exposed timber structure. The main facade of the villa (Fig.46a) reveals a

275) Ibid., p.35.
a) Perspective Sketch

Figure 44
Henri Sauvage:
Majorelle Villa,
1 rue Louis, Nancy
1898-1900

b) Plans
combination of verticality and asymmetry of forms and window fenestration. There is a general overall geometrical treatment of stone-work, with the inclusion of occasional flowing organic features. Timber and ironwork are exposed everywhere as decorative features, again with a combination of linear and curving forms. A steeply pitched roof is emphasised by wide overhanging eaves, with the timber structure exposed, again as a decorative feature. The internal planning (Fig. 46b) is surprisingly straightforward, revealing well-proportioned rooms and hallways, of a geometric and functional layout. This simple planning has ensured a total use of space with no wasted awkward rooms or corners, often caused by angled or curved wall layouts. Similar to his contemporaries, Sauvage also designed fabrics and wallpaper for this villa. In the same year he married Charpentier's daughter, Marie-Louise, redecorated the Café de Paris, and entered into partnership with his friend from the Ecole, Charles Sarazin (1873-1950). The Belgian architect Horta continued to develop his characteristic style, and designed a number of buildings in and around Brussels. In Germany van de Velde had been appointed architectural adviser to the Grand Duke of Weimar, which lasted from 1899 to 1917. Also, van de Velde's personal monogram design appeared in Dekorative Kunst (1899). The stylised H,v,V is similar in form to the monograms developed by the Englishmen Whistler and Mackmurdo in the late 70s (refer Fig.2).

In Dresden both Riemerschmid and his brother-in-law Schmidt promoted new ideas and furniture through their 'Werkstätte' founded in the previous year. Riemerschmid exhibited his furniture for a music room, and both he and Schmidt began to tackle the problem of inexpensive furniture. It was during this time that the second centre for German design began to develop. This occurred in Darmstadt where

276) Delevoy, Robert and others  Henri Sauvage 1873-1932, p.17.
277) Ibid., p.20.
279) Garner, Philippe Art Nouveau for Collectors, p.89.
281) Pevsner, Nikolaus The sources of modern architecture and design, p.147 and Madsen, Stephan Tschudi Sources of Art Nouveau, p.420.
the Grand-Duke Ernst Ludwig of Hesse had his residence. It was under his enthusiastic patronage that the arts blossomed and developed. He began by bringing together leading artists from Germany, Austria, and England. In 1899 the Austrian architect Olbrich and the German architect Behrens were summoned to Darmstadt, and it appears that the English architects Baillie Scott and Ashbee were also involved. In England The Studio published an article by Baillie Scott on decoration and furniture at Darmstadt. In this article he gave credit to the excellent taste of the Duke and Duchess of Hesse, and how his clients have strongly influenced the resulting designs.

The cultivated taste of their Royal Highnesses the Grand Duke and Grand Duchess of Hesse have so much influenced the final result of the decoration of the room that one is a little dubious in accepting the credit which belongs to the designer.282

Before leaving Vienna, Olbrich completed another house design in which he adopted 'English' lattice-work windows.283 His contemporary Hoffmann was appointed professor at the 'Vienna Kunstgewerbeschule', where he taught until 1917.284 The architect Loos designed a Café Museum, which was described as of characteristic simplicity and free from decoration. He fitted out the interior with expensive materials, and his favourite 'Thonet' bentwood furniture.285

In the arts, the straightforward sexuality which appeared in Klimt's work from this time onwards caused a continual battle with the censors. Alterations had been demanded on his first Secession poster. It is ironic that the verse "To every age its art, and to every art its freedom".286 was used on this poster, as Klimt's freedom had certainly been limited by the censors. On the poster the naked Theseus wrestled with the Minotaur, whose nakedness was masked by a bush of hair and his tail. To further satisfy the censors, Klimt had to cover Theseus's genitals with a small tree which had

283) Powell, Nicolas The Sacred Spring, p.61.
284) Ibid., p.66.
285) Ibid., p.85.
286) Ibid., p.131.
conveniently grown in the right place. Art Nouveau was always characterised by a strange underlying sexuality, which was not often expressed in Klimt's bold manner. Nevertheless it played a very important role, and was most noticeable in the ever-recurring stylised female form. Thus the style often created an extremely sensual symbolism, and this was not limited to the decorative arts. As will be revealed, this aspect of the style was often also apparent in buildings.

Voysey's work continued to receive wide recognition in America. In Philadelphia the 'T Square Club' held an exhibition where two of his houses were displayed; also his Cazalet house (designed 1890) was published in House Beautiful, and in two other smaller magazines his furniture and wallpapers were presented.

1900

While Voysey was seen to be outstanding during the 90s, his work was challenged by architects who were producing equally innovative work in their own styles. The most notable of these were: E.S. Prior (1852-1932), Edwin Lutyens (1869-1944), Lethaby, and Townsend. The latter designer followed his London Whitechapel Gallery design of 1897 with the Horniman Museum (1900-02), also in London (Fig.45). Once again Townsend reveals a style which comes closest to continental Art Nouveau forms, and a strong similarity with Mackintosh. While the plain facade with its decorative frieze is interesting, it is the square tower with its rounded corners and the unusual stumpy top which is of most interest. This form acts as quite a contrast to the narrow elegant spirelets which Voysey and his followers so much admired. Although not a great deal has been said about Mackmurdo in the 90s, he did continue designing buildings, but his forms tended to turn back to historicism. This is most

287) Powell, Nicolas The Sacred Spring, p.131.
289) Pevsner, Nikolaus The sources of modern architecture and design, pp.119-120.
Figure 45  C. Harrison Townsend: Horniman Museum, London, 1900-02
evident in the Cold Storage Warehouse in London, and his own house 'Little Ruffins' of 1900. His later work continued in this direction, and when his Ruffins Estate expanded and the 'Great Ruffins' house was built, it revealed many historical influences.291

The decorative arts continued to be promoted by Liberty and Co., and by 1900 the company had included a range of German pewterware goods, sold under the name of 'Kayserzinn'. This work was retailed by Liberty's before they began their own range of similar objects which became known as 'Tudric' ware.292

However, perhaps of most significance in England during this time was that her previous leadership in design was forfeited to the new style on the continent. This was caused by two interconnected reasons: firstly, English designers expressed a distinct dislike for Art Nouveau; and secondly, all of the continental pioneers of new styles had converged into one movement, causing a tremendous creative force. A classic example of English attitudes during this time was a gift made to the Victoria and Albert Museum by George Donaldson, vice-president of the Paris Universal Exhibition of 1900. This comprised a collection of Art Nouveau furniture - chairs by Bing, cabinets by Majorelle, Gallé and Dorras. The work immediately became the centre of criticism and controversy. Lewis F. Day (1845-1910), a distinguished industrial designer, began an outspoken attack on Art Nouveau in a letter to the British Architect. One of his comments suggested the style "... is the delirious art of men raving to do something new, oblivious in their rage alike of use and beauty". 293 The Museum had accepted the gift, and the work was later exhibited (1901) and sent on a tour to various centres throughout Britain. Prior to the exhibition, however, various prominent men, including the architect Prior, sent a letter of protest to The Times. Following this the Board of Education, South Kensington, who had accepted the furniture, issued a note to the various bodies accepting the exhibition. This suggested that, as the style of the furniture

is not consistent with current teaching in the United Kingdom, tutors should guide students in forming an opinion of the work exhibited.\textsuperscript{294}

The Scottish Style, also disliked by the English, reached its greatest success in 1900. Following MacNair and Frances Macdonald's example, Mackintosh and Margaret were engaged, and married in the same church as the MacNairs in August 1900. Prior to the wedding Mackintosh and Margaret had decorated and furnished their flat at 120 Mains Street, Glasgow. These interiors are considered the earliest completed examples of Mackintosh's mature decorative style, the first project where he was unrestricted by a client. Although, as revealed already, Margaret was also a talented designer, and therefore the result should be considered an amalgamation of the two talents. The elements which deserve the most attention are the soft pastel colours throughout, which were: grey, white and occasionally pink. Also, the appearance of total unity of design, where every element of each room has been carefully designed as part of a whole. A later criticism of this concept is the difficulty of introducing personalising elements, as anything not designed by Mackintosh would look misplaced. This problem is not limited to Mackintosh, as it can equally apply to many of his continental contemporaries. Other features of the Mains Street interiors are the strongly characteristic furniture and fireplaces. Also it is noticeable that in each room the Mackintoshes concentrated on creating the appropriate atmosphere or mood for the purpose of the space. For example, the dining room was decorated with dark warm colours for walls and furniture, with a white frieze and ceiling.\textsuperscript{295} "Mackintosh's objective here was to create a sombre, mysterious setting for what to him was a most important ritual - eating and drinking."\textsuperscript{296}

Another interesting architectural project was the design for the 'Daily Record' Newspaper Building (1900-01). Unfortunately this is located on a very restricted site, surrounded by large buildings,

\begin{itemize}
  \item \textsuperscript{294} Madsen, Stephan Tschudi \textit{Sources of Art Nouveau}, pp.299-301.
  \item \textsuperscript{295} Howarth, Thomas \textit{Charles Rennie Mackintosh and the Modern Movement}, pp.43-48.
  \item \textsuperscript{296} \textit{Ibid.}, p.45.
\end{itemize}
and fronting onto the eighteen foot wide Renfield Lane. The building remains a fascinating example of Mackintosh's ability to cope with such difficult conditions. At street level the facade reveals an undulating wavelike form expressed in a strong horizontal band above the windows. This section of the facade is faced in stone, with white glazed brickwork used on the four floors above this. On the fourth floor the flat facade is broken up by a series of bay windows, and the attic storey completes the building with dormers in red sandstone. In places Mackintosh relieves the white glazed brickwork with coloured ceramic tiles. Although it is difficult to gain an overall view of the building, the use of white glazed brickwork was certainly an inspired idea, perhaps an attempt to brighten an otherwise dull and dingy area.

Finally, Mackintosh designed perhaps his most important personal commission, "Hill House" at Helensburgh, outside Glasgow. His client for this house was W.W. Blackie, who, following a suggestion from his art manager, the designer Talwyn Morris, sought Mackintosh's services. Following this he met with Mackintosh to discuss the design. Blackie reveals that his brief was for "... grey roughcast for the walls, slate for the roof; and that any architectural effect sought should be secured by the massing of the parts rather than by adventitious ornamentation". Apparently Mackintosh agreed wholeheartedly with his client's wishes, and suggested Blackie and his wife might like to see the newly finished house 'Windyhill' for the Davidsons. Following this Mackintosh spent some time with the Blackie family, "... to judge what manner of folk he was to cater for".

This again supports evidence of his practical approach to design. He is recorded in other work to make detailed measurement of people when designing their furniture. His first design for 'Hill House'

298) Ibid.
300) Ibid., p.7.
301) Nuttgens, Patrick "A Full Life and an Honest Place", p.199.
soon followed, but was not approved by the Blackies. Mackintosh promptly altered this and re-submitted the design, which was accepted, and the building was begun almost immediately. The house is located on a gently southward-sloping site, and Mackintosh carefully positioned the building, and provided a sensitive garden layout. The garden is a study in itself, but it does reveal Mackintosh's skilful ability to handle changing levels and even begin to consider landscaping issues, such as the creation of spaces using planting. He also designed garden furniture and screens similarly to the project for 'Windyhill'.

'Hill House', although slightly larger than 'Windyhill', is similarly 'L'-shaped in plan (Fig.46a). The building comprises a servants' wing, which is located in the eastern leg of the 'L' (right) on three floors. The remaining longer leg of the plan is the main residence, which is reduced to two levels. The interior of 'Hill House' is an excellent example of Mackintosh's expert handling of three-dimensional space. All rooms are imaginatively connected, not just in functional plan form, but by a series of experiences which are dominated by movement from small to larger volumes, changing levels, and from dark to light space.

The entrance to the house is a number of steps lower than the main ground floor. Immediately to the right of this corridor is the library, with all walls panelled in rich dark-coloured timber, which forms extensive bays of bookshelves. The timber work is very simple, with only the occasional characteristic carved motif. These large areas of wood give the library a warm quiet atmosphere, conducive to the function of this room. This is complemented by ample natural light from a large southern window.

Just outside the library, the corridor is lit by broken beams of natural light which enter through a vertical timbered screen on the main staircase landing. Moving up the hall steps creates a change in spatial experience, from the narrow high slightly darker entranceway, to a wider reception area with a reduced ceiling height. This area is also much lighter, due to large northern windows and a door. This contrast in spaces relies totally on change of areas and light, as the wall colour and finish remains the same throughout. All finishes and details reveal Mackintosh's hand, from the highly
Figure 46  Charles Rennie Mackintosh: 'Hill House', Kennedy Drive, Helensburgh (outside Glasgow), 1902-03
Figure 46  Charles Rennie Mackintosh: 'Hill House', Kennedy Drive, Helensburgh (outside Glasgow), 1902-03
b) North and South Facades
stylised elongated figures stencilled on wallpaper, to the furniture, stained glass windows, and a clock fitted into the wall panelling module.

This reception area provides direct access to the kitchen and servants' wing, the dining room, and the drawing room. The latter two rooms face south, and the drawing room is provided with ample light by a large bay window which incorporates a comfortable seating area. This room looks onto the terrace and the garden, which slopes away to the south. The natural light combines with the white surfaces of the room and creates a bright cheerful atmosphere, which is made more intimate by the dark-coloured ceiling. The most interesting feature of the decorative work, apart from the furniture, is the fireplace. This feature dominates the northern wall of the room, and is contained in a large curved recess. Surrounding the small fireplace opening is a large panel covered in small square beige-coloured tiles, with five elliptical insets of white, black, and pink enamel. This is surrounded by the white curving wall, which is relieved by a strong white horizontal mantel with three square recessed cubes on either side.

From the main reception area access to the first floor is by way of the main staircase opposite the entrance hall. Again this stair has the characteristic semi-circular landing used in so many of Mackintosh's buildings. The stairwell has a very light and airy atmosphere due to a large floor to ceiling height, and predominant white wall surfaces; though warmth and human scale is added by the dark-stained timber panelling from floor to head height. The verticality of the space is further emphasised by the long narrow windows on the landing, providing light and views to the garden. Above the landing hangs an unusual metal and glass light shade which also breaks up the ceiling void, due to its exaggerated size.

On the first floor I found the hallway seating niche and the main bedroom the most interesting spaces. The remaining rooms were restricted in area, and I would think altered from their original appearance. Mackintosh has made the hall on this floor a useful and interesting space by providing large cupboards along the northern wall panelled with dark-stained timber, and at the far end a small seating recess. This space is panelled in the same dark timber and
provided with a large horizontal dormer which enables views over the garden. The main bedroom is skilfully split into two spaces merely by a change in area and ceiling form. Similarly to the house the room is 'L'-shaped, with the large off-white timber bed located in its own space, which is narrower with a lower barrel-vaulted ceiling. The remaining space has a higher flat ceiling with two wardrobes, a seating niche, and a fireplace. All surfaces are finished in a cream to off-white colour, with a couple of high-backed black timber chairs as features. The fireplace, although smaller, is similar to the one in the drawingroom, complete with elliptical coloured enamel insets. The wardrobes and bed are dominated by large plain surfaces, broken occasionally by unusual decorative carving in relief. On the two wardrobes these motifs appear like highly stylised roses, complete with pink insets. The most important point to be made about the interior of this building is the complete unity of design. The combination of colour, space, light and shade, and decorative elements, all weave together to form a total architectural experience.

The exterior of 'Hill House' reveals Mackintosh's increasing interest in sculptural forms and massing (Fig.46b). No two facades are the same, and each is dominated by strong buttress-like chimneys merging with constantly advancing and receding wall surfaces. All walls are coated in a light grey roughcast which tends to bind many of the contrasting forms together. The roughcast, similar to Voysey's houses, also emphasises mass and void; though apart from the overall composition, the facades also reveal a contrast between traditional Scottish baronial forms - circular turrets with conical roofs, and Mackintosh's own modified forms - slightly bowed window walls or exaggerated buttress-like chimneys. This becomes even more obvious in the treatment of windows, where I feel there is a slightly uncomfortable relationship between the more traditional smaller square windows and the large elongated stair windows. These points seem to reveal an inner struggle in Mackintosh between the use of Scottish vernacular and new design ideas, which he never really solved in his architecture. It must be noted, however, that this does not necessarily detract from his buildings, as after all his style did emerge from the influence of vernacular forms.

It is worth noting that during this time when Mackintosh's forms
became more and more sculptural this was reflected in the material which appeared in his sketchbooks. Around 1900 his sketches no longer concentrated on detailed aspects, but began to focus more on overall form, massing, and composition of buildings. He also began to use a larger format sketchbook than previously, and introduced colour for the first time since his Italian tour in 1891.  

It is further suggested that to find the source of Mackintosh's unique style we should look to the inspiration of nature; also his father's potting shed at their home in Dennistoun, and his mother's kitchen table. It is here that he was most likely influenced by flowers, buds, sprouting bulbs, etc. which eventually led to his unusual elliptical elongated forms - not influences from Egypt or the Far East, where historians often look for inspiration for the 'new' style.

For the most important decorative design events of this year one must look to the Paris Universal Exhibition 1900. Here many of the most prominent designers of the period received their greatest acclaim. The art dealer Bing and his associates met with continued success.  

In glass design the Austrian Loetz shared a 'Grand Prix' alongside Daum, Gallé and Tiffany.  

In jewellery Fouquet was distinguished, and it is interesting that, due to the increased desire of jewellery designers to mix 'precious' metals with 'base' metals, special legislation was necessitated.  

Chaplet received a gold medal for ceramics, while sculptors had an overwhelming success with their work. Similar to other fields, the sensuality of the new style was again expressed mostly through the Art Nouveau female. An example of this was the bronze bust 'Ophelia', by Maurice Bouval.

This sculpture has a delicious limp and liquid sensuality as well as an appealing

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304) Waddell, Roberta Sources of Art Nouveau, p.xi.
306) Ibid., p.92.
307) Ibid., p.60.
The expression of mystery in Art Nouveau became very important along with the attempt to express movement using the flowing asymmetrical line. Many of the artists became fascinated by dancers and actresses such as: Loïe Fuller, Cléo de Mérode and Sarah Bernhardt. The well-known poster artist Mucha had created a few bronzes, which are considered "... the greatest achievements of Art Nouveau". What makes the style all the more fascinating is that in the buildings already described and those which come later, many of the above qualities artists were searching for were also expressed in architecture. The buildings express movement and flowing asymmetrical forms, and an atmosphere of mystery as one is led through ever-changing spaces. This movement is achieved by a change in area, level, light - from dark to bright, and parallel changes of mood created by colour and texture. As already noted, the architect Mackintosh was a master in achieving these experiences in his buildings.

For the first time in many years Finland was represented at the Exhibition, with their own pavilion. This was designed by the architects Gesellius, Lindgren and Saarinen, and the building was a combination of Finnish medieval church architecture with modern features. Work was displayed by Gallen-Kallela and the 'Friends of Finnish Handicrafts', which included frescoes, furniture and textiles. The traditional craft quality of the work was highly praised by critics and public alike. Finnish Art had not previously received such international recognition.

During this time Parisian fashion was still led by Count Robert Montesquiou. In the decorative field of metalwork the German firm J.P. Kayser Sohn of Krefeld, with their trade name 'Kayserzinn', was highly praised. As previously noted, the English firm Liberty

308) Garner, Philippe Art Nouveau for Collectors, p.35.
309) Ibid., p.36.
310) "Art Nouveau in Finland" (refer to Appendix notes - Brochures).
311) Garner, Philippe op.cit., p.113.
and Co. had begun retailing 'Kayserzinn' ware, probably following its success in Paris. The Germans were also represented in furniture design, by the undecorated simple designs of Riemerschmid; though it is not revealed how successful this work was, probably because French furniture dominated the Exhibition and was so radically different to Riemerschmid's ideas.

Often French furniture, along with jewellery, is considered to most successfully express Art Nouveau forms. "French cabinet-makers used wood as if it were clay." Ignoring the grain, they expressed twisted organic forms which often appeared almost fluid. This is carried further by the use of many unusual timbers such as pearwood and cherrywood, often included together to create superb inlaid marquetry work. The Nancy designer Gallé, for example, was known to use some three hundred local or exotic fruitwoods, never using stain, preferring to express their natural colouring.

It was also in furniture design that the distinction between the Paris and Nancy schools was most distinctly illustrated. Parisian designs used more stylised and abstracted natural forms, with an emphasis on elegance. Often giltwood was used in Paris, or finer timbers, such as Guimard's favourite - steamed pearwood. The furniture of Nancy was characterised by provincial strength, forms tended to be heavier and more imposing, and the inspiration from nature was more direct. Often a structure would be carved as a plant rather than lose the quality of growth by stylisation.

Architecturally the year proved to be a very busy one for both Sauvage and Guimard. Sauvage designed two buildings for the Paris Exhibition - the 'Guignol' Pavilion and the auditorium for the dancer Loïe Fuller. The two commissions were again obtained through a friend, the artist Frantz Jourdain. The completed Guignol pavilion revealed a strong Japanese influence in the structure, which used

313) Madsen, Stephan Tschudi  Sources of Art Nouveau, p.421.
314) Ibid., p.17.
315) Ibid.
exposed double supports for beams.\textsuperscript{316} The Loïe Fuller building was quite a contrast with its stucco facade, which appeared like a giant velvet stage curtain parted at the centre to reveal the entrance. Above this central doorway was a sculpture of Loïe Fuller, captured in a typical pose and clad in characteristic flowing silk. For this building Sauvage collaborated with the sculptor Pierre Roche, who is credited with strongly influencing the final design.\textsuperscript{317} It was following these projects that Sauvage's style abruptly changed, completely abandoning the flowing lines of Art Nouveau for more geometric linear forms. This first appeared in another building he erected in Paris. For this project he adopted a steel frame with brick infill structure, which was quite rare in Paris during this period.\textsuperscript{318}

Meanwhile, Guimard had been asked to design the entrances for the new Paris underground. These became his most famous and controversial designs. The project began as a competition announced by the Compagnie du Métropolitain, as early as 1896. Guimard did not enter the competition, and it was subsequently won by the architect Dury, whose designs were described as dull academic solutions.\textsuperscript{319} It is worth noting here that contrary opinions suggest that Guimard did enter the competition,\textsuperscript{320} although stronger evidence suggests he did not.

Ten years earlier, in 1886, the architect for the Paris Opéra, Charles Garnier, had written to the Minister of Public Works saying that the Paris Métro must not develop an industrial character. He felt the new entrances should be works of art, in keeping with the museum qualities of Paris. Due to the poor results of the competition a decision was made by André Bénard, president of the Conseil Municipal de Paris, not to use Dury's designs. Bénard was a known supporter of Art Nouveau, and subsequently Guimard was asked to take

\textsuperscript{316} Delevoy, Robert and others \textit{Henri Sauvage 1873-1932}, p.37.
\textsuperscript{317} \textit{Ibid.}, p.38.
\textsuperscript{318} \textit{Ibid.}, p.38.
\textsuperscript{319} Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Cantacuzino, Sherban "Hector Guimard", p.17).
\textsuperscript{320} "Master of the Soft Line", p.296.
over the project.321

From the brief he evolved three main types of entrances: i) open steps with railings (Fig.47a), ii) covered steps (Fig.47b), and iii) complete pavilions (Fig.47c, some including waiting rooms). Although it is not immediately apparent in these structures, Guimard evolved a modular and standardised series of glass and iron components to speed up manufacture and construction,322 and I would think to reduce overall cost. The problem of designing railway entrances was not a new one, as London, Budapest and Vienna underground railways preceded the Paris Métro. Each of the other cities used different solutions, and the only example where some kind of parallel can be drawn is Wagner's entrances for the 'Stadtbahnstationen' in Vienna (refer (Fig.43);323 although it is immediately apparent that Wagner's designs cannot be compared to Guimard's in any way.

Apart from creating such unusual forms, exploiting the malleable and sculptural qualities of cast iron, and capturing the dynamism of natural forms in a highly stylised way, Guimard's structures are totally practical. For example his entrances surviving today are far easier to locate than subsequent designs.324 Guimard's Métro's form an excellent link in the townscape between the hard surfaces of buildings and pavements and the soft quality of trees (Fig.47a). Also, the scale of the entrances is right, not only with regard to surrounding buildings but more importantly relating to human scale. It is not just the three-dimensional form which makes these entrances stand out, but also the large Art Nouveau station signs painted in yellow (Fig.47d); although this lettering did meet with some criticism when it was first erected. One French critic wrote: "These disorderly hieroglyphics confuse little children who are trying to learn their letters and they stupefy foreigners as they wander through Paris".325 Also, the decorative cast iron panels surrounding some of the first type of entrances (Fig.47e) reveal a capital 'M'

322) Ibid.
323) Ibid.
324) Ibid.
a) Type 1 - open steps

Figure 47

Hector Guimard: Paris Métro Entrances, 1900

b) Type 2 - covered kiosk
Figure 47  Hector Guimard: Paris Métro Entrances

c) Type 3 - Pavilion
d) Sign Lettering

e) Detail of Cast-Iron Panelling

Figure 47
Hector Guimard: Paris Métro Entrance
for Métro cleverly woven into the design. Structurally the entrances are very practical, particularly in the second type (Fig.47b), where the roof girders act as gutters, and the wired-glass roof panels, floating over the structure like butterfly or dragonfly wings, are of standardised dimensions. At first glance this is difficult to see due to the unusual undulating application.326

On a more aesthetic level, the structures are intricately painted in various shades of green and in the first type (Fig.47a) the two large stalks either side of the sign grow into some kind of plant pod and form lamps covered in amber glass. In the second type (Fig. 47b) the lower section of the internal walls are panelled in a beautifully enamelled design, in typical whiplashing curves of yellow, black, brown and blue on a burnt orange background.

Unfortunately later, in 1904, Guimard fell out of favour, when his design for the entrance outside Garnier’s Opéra building was refused and given to another architect. However, Guimard’s designs for the first type of entrance went on being used between 1900 and 1913, when 141 of these were installed. Today, though, only a small number of Guimard’s entrances still exist, and these are predominantly the first type, with only one of the second (located at Porte Dauphine), and none of the third (pavilion type) still in existence.327 The ones that are left still have a fantastic effect, best described by the artist Salvador Dali when he said, "... these divine entrances of the Métro in Paris, by the grace of which one can descend into the region of the subconscious of the living monarchical aesthetics of tomorrow".328

Horta, the leading architect in Brussels during this time, designed a number of minor projects and the Maison Aubecq (1900). This building is important, as it signifies another change in his style, to quieter, more restrained linework and form. His interiors begin to reveal a calmness which would continue in later work. This change

is considered to be influenced by Louis XV and neo-Rococo styles, 
with touches of Gothic.\textsuperscript{329} I feel the change was caused more by
his acute awareness of current trends. This aspect of Horta's 
character has already been revealed in the years leading up to 1892. 
Just as ideas had radically changed in the 90s, so they would again 
in the early 20th century.

Just out of Barcelona Gaudí received a commission for a house, which 
became known as 'Bellesguard' (meaning beautiful view). The name 
is synonymous with the location of this building on a hillside site 
with magnificent views of the land and sea. Gaudí has kept this 
in mind when designing the house, and has used random rubble as 
the main exterior building component. The warm rich colour of the 
local stone helps it to blend with the natural surrounds of brush 
and pine trees.\textsuperscript{330} Once again Berenguer collaborated with Gaudí on 
this project,\textsuperscript{331} and this may account for the unusual contrast 
between the geometry of the exterior and the rounded organic forms 
of interior spaces. Another interesting element on the exterior 
is Gaudí's characteristic use of an oversized floral cross crowning 
the narrow turret. The most notable quality of the interior is the 
contrast between large light-coloured surfaces and bright coloured 
ceramics, used with more constraint than in previous buildings. 
The atmosphere of the interior is further enhanced by Gaudí's 
skilful handling of artificial light. Structurally brick vaulting 
is used throughout, with the best example of this located in the 
attic. This structure is considered one of his most successful 
architectural creations.\textsuperscript{332}

Along with 'Bellesguard' he was also involved in a project of urban-
ism, again for Count Güell. The project became known as Park Güell, 
and Gaudí was involved with this from 1900 to 1914. Count Güell had 
purchased a large site on the barren slopes of the mountain behind Bar-
celona. He admired English Garden City planning, of which he

\begin{itemize}
  \item \textsuperscript{329} Madsen, Stephen Tschudi \textit{Sources of Art Nouveau}, p.317.
  \item \textsuperscript{330} Tarrago, Salvador \textit{Gaudí}, p.71.
  \item \textsuperscript{331} Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} 
                   (from: Mackay, David "Berenguer", p.66).
  \item \textsuperscript{332} Tarrago, Salvador \textit{op.cit.}, p.72.
\end{itemize}
had a direct knowledge, and intended to create a model of these ideas on his site in Barcelona. The plan was devised to build only in sunny areas, which left more than 50% of the total surface area of the site for planting. Gaudi’s original plan allowed for approximately sixty building sites of a triangular shape. These were skillfully arranged, and buildings were to be erected in the middle of the triangle so that they would not obstruct views from sites behind one another. Unfortunately the idea failed financially, with only three houses being built, and two plots sold, one of these to Gaudi. The apparent reason for this was the original isolation of the site from Barcelona; though Güell and Gaudi did seem aware of this, as the former had the headquarters for the Civil Guard built adjacent to the park and donated it to them. In the park design Gaudi included a high stone wall along the boundaries, and two buildings at the entrance to the park. The building on the right (Fig.48a) served as a porter’s lodge, and the one on the left as an office building. The site remained a private park until the 1920s, when descendants of Count Güell donated the land to Barcelona to be used as a public garden.

Gaudi’s design illustrates an excellent understanding of levels and spaces, and acts as an early forerunner to modern landscape design principles (Fig.48a) The most notable feature of the park is the skill with which pedestrian and carriage ways have been designed so that one can proceed throughout this steeply sloping site with a minimum of effort. This is of considerable importance when one considers the extremely hot summer conditions of Barcelona. Apparently the main roadway has been designed so that the slope does not exceed 6°. Also, throughout the park there is an abundant allowance of seating spaces in clearings, under the trees, or under the stone-covered viaducts. These viaducts were devised for the efficient movement of traffic above, while underneath pedestrians (originally site owners) could make their way to various places while being protected from the sun or rain.

Structurally this viaduct was carried on similar inclined columns to those used in the Güell Chapel. These were a combination of iron and stone, and it is remarkable how well the viaduct now blends in with the trunks of the mature trees. In the centre of the park is a huge open square on two levels. The lower level was meant to be a covered
proposed cross
on summit

viaduct

recreation
space

perimeter
bench seating
administration
building

main staircase
porters building

barcelona

viaduct

a) Axonometric

b) Park view of the terrace and bench with the market place below

Figure 46  Antonio Gaudí: Güell Park, Barcelona, 1900-14
market space, and the upper was provided for recreation. Structurally this space is also extremely interesting (Fig. 48b), as the large square acts as a surface for the collection of rainwater. The water percolates through the porous soil and runs down through the columns into a large cistern below the floor of the market space. This cistern has a capacity of more than 12,000 m³. Apparently Gaudí used concrete in construction for the park, the first time it was used in this manner in Spain. He obtained the material from one of Güell’s industries which manufactured a high quality cement. The structure below the recreation space consists of an innovative domed slab (an early forerunner to concrete waffle slabs). To obtain this he used a grid of reinforced concrete beams, on which sat flat tile domes. These actually carry the weight of the soil above. The whole structure is then supported on large Doric columns. For me, the use of the Doric Order formed another unusual and slightly confusing contrast to his other more plastic organic forms.

The long undulating bench which skirts the square was not added until approximately 1907-12 (Fig. 48b). To obtain the right profile for this bench, it is recorded that Gaudí made a workman sit naked on a layer of plaster. Whatever method he used, the bench is most comfortable, and reveals another practical concern, allowing for the runoff of water by providing holes at the back of the seat. For me the most surprising aspect of the design was the exaggerated bulge which supplies support to the lumbar region of the back. This is presently considered absolutely essential for comfortable seating.

Of equal interest are the more aesthetic aspects and fantasies which appear in the park, and this large curving seat acts as an excellent introduction. The entire profile has been covered in brightly coloured ceramic tiles and dishes, creating a myriad of extraordinary collages. Gaudí collaborated with his most promising student José Ma. Jujol to produce this work. These ceramics are continued under the square, where the domed ceiling is covered in broken white tiles, with an occasional feature being provided by large coloured circular motifs. The Doric columns are also surrounded by white tiles to a height of about one and a half metres. The grand staircase leading up to the market place is also clad predominantly in white tiles, with the surrounding curved walls in a checkerboard pattern of blue and white. The centre of the staircase contains plant beds and
unusual sculptural features; with the most bizarre of these being a coloured ceramic lizard head, and finally at the head of the stair a large ceramic dragon. Directly behind the dragon is a small cave-like seating niche. These ceramic features are expressed again along the top of the boundary fence, and the unusual domed roofs of the two entrance buildings. Many of Gaudí's forms have been likened to objects from the sea, and these roofs perhaps come closest. With their upraised scalloped edges and predominantly white ceramic cladding they appear like some kind of giant sea urchin. The left-hand administration pavilion has a tall narrow spine with a ceramic sculptured diamond pattern surface, and capped again by an oversize floral cross. Originally Gaudí had proposed a giant cross on the top of a hill on the western extremity (left, Fig. 48a) of the park. This was never realised, although the winding paths leading to the peak were, and from here excellent views can be obtained over Barcelona to the sea.333

It is also worth noting that, similarly to Mackintosh in Glasgow, Gaudí's change in design style during these years is strongly indicated by a parallel change in his graphic techniques. Throughout his projects he was known to go to great extremes to evolve his ideas through various graphic methods; not only to increase his own understanding of a problem, but to make his ideas understandable to others. As he began to use increasingly difficult structures, as in the Güell Chapel, the Güell Park, and the Sagrada Familia, he began to use intricate wire models using lead weights, in an attempt to understand the complex forces exerted throughout these structures.334

By now 'Stile Liberty' was beginning to emerge in Italy, with architects such as: Alfredo Premoli of Turin, and Giovanni Michelazzi of Florence. Both were strongly influenced by the plant-growth curves of Guimard. In Naples, Giovan-Battista Comencini developed a form somewhere between Mackintosh's verticality and French curvilinear. In Genoa architects added the influence of Baroque to produce a

333) This section on the Güell Park was compiled from a personal visit and: Terraga, Salvador Gaudi, pp.90-101, and Collins, George R. Antonio Gaudi, pp.18-19.

particularly flamboyant form, and the architect Annibale Rigotti and his contemporary Sommaruga felt a change to a more national discipline was needed. As with other countries earlier on, two schools of design began to emerge, one influenced by German and Austrian ideas, the other inspired by a combination of nature and the Renaissance. Rigotti moved in the former direction, closely following the 'Secession' and 'Jugendstil', admitting that Wagner became his model. Rigotti was later appointed supervisor of the buildings for the Turin Exhibition of 1902. The architect for these buildings was d'Aronco, who was selected by a committee in 1900. Rigotti subsequently supervised these buildings, because d'Aronco was still working in Turkey (refer to 1898).

Perhaps the single most important design event of this year in Vienna was the eighth Secession Exhibition held in Olbrich's newly completed building. For this occasion, the Glasgow designers 'The Four' had been invited individually to furnish an entire room. This was the first work executed by Mackintosh on the continent. Prior to this he had not visited the continent since his Italian trip in 1891. Knowledge of the group's work may have been acquired from the Liège Exhibition of 1895, but it is more likely that it came from the illustrated articles by Koch in Dekorative Kunst 1898 and 1899. Prior to this the connection between Germany, Austria, and Scotland was made by the much admired work of the artists, the 'Boys from Glasgow', who exhibited their paintings in Munich in 1891. Following this a few of the group exhibited with British artists in Vienna in 1894, and it is suggested that from this time onwards Vienna kept up with developments in Scotland. It is also believed that, prior to the exhibition, the wealthy patron of the new art movement - Fritz Wärndorfer, and his wife, had visited Scotland to meet Mackintosh, and assess the work of 'The Four'. From this meeting the Wärndorfers and the Mackintoshes seem to have formed a friendship, as they subsequently toured the Scottish Lochs together.

It was from this series of events that Charles and Margaret Mackintosh visited Vienna in the autumn of 1900. Herbert and Frances MacNair did not accompany the Mackintoshes, although examples of their work were displayed. Most of the exhibition consisted of pieces from the Mackintoshes' Mains Street flat, and other work they had designed for friends. The display was characteristic of Mackintosh's mature style,
and the work aroused considerable interest; though of most importance was the strong similarity between Mackintosh's and Hoffmann's styles, both revealing an interest in linear patterns, and the use of the square as a motif. Research has revealed that prior to the exhibition no contact had been made between the two architects, and that the similarity in styles developed naturally from striving for similar goals.

Following the success of the exhibition Mackintosh was commissioned by the Wörndorfers to design a music room in their Vienna house. This was subsequently designed and constructed between 1901 and 1902. The display at the Secession Exhibition was later exhibited in Turin, Budapest, Munich, Dresden, Venice, and even Moscow. Margaret and Charles returned to Glasgow revitalised and full of enthusiasm, ready to convert their countrymen to the new design style.

The architectural style which had developed through Wagner, Olbrich and Hoffmann by 1900 gradually became simpler and more geometric in form. The building appears to rest more firmly on the ground, and surfaces are given an apparent lightness by a more restrained and elegant verticality in decorative motifs. Apart from this characteristic decorative work, Hoffmann had designed his first house, the artist Klimt had caused a public outcry with his painting 'Philosophy', proposed for the university ceiling, and the prominent artist Moser had given up painting to teach.

The group of designers consisting of Endell, Riemerschmid, Pankok and Paul, collectively known as the Munich School, had reached their mature design style by 1900. Their work had become characterised by

336) Madsen, Stephan Tschudi Sources of Art Nouveau, p.401.
340) Madsen, Stephan Tschudi op.cit., p.399.
341) Powell, Nicolas The Sacred Spring, p.67.
342) Ibid., p.131.
343) Madsen, Stephan Tschudi op.cit., p.409.
a markedly constructive approach. This was most apparent in their furniture, which has an abundance of supporting struts and joints. These struts are often arched, forming rectilinear planes and edges, and providing an overall result which is characterised by the interplay of angles between straight lines and slight curves. All forms present a sturdy, slightly heavy appearance, and indicate a similarity with the furniture of Serrurier-Bovy and van de Velde.\textsuperscript{344}

It is important to make a point about the changes which took place in Vienna and Germany during these years in design ideas. Already a distinct split can be seen between the undulating flowing lines of Art Nouveau, and the crisp straight vertical and horizontal lines of Viennese and German designers. This style would continue to move away from Art Nouveau, and lead directly to the Modern Movement, which would dominate all fields of design following the Great War.

Ashbee and his wife Janet visited America again in 1900,\textsuperscript{345} where he recorded that in Chicago he received his warmest and most sympathetic welcome. During his visit, and the ten different talks he gave on behalf of the British National Trust, he also met Frank Lloyd Wright, and the two architects developed a firm friendship. Ashbee’s work was already known in Chicago, as it had been exhibited in 1898 and in 1900 by the local architectural club.\textsuperscript{346} During their stay, Janet Ashbee also visited Elbert Hubbard’s experiment in craftsmanship and communal living at East Aurora, New York. This visit provides an interesting connection with a similar workshop which Ashbee would later found in the Cotswolds, back in England.\textsuperscript{347} Apart from Ashbee, and Crane who had come before him, a third Englishman, Joseph Twyman (1842-1904) promoted Arts and Crafts ideas in America. Twyman lectured in Chicago, primarily on architectural issues, and unlike his predecessors permanently settled in America.\textsuperscript{348}

Throughout all countries around 1900, wealthy patrons had a crucial

\textsuperscript{344}) Madsen, Stephan Tschudi Sources of Art Nouveau, pp.418-420.  
\textsuperscript{345}) Gebhard, David “C.F.A. Voysey - To and From America”, p.306.  
\textsuperscript{347}) Winter, Robert W. “American Sheaves from 'C.R.A.' and Janet Ashbee, p.318.  
\textsuperscript{348}) Brooks, H. Allen op. cit., p.314.
role in the development of Art Nouveau. In France it has already been revealed how many designers were promoted by single clients. Among these were Count Robert de Montesquiou, Sarah Bernhardt, and Loïe Fuller. The situation was similar in Belgium, with artists receiving commissions from the rich aristocracy and wealthy bourgeoisie who viewed their patronage as a cultural mission. In Germany the most prominent of these patrons were Count Harry Kessler, Eberhard von Bodenhausen, The Grand Duke of Hesse, and Walter Rathenau; while in Austria new design was promoted by Fritz Wärndorfer. Finally, an enormous amount of Gaudí's work came from the patronage of Count Güell. Without this form of support there can be no doubt that Art Nouveau would not have blossomed and achieved such far-reaching results.349

Art Nouveau designers went to nature because they were in need of forms to express growth, not of human making, organic not crystalline forms, sensuous not intellectual forms.350

All this was about to change, for while 1900 signifies the full flowering, or peak of the Art Nouveau Movement, the year also marks a turning point. For while some excellent examples of the style continued to be produced, particularly in architecture, increasingly events revealed the imminent end of the style.

1901

On the Ashbee's return to England from their American tour, Ashbee met with the members of his Guild of Handicrafts (founded 1889), and subsequently decided to move the Guild from London to Chipping Campden in the Cotswolds. It has not been determined as to how much Janet Ashbee's visit to East Aurora in New York determined this decision, but the ideals of both communities were very similar. Also, Hubbard, the founder of Aurora, visited the Ashbees not long

350) Pevsner, Nikolaus The sources of modern architecture and design, p.73.
after they had moved to Chipping Campden. They settled into the village very quickly, taking over the old Woolstapler's Hall and remodelling it as their home. In the years which followed many of the medieval buildings throughout the village were remodelled by Ashbee and the Guild members. He also recorded his ideas on creating the Guild, in his study titled: Endeavour towards the Teaching of John Ruskin and William Morris (1901). Back in London, Liberty and Co. was achieving great success with the silverware of the 'Cymric' range, begun in 1899. Liberty had commissioned an old Birmingham manufacturer, W.H. Haseler, to supply a wide range of decorative silverware from buttons, buckles and brooches, to more important jewel caskets, bowls, and tea services.

Following his return to Glasgow, Mackintosh submitted a design for the German 'Haus eines Kunstfreundes' (House for a Lover of Art) competition. The subsequent winner of this was the Englishman Baillie Scott, with Mackintosh's and Leopold Bauer's designs being highly commended. The three designs were published separately in portfolio form by Koch in 1902. Of these designs Mackintosh's seems to have obtained the greatest attention, and it reveals many of his characteristic elements of earlier buildings. The design is very similar in external form and internal planning, to both 'Windyhill' and 'Hill House'; though again the point worth noting is the skilful handling of space, particularly the contrast between the narrow entranceway and the large reception hall, with the upstairs corridor exposed as a mezzanine gallery overlooking this space. This moving from a small darker entry into a large well-lit reception area has an enormous impact and visual appeal.

During the same year the Wärndorfer Music Room was also designed in characteristic fashion, with the unity of everything in the room of prime consideration. Similarly to the Secession Exhibition Room, this project was predominantly white, with lavender and rose-coloured accents. All of the furniture displayed a similar exaggerated

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352) Garner, Philippe Art Nouveau for Collectors, p.84.
elongated form, with the unusual piano forming a focus of attention. Here Mackintosh has taken his ideas on unity to the most extreme, attempting the difficult task of remodelling a grand piano: the result a large rectangular form, richly decorated with a flying bird motif in high relief, and supported on four enormous legs. This became a feature of the room, and appears to have been much admired. The overall composition was the first complete commission of its kind executed by Mackintosh on the continent, and it caused a sensation amongst Viennese artistic circles.354

Over the years Mackintosh had continued his association with Miss Cranston, and between 1901 and 1902 he was commissioned to design the third and fourth sections of the Ingram Street Tearooms. This was the first time he had been given complete control by his client, and he subsequently removed the party wall between the two sections to make one large suite of interconnecting apartments. Throughout the space, and on different levels, he created a series of rooms. In context with his ideas on interiors each of these had a specific theme - The Oak Room, The Cloister Room, and the China Tea-Room. Each had a particular function, with the fittings and materials being selected and designed in accordance with this. Again pieces were incorporated which had appeared at the Vienna Secession Exhibition. An example of this was two large gesso panels designed by Charles and Margaret, and located on opposite walls in the main dining room.355

Following his success at the Paris Exhibition, the graphic artist Grasset wrote:

Every curve gives the idea of movement and life ... the trace of the curve should be full, rounded, firm, and harmonious like a stalk full of young sap.356

In Nancy the style had lost its heaviness, and began to flow more smoothly, with larger plain surfaces and a more confined use of

355) Ibid., pp.131-136.
decoration, which has become more abstract.\textsuperscript{357} Similarly to Grasset, van de Velde stated his view: "Linie ist eine Kraft" (line is a force\textsuperscript{358} - not unlike Crane's proposals back in 1892). Horta executed quite a few designs about which little information is available.\textsuperscript{359}

During the period 1901-07 Italian design became strongly influenced by the combined ideas of the German Darmstadt School, French forms, and the American Frank Lloyd Wright and his Prairie Domestic style. Intermingled with these various influences was the emergence of the Italian 'Floreale' style. This was most characterised by an extensive use of floral decorative motifs. The most important architectural work was the design for the 1902 Turin Exhibition by d'Aronco. His design of the previous year had been scrapped, and completely revised in 1901. Of all the buildings the most successful, even according to the architect, was the Rotunda (Fig.49). This was the main entrance to the exhibition, and for the design d'Aronco admitted he had been influenced by the dome of Saint Sophia (Istanbul). Indeed other than the Turin Buildings, d'Aronco designed his best work in Turkey between 1901 and 1907.\textsuperscript{360}

It is also interesting that the Rotunda, although smaller and more compact, in form is not unlike Mackintosh's concert hall for the Glasgow Exhibition, designed in 1898. Again in d'Aronco's building the low dish-shaped dome is supported on twelve columns. In the front of the Rotunda these sweep out into massive buttresses. However, the exterior treatment is entirely different from Mackintosh's ideas, with decorative motifs around the walls very similar to the Austrian Secession Style, and the French being represented by the abundance of larger-than-life Art Nouveau females clad in characteristic flowing materials. An unusual feature is the projecting hoods, which appear like butterfly wings over the large glazed lights to the dome. The glazing is unusually divided by transoms and mullions into square panes. The paving surrounding the Rotunda consisted of

\textsuperscript{357} Madsen, Stephan Tschudi \textit{Sources of Art Nouveau}, p.354.
\textsuperscript{358} Waddell Roberta \textit{The Art Nouveau Style}, p.x.
\textsuperscript{359} Kaufmann, Edgar "Victor Horta", p.136.
\textsuperscript{360} Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Nicoletti, Manfredi "Art Nouveau in Italy", pp.41 and 53).
Figure 49  Raimondo d'Aronco: The main rotunda of the Turin Exhibition 1900-02
geometric patterns in green and white cement, with d'Aronco specifying the planting of small gardens with geraniums and poppies.\textsuperscript{361} This to me is typical of the Italian style, which was often characterised by an overabundant enthusiasm, often reflected in decorative treatment (though this is not unique to this period by any means, as it stems from traditional styles where the Italians were often carried away with decoration).

As well as the Rotunda d'Aronco designed a number of other features, including a pavilion for automotive exhibits. This building was a complete contrast to the Rotunda, revealing more restraint and refinement in its form, structure, and decoration. The clean volumes of the buildings were enhanced by a colour scheme inspired by the Austrian Klimt, and included gold, blue, and pale green on a white background.\textsuperscript{362}

Another student of Wagner, Plečnik, joined the Secession in 1901 and remained a member until 1907.\textsuperscript{363} His contemporary, Hoffmann, designed his second house next door to the first designed in the previous year. His client was Hugo Henneberg, a printer and Japanese print collector. The facade of the house consisted of an asymmetrical layout of windows, with the door moved to one side. Internally Hoffmann designed all of the furniture, with one piece - a corner cupboard - designed by Mackintosh for the Secession Exhibition (1900). In the hall hung Klimt's portrait of Henneberg's wife (1901-01).\textsuperscript{364}

Following Behren's move to Darmstadt, he designed his own house. Originally an artist, he had converted to architecture during the late 90s during the peak of the Art Nouveau Style. His house at Darmstadt, however, reveals the little influence the style had on his work. The building reveals very clean linear forms, with only the unusually curved roofs of the dormers providing a slight

\textsuperscript{362} Ibid., p.42.
\textsuperscript{363} Powell, Nicolas The Sacred Spring, p.62.
\textsuperscript{364} Ibid., pp.67 and 70.
connection with Art Nouveau. As revealed in the 90s, America never did adopt Art Nouveau forms to any great degree, and by 1901 Frank Lloyd Wright's manifesto outlined the direction in which American design would strive to develop in the years to follow. The manifesto was titled The Art and Craft of the Machine. In this Wright promotes an age of steel and steam, where machines of all kinds will take the place of traditional forms of art, and buildings will become simplified, light and airy, and the consideration of three-dimensional space will be of prime importance in architecture. Elsewhere, the architect Wilson Eyre, founder of the 'T Square Club', and a promoter of the American equivalent to English Arts and Crafts, was involved in introducing the House and Garden magazine, first published in 1901. This subsequently provided strong support of Philadelphian ideas on the "artful blending of house and garden, convenience, art, craft, and nature."

1902

During this year Guimard was involved in founding the Society 'le Nouveau Paris', and in the English magazine The Studio he published his opinion of Art Nouveau, and his personal design objectives. He designed a house in Versailles, and three buildings for the Nozal Company: a pavilion in Paris, Hangers for Léon Nozal, Hôtel Nozal, and finally Castel Val near Auvers-sur-Oise. Most of these buildings are now demolished, but surviving photographs and drawings of the Hôtel Nozal provide a record of Guimard's style during this time. The entire exterior of the Hôtel Nozal is a total expression of Art Nouveau forms: every surface appears to be in

365) Madsen, Stephan Tschudi Sources of Art Nouveau, p.423.
368) Dunster, D. Hector Guimard, p.103.
370) Dunster, D., op.cit., p.103.
movement due to the undulating curving surfaces. The main facade of the building has a symmetrical composition, a most unusual departure from Guimard's usual design ideas.371

Though, elsewhere in Paris a building was being designed which would reveal changing ideas, and a departure from the curves of Art Nouveau. This was the apartment block located at 25bis rue Franklin, designed by the architect Auguste Perret (1874-1954). The building is eight storeys high with the two upper storeys receding from the main facade. On the roof is an open terrace with some planting - a forerunner of roof gardens to come. Of most importance is the structure - the first private house in Paris to use a concrete frame. The vertical and horizontal lines of this frame are expressed on the facade, although surfaces are clad in ceramic tiles with a floral pattern in strong relief. Pointing more to the future is the advance and recession of forms, considered as modelling of three-dimensional space, only previously understood by Mackintosh. The facade is symmetrical, with bay windows projecting out over the two main entrance doors, appearing to be balanced without any support for six storeys. To further emphasise this, the centre of the facade372 recedes dramatically.

Horta's work in Brussels appears to have considerably decreased, and although he did design a restaurant, a number of monuments, and a house, once again information on these is lacking.373 His contemporary van de Velde seems to have met with continued success and his jewellery of this year represents Art Nouveau in its most expressive form. An example of this is a jade pendant set in a gold curvilinear form.

The jade looks so much softer than the gold that it seems as if only a miracle prevents the hard translucent oval from going out of shape and lolling over its rim of gold like one of Dali's limp watches.374

Indeed, the importance of Jewellery during this period cannot be overstressed, as it was in this field of design that many sources fuel the style attained its greatest expression and achievement. As previously noted, symbolism played an important role in design. Women of the period who chose to wear this fantastic jewellery appeared to be making their own personal stand for 'modern' ideals, independence, and non-conformism. This was all in keeping with the ideal Art Nouveau woman, 'La Femme 1900', who had already appeared many times in posters, sculpture, and on the stage. In a number of designs the female form was combined with animals and insects, the most popular being the dragonfly and peacock, and combinations such as half woman, half butterfly.\footnote{Garner, Philippe \textit{Art Nouveau for Collectors}, pp.91-92.}

The German architect Walter Gropius, who in later years would lead the movement away from Art Nouveau, visited Barcelona in 1902. He had just finished his studies and had made the trip to experience totally strange surroundings, and hopefully discover some direction in his work. Apparently while in Barcelona, after seeing current examples of ceramics and textile design, he admitted to a group of architects that he had "found his line".\footnote{Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Mackay, David "Berenguer", p.63).}

Considered of great importance to all areas of design, was the Turin Exhibition of Decorative Arts (1902).

\begin{quote}
This event made a dramatic splashdown in the still waters of Italy’s intellectual life. The genial and joyful lines of these pavilions [d’Aronco’s - refer Fig.49] gave a delightful shock to Italians and foreigners alike.\footnote{Ibid. (from: Nicoletti, Manfredi "Art Nouveau in Italy", p.40).}
\end{quote}

The idea behind the exhibition was expressed in \textit{The Studio} (16 June 1902), which reported that it was to be a review of work over the previous ten years of artists throughout Europe and America, and the movement which had begun in England 40 years prior to the exhibition. Turin was in a way a culmination of many years of struggling for democracy and dignity that united intellectuals and the working class.
of Italy. 378 This collection of international work "assured for
the Turin Exhibition of 1902 unusual importance in the history of
art". 379

It appears that the overall result of the exhibition was more im-
pressive for quantity rather than quality. With gallery after
gallery crammed to capacity it was extremely difficult to form a
clear-cut objective appraisal of the work. Some of the Italian work
was criticised for a bizarre novelty value rather than quality. The
English work was not distinguished for originality, but craftsman-
ship and finish were excellent. English designers represented were:
Ashbee, Crane, Townsend, Benson and Voysey. The German work presented
was disappointing, giving an appearance of confusion as to what
direction their design ideas were heading. 380 Apparently "... one
observer remarked that it contained as many ideas as there were
states in the German Empire, a criticism which could have been
levelled equally at almost every exhibitor". 381

The Scots were also represented in Turin, by Charles and Margaret
Mackintosh, Herbert and Frances MacNair, Mrs. Newberry, Ann Macbeth,
and their students. 382 To prepare their display Mackintosh had
travelled to Turin with his old headmaster and friend Newberry. 383
Mackintosh immediately caused some controversy at the exhibition
when he modified the three rooms allocated for their work in d'Aronco's
building. The result of the displays was characteristic of Mackin-
tosh's work - predominantly white surfaces and furniture, which
"immediately captivated or repelled the onlooker". 384 While the
work of the Scottish designers was not highly successful, Mackintosh
on the other hand was not very impressed by d'Aronco's buildings.
He had met his Austrian friend Wärndorfer at the exhibition, and had

376) Pevsner, Nikolaus and Richards, J.M. The Anti-Rationalists
(from: Nicoletti, Manfredi "Art Nouveau in Italy", pp.40-42)
377) Ibid., p.40.
378) Ibid., p.165-166.
379) Ibid., p.xxxvii.
380) Ibid., p.166.
381) Ibid., p.163.
382) Ibid., p.166.
383) Ibid., p.166.
remarked that d’Aronco’s work was a poor copy of Olbrich’s buildings at Darmstadt.\textsuperscript{385}

Wörndorfer subsequently conveyed this to Hoffmann in Vienna, and also stated how Mackintosh was looking forward to seeing him in Turin.\textsuperscript{386} Prior to the exhibition Mackintosh had written to Hoffmann, asking him to interpret and supervise his design for Wörndorfer’s Music Room.\textsuperscript{387} In the autumn of the same year Wörndorfer and his wife had again visited the Mackintoshes in Glasgow, where they saw a number of buildings including Mackintosh’s ‘Hill House’ for Blackie, which was still under construction. Shortly after Wörndorfer’s visit Hoffmann also visited Glasgow, though his main purpose for the trip to Britain was to learn more about English guilds of handicraft. He was an admirer of Ruskin and Morris, and was particularly interested in Ashbee’s Guild in the Cotswolds, feeling this may provide a model for a similar venture in Austria.\textsuperscript{388}

In the same year Wagner won the competition for the Church of the Lower Austrian Mental Institution, located just outside Vienna on the top of a steep slope near the Vienna woods. He was involved with this project between 1902 and 1907. The design is based on a Greek cross plan, a central block surmounted by a huge gilded copper dome; to the west of this projects a portico, which is flanked by two towers topped by massive statues of sitting saints. The interior is lit by two large stained glass windows designed by the artist Moser. The exterior is clad in marble sheets bolted to the facade. Of most significance, though, is the distinct movement away from Art Nouveau forms on the exterior, where only the sculptural and decorative work provides some connection.\textsuperscript{389}

This break with Art Nouveau was further indicated by the Secession Exhibition of 1902 which was organised by Moser. A report of the

\textsuperscript{385} Howarth, Thomas Charles Rennie Mackintosh and the Modern Movement, p.xxxvii.

\textsuperscript{386} Ibid.


\textsuperscript{388} Howarth, Thomas op.cit., p.xxviii.

\textsuperscript{389} Powell, Nicolas The Sacred Spring, pp.55-56.
exhibition was published in *The Studio*, where it is noted there were fewer paintings than usual, though this field still dominated the displays. It was in paintings that the change was most apparent, "... one no longer sees hanging on the walls the ultra-secessionist art figures which used to cause nothing but wonder".  

Another change was taking place in Germany, where Muthesius, one of the founders of the 'Deutscher Werkbund', wrote in his *Stilarchitektur und Baukunst* of the beauty of such buildings as the Crystal Palace, and the Galerie des Machines. He promoted station halls and covered markets as buildings which achieved magnificence through the extensive use of glass. The German Jugendstil, more than any other form of Art Nouveau, was only a transition, and due to its late introduction it subsequently developed, reached maturity, and was discarded more quickly than in any other country. Germany became increasingly interested in functional, clean, undecorated linear forms, and these interests were taken and promoted by the designers born in the 80s who would go on to become leaders in their fields. This change could be seen in Darmstadt, where a great deal of work had been carried out and the colony was now well established. In 1902 *The Studio* published an article on Behren's House and the enormous amount of work carried out by Olbrich at Darmstadt. The publisher Koch promoted Mackintosh's work when he devoted almost the entire issue of *Deutsche Kunst und Dekoration* to the Glasgow designer in September. Also, Mackintosh's Kilmacolm gravestone of 1898 had been previously illustrated in Meier-Graefe's Munich magazine *Dekorative Kunst* (March 1902).

It seems the architect Wright began to increasingly affect American

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392) Madsen, Stephan Tschudi *Sources of Art Nouveau*, p.429.
393) Fred, W. "The Artists Colony at Darmstadt" (Appendix - Periodicals).
395) Ibid., p.163.
design ideas during these years, and no longer can any link with Art Nouveau be suggested. His style was increasingly dominated by low horizontal lines and geometric forms, free from any kind of decorative elements.

1903

Along with his employers, Honeyman and Keppie, Mackintosh submitted a design for the Liverpool Anglican Cathedral. The proposed church was an enormous building when compared with Mackintosh's earlier Queen's Cross Church in Glasgow. Once again his competition design was highly commended, though the winning design was of a more traditional form. Mackintosh's design was dominated by bold massing, consisting of a predominant central battered tower, similar in form to Queen's Cross, and two large square towers at the western (main) entrance to the church. The most characteristic feature was the extensive use of buttressing, particularly a repetitive bank of these elements along the wall of the main nave.

He also received his final and most important project from Miss Cranston, for the Willow Tea-Rooms (1903-04). Unlike his previous work for Miss Cranston, Mackintosh designed the entire project including the building and all interiors. The site was extremely narrow and restrictive and he produced a most unusual facade, dominated by simplicity and its smooth light-coloured surfaces. His forms have become increasingly influenced by straight lines and the square motif, rather than curves. Apart from his characteristic style for the interior decorations, it is the way the internal spaces are created which is of prime importance. The planning is again simple and functional, with the main staircase connecting all floors located directly opposite the main entrance. Instead of using walls in many cases to divide up space, he uses changes in ceiling levels or characteristic screens made up of thin vertical rods, which act as a physical barrier, but not a visual one. The back room of the building was surprisingly airy and well lit, only made possible by creating a large rooflight, and light well, by turning the second floor into a mezzanine gallery surrounding the ground floor. Also, Mackintosh's unusually elongated high back chairs, well known for their lack of
comfort, did serve a fascinating purpose in these tearooms. Apparently when these chairs were arranged around a table, they created a kind of intimate space within the surrounding room, providing visual separation from other tables. Apart from the suggestion that Mackintosh's facade for this building indicated a move away from Art Nouveau, many features about the decoration, both externally and internally, indicate his continuing interest in the style. This is particularly evident in the stained glass panels used throughout the building.  

Guimard designed three buildings in 1903: a house at Chaponvale, a studio, and an apartment block. The first of these is noted for "... its magnificent siting on a hilltop which rolls down to the Oise River is characteristic of Guimard, whose attention to the contours of nature was the inspiration of his art". The apartment block was his second commission from the Jassédé family (refer Hôtel Jassédé 1893), and was similar in plan to his Castel Béranger, consisting of two adjacent blocks, though without the courtyard of the former building. It was necessary to split the Jassédé apartment into two blocks, as each would house a different 'class' of occupant. This has led to an interesting solution, with the back half being constructed in a cheaper brick than the front half. Also, in the back half there is a much more restricted use of finished stonework. The overall building reveals more restrained forms than in his previous work, though the curving undulating surfaces continue. In the more expensive half of the building (Fig.50), there is an interesting combination between light-coloured brick and finished stonework. The carved stonework, balcony and doorway ironwork designs have become far more refined and elegant in form. Unfortunately the building appears slightly unbalanced and top-heavy due to the narrow site, projecting balconies sweeping around the corner, and the unusual pointed roofed dormers which project like wings out over the eaves.

Following his Majorelle Villa in Nancy, Sauvage's style seems to


Figure 50  Hector Guimard: Jassédé Apartment Building, 142 avenue de Versailles, Paris, 1903-05
have dramatically changed. His design for Mr. de Lestapis for the Oceana Villa at Biarritz led to a style which has been termed 'Regionalism', and this would dominate his design ideas between 1903 and 1909.\textsuperscript{398} His curving undulating forms used on the Major-elle Villa have totally disappeared, being replaced by very rigid geometric compositions. Also, during this year Sauvage and his partner Sarazin had begun designing low-rent proletarian housing for the private company 'La Société anonyme des logements hygiéniques à bon marché'. Physical and mental hygiene for living conditions in Paris became an important issue at this time. The idea began to be promoted by politicians and prominent men of the time. One of these was Dr. Henri Cazalis, who wrote a book titled Les Habitations à bon marché, et un art nouveau pour le peuple (Paris, 1903). In this he promoted better housing and criticised French socialism for not sufficiently encouraging private companies in improved housing ventures. Cazalis subsequently founded a 'Société internationale de l'art populaire', to which Sauvage and the Belgian architects Horta and Serrurier-Bovy belonged.\textsuperscript{399}

The buildings Sauvage began to design for the Hygienic Low-Cost Housing Company introduced considerable innovative methods, the most notable being a reinforced concrete frame expressed externally with brick infill, and the internal function of the building expressed in the exterior shape.\textsuperscript{400} These forms were dominated by the straight line of column and beam, and were therefore moving increasingly further away from Art Nouveau.

Following Hoffmann's trip to Britain in 1902, Wärndorfer wrote a confidential letter to Mackintosh in March 1903 concerning the formation of a workshop in Vienna. This workshop would be led by Hoffmann and the artist Moser, with Wärndorfer's financial backing. This venture became known as the 'Wiener Werkstätte', and in his reply to Wärndorfer in June Mackintosh enthusiastically supported the project. He even included a design for a signet for the workshop.\textsuperscript{401}

\textsuperscript{398} Delevoy, Robert and others \textit{Henri Sauvage 1873-1932}, p.43.
\textsuperscript{399} \textit{Ibid.}, pp.63-64.
\textsuperscript{400} \textit{Ibid.}
After acquiring the money needed for such a venture, the 'Werkstätte' was officially founded when Hoffmann and Moser purchased a factory during the autumn of the same year. The aim was to produce better design and craftsmanship in many fields, to compete with the poor quality of existing factory-made products. As already noted, these ideas had been strongly influenced by English Arts and Crafts, and the 'Werkstätte' began with furniture, metalwork, wallpaper, textiles, ceramics, and glass ware. This expanded rapidly, and by 1905 there were more than a hundred workers and thirty-seven craftsmen producing work in the above fields.\footnote{Powell, Nicolas \textit{The Sacred Spring}, pp.92-94.}

Hoffmann also designed his first major building, the Pukersdorf Sanatorium between 1903 and 1905,\footnote{Ibid., p.66.} and his contemporary Plešník designed the Zacherlhaus during the same period. This was a combined business and apartment building, faced externally with blocks of brown-pink stone.\footnote{Ibid., p.62.} Once again the design of this building is pointing away from Art Nouveau, with its strong Vertical and horizontal lines, and windows without sills or lintels. Even decorative elements have become more geometric, particularly noticeable in the sculptured figures surrounding the projecting cornice of the building. The soft flowing curves of the female have gone, substituted by muscular chunky male figures. Finally, in Germany during this year (1903), the two publishers Koch and Muthesius widely publicised Mackintosh's two houses - 'Windyhill' and 'Hill House' - and Miss Cranston's Glasgow Tea Rooms.\footnote{Howarth, Thomas \textit{Charles Rennie Mackintosh and the Modern Movement}, p.168.}

1904

The massive amount of design activity which had taken place in England over the past three decades was now beginning to deteriorate. Mackmurdo had completed his estate known as 'Great Ruffins,\footnote{Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Pond, Edward "Mackmurdo Gleanings", p.115).} and...
following this he had virtually given up architecture and became more interested in sociology. In the Cotswolds, Ashbee's Guild was breaking down. This was being caused by competition, particularly from Liberty and Co. in London, and also from the Guild's internal troubles. Apparently many of the members had invested quite large amounts of money, and were revealing a concern about not getting suitable returns. The only area which appeared to advance during this time was town planning. Ebenezer Howard's ideas which had been published in 1898-99 were finally being realised in Parker and Unwin's plan for a garden city called Letchworth, located approximately thirty five miles north of London. Unfortunately this did not achieve great success, as by 1931 the city had no more than 15,000 inhabitants.

In Glasgow Mackintosh became a partner of the office, Honeyman and Keppie, and he designed the Scotland Street School (1904-06). This building is three storeys high and constructed in local soft red sandstone (Fig.51a). The plan is extremely functional and straightforward, and is considered basic standard board school practice of the period. The features I found of most interest were the interesting use of scale within the building, and the continued appearance of Mackintosh's characteristic Art Nouveau motifs in relief on the stone facade (Fig.51b). Interior spaces have an unusual scale which is strongly related to the proportions of children. This feature is most noticeable in the two semi-circular stairwells, where even the risers are smaller than those normally provided for adult use. While the plan may not be considered unusual, projected into three-dimensional form it certainly is. Classrooms on the upper storeys are provided with movable partitions, providing teachers with a facility to increase classroom size. Also, alongside the stairwell there is a mezzanine-like walkway, which on the lower

409) Pevsner, Nikolaus The sources of modern architecture and design, p.196.
Figure 51
Charles Rennie Mackintosh
Scotland Street School, Glasgow
1904-06

a) Main facade

b) Detail of stonework
levels provides visual connection with the ground floor gymnasium-assembly hall. Also in the stairwell Mackintosh has squared the landing off and stopped it short of the bow windows, providing a three-storey lightwell between the landings and these windows. The main facade (Scotland Street Fig.51a) is dominated by these large bay windows of the stair towers, and the interesting stepping back of the mezzanines on either side. Finally, the building is unusually symmetrical for Mackintosh, and characterised by large window openings providing ample natural light to interior spaces.

Due to the increasing demands of architectural commissions, Sauvage had closed down his Paris wallpaper shop (founded 1896),\(^{411}\) to devote his time to low-cost housing development. Guimard exhibited his furniture in the 'Salon d'Automne', and designed the Castel Orgeval (1904-05).\(^ {412}\) While his Paris apartment blocks may have indicated some restraint, the Castel Orgeval was the complete opposite. This building is perhaps Guimard's most bizarre, eccentric medieval creation (Fig.52). It totally lacks symmetry on every face, and contains the most incredible assortment of roof forms, from rounded to gable ends, all characterised by large overhanging eaves supported on an exposed timber structure. The massing of the building changes just as frequently, from butressing walls at right angles, to bow windows and a rounded turret. The materials used consist of timber, random rubble, and brickwork, all adding emphasis to the ever-changing forms. Occasionally these materials merge with one another in an attempt to bind the overall composition together.

Apart from Sauvage and Perret, the young architect Tony Garnier (1869-1948) was expressing interest in improved housing conditions and town planning. As early as 1901 he had designed a plan for an ideal industrial town. This was subsequently revised and exhibited in 1904. His architecture also expressed a new direction, and was dominated by undecorated forms expressing strong horizontal and vertical lines. What makes his plan so innovative is his aim to satisfy problems which can be directly linked with planning issues today. He also displayed an excellent early understanding of the use

\(^{411}\) Delevoy, Robert and others \emph{Henri Sauvage 1873-1932}, p.17.
\(^{412}\) Dunster, D. \emph{Hector Guimard}, pp.103 and 66-70.
Figure 52  Hector Guimard: Castel Orgeval, 2 avenue de la Mare-Tambour, Villemoisson, nr. Paris, 1904-05
of reinforced concrete. The major buildings of the town were to be constructed almost exclusively in reinforced concrete, and some of these display the use of cantilevers which go far beyond anything executed during that time.413

It is believed the work of the Nancy school dramatically ceased, when its founder and leader, Emile Gallé, died in 1904. Following this the Ecole de Nancy, founded in 1901, lost its former leading role in design development, "... and returned to the province's own Louis XV tradition".414

In Barcelona construction continued on the Güell Park, where Berenguer had designed a demonstration house to encourage the sale of sites. When the scheme failed Gaudí bought this house and its land. He eventually moved into the house, and apparently it was here that he and Berenguer breakfasted together every day for many years. Due to his health and deeply religious nature, Gaudí also walked from the Güell Park to Mass at his Parish Church in Barcelona every day (a considerable distance)415

The Vienna Secessionists had again extended an invitation to Mackintosh, this time for their 1904 exhibition. However, what actually happened is not clear, as the original Secession was beginning to come to an end.416 In architecture, Wagner had become involved with the Kaiseralb Dam Control Building (1904-08),417 and the Post Office Savings Bank, built in two stages between 1904-06 and 1910-12. In this latter building Wagner again reveals his move away from Art Nouveau forms, becoming more interested in symmetry and rectilinear massing. As the Post Office demands an appearance of stability, Wagner faced the building in white marble using exposed aluminium bolts in each corner. The parapet of the building is decorated by two large sculptural winged figures, also in aluminium, as are the

413) Pevsner, Nikolaus The sources of modern architecture and design, pp.158-159.
414) Madsen, Stephan Tschudi Sources of Art Nouveau, p.358.
417) Powell, Nicolas The Sacred Spring, p.57.
large cylindrical hot air blowers inside the building. Wagner always revealed an up-to-date knowledge of construction methods and this is evident in this project by his extensive use of aluminium. The main banking hall is flooded with light by a large glass roof suspended on metal bars. This incorporates a built-in system for melting snow and the walls surrounding the well are tiled white for increased light reflection. Office space has been made flexible by the use of adjustable partitions, and structurally reinforced concrete beams have been exposed on the ceilings.

During the same year Hoffmann received the most important commission of his career, the Palais Stoclet in Brussels (1904-c.1906). His client, the wealthy young businessman Adolphe Stoclet, wanted a house worthy of his art collections, and where he could entertain and give concerts (a brief not unlike Count Güell's for his palace in Barcelona 1886-91). The budget for this building appears to have had no limits, and this is immediately obvious in the completed building. While traces of Art Nouveau can be seen throughout, particularly in the extravagant inlaid gold mosaics by Klimt which adorn many internal walls of the building, the overall design reveals that Hoffmann's earlier linear and square motif tendencies have won the day. The exterior forms of the building are extremely geometric, with the cube and rectangle being the dominant ones. This even extends to the windows, which are all rigidly divided into small squares by dark broad metal transoms and mullions. While the building has many interesting features, I feel it is definitely an early forerunner of Art Deco, the style which dominated American ideas for a brief period following the First World War.

After the completion of Muthesius's term in London with the German Embassy and his subsequent return to Berlin, he published the book Das Englische Haus in 1904. In this three-volumed work he noted the strong separation between English and Scottish design ideas, and provided enthusiastic praise of both domestic design styles. The architect Endell, while not a particularly active architect in terms

418) Powell, Nicolas The Sacred Spring, p.55.
419) Ibid., pp.74-81.
420) Muthesius, Herman "A 1904 German Appreciation of the 'Glasgow Style", p.12.
of building output, opened his own school of design - 'Schule für Formkunst' - in 1904, although nothing is revealed about the success of this venture.\textsuperscript{421}

This year also signifies the end of an era in American Architecture, as Louis Sullivan designed his last building, the Carson Pirie Scott Store. While this building reveals Sullivan's ideas on lack of ornamentation, and bold simple lines influenced by the structural grid of the building, a connection with Art Nouveau can still be made in his intricate decorative panels to the ground and first floors.\textsuperscript{422} Following this the so-called Chicago School led by Sullivan began to dissipate in the later years of the decade. English ideas continued to have an effect in America, and during this year the architect Voysey received his only American commission, for a courtyard house in Massachusetts,\textsuperscript{423} while, in the decorative arts, the Englishman William Howson Taylor, promoted by his contemporaries as the world's leading studio potter, had his first international triumph at the 1904 St. Louis Exhibition.

1905

On the 16th January 1905 the Arts and Crafts held another of their frequent exhibitions. Walter Crane continued as president, and his work was displayed, along with Benson, Lethaby, Voysey and many others. Reflecting on the past twenty years of the Arts and Crafts, the exhibition revealed that the movement had had limited success in achieving its aims. It was felt that the main cause of this was poor public taste and a lethargic attitude within the society itself. They realised good design and craftsmanship was still a luxury to many people, and it would be some time before this would change.\textsuperscript{424}

\textsuperscript{421} "August Endell", p.99.
\textsuperscript{422} Pevsner, Nikolaus \textit{The sources of modern architecture and design}, p.180.
\textsuperscript{423} Gebhard, David \textit{"C.F.A. Voysey - To and From America"}, p.306.
\textsuperscript{424} "The Arts and Crafts Exhibition at the New Gallery" - First, Second, and Third Notices (refer to notes in Appendix - Periodicals).
In French Architecture, the structural and aesthetic qualities of reinforced concrete continued to be explored. While Perret had concealed the concrete frame of the rue Franklin flats of 1902, in 1905 the reinforced concrete frame was unashamedly exposed. As a contrast to these developments, Guimard continued his fight for Art Nouveau. This was evident in his designs for a Pavilion-ville (1905), and the Hôtel Deron Levent, Paris (1905-06). This small building (Fig. 53) is located behind the Hôtel Jassédé (refer 1893), and again shows an amazing restraint when compared with his buildings outside Paris, such as Castel Orgeval (refer Fig. 52). The facade is a combination of light-coloured brick and finished stonework, again characterised by an asymmetrical composition, not unlike the much earlier Hôtel Delfaut (refer Fig. 28). In this building the sculptural stonework has become more abstract and less influenced by plant forms. The decorative ironwork is again more refined, in places introducing straight lines. One of the most unusual features of this facade is the extension of the roof past the left-hand dormer, and continuing the gutter across the broken eaves line on decorative iron brackets.

On two sites adjacent to the Pasea de Gracia, one of Barcelona's main thoroughfares, Gaudí began the Casa Batlló (1905-07) and the Casa Milá (1905-10). For me these two buildings are Gaudí's greatest achievements. The Casa Batlló is located next door to a building designed by one of Gaudí's main rivals, Puig y Cadafalch. His building was designed in 1900, and the rigid geometry of the stepped parapet on the facade acts as a total contrast to the flowing organic lines of Casa Batlló. The lower levels of Cadafalch's building are not unlike the exterior of Gaudí's Güell Palace (1886-91).

His client for the Casa Batlló was another wealthy family, the textile manufacturers Batlló. Also, while it is hard to believe at first glance, the project is the modification of an existing building. It is only following a close examination of this main facade (Fig. 54a), that the original fenestration can be seen to influence the

425) Pevsner, Nikolaus The sources of modern architecture and design, p.154.
426) Dunster, D. Hector Guimard, p.103.
Figure 53  Hector Guimard: Hôtel Deron Levent, 8 Villa de la Réunion, Paris, 1905-06
Figure 54  Antonio Gaudí: Casa Batlló, Paseo de Gracia, Barcelona, 1905-07

a) Main Facade
Figure 54  Antonio Gaudí: Casa Batlló, Barcelona

b) Detail of Facade Windows
Figure 54  Antonio Gaudí: Casa Batlló, Barcelona

c) Section
symmetry of the lower levels. This is at first difficult to grasp due to the undulating stone forms on the lower levels. These forms appear almost liquid, as though they have been poured into place, bulging where they meet with other surfaces. Stone mullions between windows appear like bones, joined by ball and socket to one another (Fig. 54b). Behind this the timber window frames echo the wavelike convolutions of the facade, and this is continued into the stained glass, where upper panels are coloured in light pastel shades of green, blue and pink. The lower skeletal effect of stone is contrasted with the iridescent ceramic blues of the upper surfaces. This surface has slight uneven undulations, and has been compared with the bubbly surface of a pebbled beach. The rectangular windows in this section are linked with the elliptical lower windows by unusually heavy iron balconies. It is at the roof level that the building loses all form of symmetry. The left-hand side steps back to form a balcony, which is emphasised by the vertical projection of a circular tower capped by a fluted dome and characteristic floral cross. The surfaces of these are again covered in broken ceramic tiles in a colour providing an unusual almost lizard-skin appearance. Next to this is the rounded roof, often considered inspired by Gaudí's obsession with dragons. This image is emphasised by the wildly undulating ridge line capped with alternating orange and blue ball-shaped tiles. The street face of the roof is covered in yellow-brown triangular-shaped tiles. Behind this bizarre feature is a hidden roof and chimneyscape of undulating surfaces and forms completely covered in brightly-coloured broken tiles.

The interior of the building is similarly dominated by curving undulating surfaces, particularly the ceilings. Here there is an unusual atmosphere of light and shade, and a form of peacefulness emphasised by the contrast between smooth off-white surfaces and glossy blue and white ceramic tiles in a checkerboard pattern on the walls. To this, warmth is added by the richly carved glossy surfaces of burgundy-coloured timber. I feel all of these experiences were a deliberate attempt by Gaudí to create an unusual private world away from the busy thoroughfares outside the building. Apart from the sense of peacefulness, the interior has a cool subterranean quality, again an important contrast to the characteristic hot climate of the city.

In more practical terms, Gaudí has made allowance for a well for the
installation of an elevator, which is surrounded by the main staircase directly serving all flats (Fig.54c). Surrounding this again are two large light wells, where illumination is increased by the clever use of graded blue tiles. That is, on the upper, brightest floors a dark blue tile is used to reduce light intensity, while on the lowest floors a light blue, almost white tile is used to increase reflection. This large open space is covered by a complex iron-framed roof light, revealing interesting detailing of junctions between this and the main roof of the building. The bizarre main dragon-roof also reveals Gaudí's practical ideas that a building "... should have a double roof, just as important people have a hat and a sunshade". In more precise terms he realised the importance of outer and inner membranes, separated by an airspace to increase temperature differences. In this case the external heat would be reduced first by the light-coloured ceramic cladding, then by the airspace and the internal false ceiling.

Nearby, Gaudí's second building, the Casa Milà (Fig.55a), is a total contrast to the previous building. Better known as 'La Pedrera' (the quarry), the Casa Milà appears like a series of vertical waves captured in one gigantic monolith. This link with the sea is further emphasised by the bizarre seaweed iron balconies. The apparent solidarity of this building is deceptive, as the facade is basically a forerunner to modern-day curtain walls. This only becomes apparent with a close examination of the fenestration and the jointing of the stonework. The apparent random layout of windows throughout the building reveals that the facade could not possibly be structural, as there is no direct path for columns to follow. This is further revealed by a typical plan (Fig.55c) where, although not orderly by any means, the whole building is supported by a series of stone on brick columns and metal trellis work. In places this structural metalwork extends out from the face of the building to support apparently stone balconies. An example of this can be seen in the first floor balcony to the left and right of the main entranceway (Fig.55b). Here Gaudí has exposed the iron girders and used glass on the floor of the balcony to allow light through to the apartment below.

Figure 55  Antonio Gaudí: Casa Milá, Paseo de Gracia, Barcelona, 1905-10

a) Perspective view
balcony-exposed iron beams with glass flooring to allow increased natural light into the apartment below

Figure 55  Antonio Gaudí: Casa Milá, Barcelona
b) Balcony Detail
Figure 55  Antonio Gaudí: Casa Milá, Barcelona
This enormous structure makes provision for basement stables and parking for carriages and cars, reached by a spiral ramp. The upper six storeys provide the generous accommodation of 400 square metres per flat. The attic was later also converted into flats, and again reveals Gaudí's favourite structural element, the parabolic arch, in this case constructed in stone. A typical floor plan (Fig. 55c) provides a fantastic array of undulating wall surfaces. Usually in this kind of planning curved walls cause many difficult junctions and wasted spaces. However, Gaudí reveals that he has truly mastered this, as somehow he has managed to produce a plan where wasted space appears virtually non-existent. Unfortunately, as the building was not finished by Gaudí, it appears his plan was not executed as shown (Fig. 55c). Of more importance, though, is the fact that these walls are non-structural, lightweight partitions which could easily be removed. This makes the building quite flexible, and therefore easily adapted to other functions such as a hotel. The plan further reveals Gaudí's continuing interest in natural light as he has provided two large centrally-located wells.

Aesthetically, I found the exterior of the Casa Milá quite forbidding. Perhaps this was another deliberate intention by Gaudí to form a strong barrier between public and interior private space. Entering one of the main courtyards through huge sculptural iron and glass gates is an even more subterranean experience than the Casa Batlló. The Casa Milá is much more cave-like, and one almost expects to hear dripping water. The undulating walls and ceilings around the entrance-way appear to have had beautiful coloured frescoes in blues and greens, but unfortunately these are in a badly deteriorated condition. In the foreground is one of the huge light wells which enables brilliant shafts of light to penetrate the space. Gaudí has included seating around this courtyard to relax and enjoy this peaceful cool environment. One of the most striking features about this is the tranquil atmosphere, an unusual quality when one considers the large amount of accommodation in the building.

By far the most bizarre element of Casa Milá is the strange undulating wave forms of the roof (Fig. 55d). Here Gaudí has battered back
the roofs, and provided a walkway with a lightweight iron fence around the open wells to introduce more natural light. Over the remaining area he has transformed ventilators and chimneys into what has been described as "... the best abstract-surrealist scenario ever created in the history of architecture".  The forms appear like giant ceramic-covered spiralling shells, with others like groups of strangely helmeted soldiers which appear to be protecting the roof.

Design changes continued to take place in Vienna. Wagner submitted a competition design for the Peace Palace in The Hague,  Hoffmann was involved with jewellery design in the 'Wiener Werkstätte' between 1905 and 1910, and a split had occurred in the Secession, by a group of artists led by Klimt. Some members of the group wanted to run a gallery in conjunction with the Secession. Klimt, and others including Wagner and Hoffmann, were totally against any form of commercialism, and subsequently left the Secession. Following this breakaway the Klimt group had no gallery or base to exhibit their work. As the year 1908 was another Imperial Jubilee, the group used this as a perfect excuse for a grand exhibition. They purchased land, and Hoffmann designed a series of pavilions, with Alfred Roller designing a garden, and the architect Emil Hope a small courtyard. Roller was the famous stage set designer for the Vienna Opera. During this internal strife in the Secession, the Mackintoshes were again in Vienna following an invitation from Wärndorfer. During the visit Mackintosh executed another design for the Wärndorfers' house, a salon which was described as "a place of spiritual joy". At an unstated date following this Mackintosh was made a corresponding member of the Secession, thus joining an already impressive group consisting of Hodler, Liebermann, Rodin, van de Velde and Whistler.

Again Mackintosh was promoted in Germany by the indefatigable Koch, who devoted nearly the whole of an issue of Dekorative Kunst (April 1908) to his work.  

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432) Tarrago, Salvador  
   Gaudí, p.113.

433) Powell, Nicolas  
   The Sacred Spring, p.55.

434) Ibid., p.75.

435) Ibid., pp.125-126.

436) Howarth, Thomas  
   Charles Rennie Mackintosh and the Modern Movement, p.xxxii.

437) Ibid., p.xxxiv.
1905) to Miss Cranston's Willow Tearooms in Glasgow. In the field of furniture design Schmidt, one of the founders of the 'Deutsche Werkstätten' had exhibited his first machine-made furniture. German design began to concentrate on exploiting the advantages of the machine, an interest which would lead to considerable criticism of their products.

1906

Between the period 1906-09 the west wing of the Glasgow School of Art was redesigned and built. This is Mackintosh's last significant work in Glasgow, and is often considered his best. The wing (Fig.56), however, does reveal quite a contrast in style when compared with the rest of the building (refer Fig.37a,b,c). Perhaps through his own personal development, and also an influence from Viennese ideas, he reveals a change towards forms dominated by straight lines and the square. I feel this wing can also be considered an early forerunner of Art Deco in its lines. Of most interest on both the south and west faces is the sculptural relief provided by the large bands of windows. On the west face the windows project out to form bays, with verticality being emphasised by the large windows extending from the library floor up to the parapet of the building. On the south face the windows remain flush with the facade and become dominant features by strong recessing either side, and the central upper windows surrounded by finished stonework. All windows are broken into regular small square panes by a heavy iron grid.

Internally the most important room, the library, is located on the second and third floors. This room appears much larger than it

439) Pevsner, Nikolaus The sources of modern architecture and design, p.147.
440) Howarth, Thomas op.cit., p.74.
Figure 56  Charles Rennie Mackintosh: Library (west wing) - Glasgow School of Art, 167 Renfrew Street, 1906-09
actually is. It is panelled throughout with dark-stained timber, which adds a kind of warmth and intimacy to the space. Mackintosh's characteristic decorative motifs appear in the large metal light fitting hanging over the space, carved timberwork, and furniture especially designed for the room. The impression of spaciousness in the library has been achieved by converting the upper floor into a mezzanine surrounding the main level. Rather than support this mezzanine on the structural timber columns which penetrate all levels, he has stepped the floor back from the columns and exposed supporting beams. This also adds to the apparent spaciousness and allows more light into the lower main floor. Finally, he has also stepped the mezzanine back from the bay windows (similarly to the stair of Scotland Street School) and allowed these large windows to form a vertical air shaft between the floors. This also increases the amount of natural light and apparent area of the main level.

In France, Guimard designed two buildings - Villa 'Claire de Lune', and the Villa avenue de la Pépinière, both just outside Paris. In Brussels Horta also designed two villas - one at 85 Rue Washington, the other 'Etablissement Wolfers' in the Rue d'Aurenberg. In both buildings Horta's changing style is noted: his surfaces have become simpler and contours firmer. The Catalan architect Berenguer designed a gatehouse and wall known as Torre Mateu outside Barcelona at Llinás del Vallés. In this building it is difficult to separate Berenguer's style from Gaudí. Unfortunately, the building was later demolished, but the unusual iron gate is now at the Park Güell.

The Italians held another international exhibition in Milan in 1906, and at Trezzo d'Adda the architect Marinetti designed a hydro-electric power station, which revealed an early Italian change to powerful square and rectangular geometric forms. Internal problems continued in Vienna, when the artist Moser, one of the founders of the 'Wiener Werkstätte', left the workshop in 1905, claiming the

443) Madsen, Stephan Tschudi
public had begun to demand too much. He was also a founder of the Secession, and had resigned from this with the Klimt group in the previous year.446 His major work during this time were the designs for the stained glass windows to Wagner's Steinhof Church (refer 1902). Hoffmann, however, remained with the Werkstätte and also designed a house known as the Haus Beer-Hoffmann. This building appears to set the pattern for his domestic work in the following years. The simple rectilinear forms of his designs were considered to have influenced Loos, although the latter did not admit any debt to Hoffmann.447 In 1906 Loos opened his own school of design, and one of his favourite pupils was Richard Neutra, who had studied under Wagner at the Academy. Neutra later went on to become a leader in 20th century architecture.448

1907

The economy of Ashbee's Guild in the Cotswolds met with continual setbacks following 1904, and during 1907 the Guild of Handicrafts was officially dissolved. Ashbee and some other members remained in Chipping Campden in an informal association, but this was completely broken up during World War I.449 One of the most outstanding design contributions of this year was made by Liberty and Co. when they released a range of pewterware under the trade name 'Tudric'. This followed their previously successful silver 'Cymric' range, with both names being derived from Celtic influences. The pewterware was designed to be less expensive and therefore more accessible as domestic ware.450

At the salon of the Société des Artistes Décorateurs in Paris, Guimard exhibited an extensive range of his work including: furniture,

446) Powell, Nicolas The Sacred Spring, p.96.
447) Ibid., p.71.
448) Ibid., p.84.
450) Garner, Philippe Art Nouveau for Collectors, p.103.
fountains, jewellery, embroidery, carpets, wallpapers, and fabrics. He also widely promoted a catalogue of his own cast iron work in an attempt to have these accepted by other architects, and subsequently used as standard components. Unfortunately this idea did not succeed and Guimard remained the sole client of his components. Of importance, though, is the fact that Guimard had begun to realise the value of machine production. He understood that in terms of cost and time it is impossible for an architect to design every detail. The way to resolve this problem was to evolve a system of standard components designed by architects for manufacturers. This kind of thinking was not new to Guimard, as it had been revealed in his earlier Métro entrance designs. (c.1900).

Italian design continued to display a form of conflict and confused ideas. An example of this is Giuseppe Sommeruga's design for the Villa Romeo (1907-12) in Milan. This elaborate villa is praised for superb detailing and a pleasant overall composition. The building attempts to combine a rigid geometric form with the 'Floreale' style: the result reveals an unsuccessful and awkward relationship. The 'Floreale' has introduced an excessive number of sculptural figures which appear like 'icing on a cake' around the skilfully treated geometric volumes of the building.

Loos continued to fight for simplicity of design in his project for an American bar in Vienna 1907. (This bar is still intact but has been renamed the Loos Bar.) This bar is richly furnished in leather and mahogany panelling, and throughout this interior Loos again used his favourite 'Thonet' furniture. The lower half of the walls are also panelled in mahogany with mirrors just above head height, providing an illusion of increased space by reflecting the coffered ceiling and dark columns to infinity. This is a clever solution to the problem of a restrictive interior area.

Considered as Germany's greatest contribution during these years was the foundation of the 'Deutscher Werkbund' in 1907. This was a

453) Powell, Nicolas The Sacred Spring, p.85.
society in which architects, craftsmen and manufacturers met, and evolved a new concept of industrial design. They concentrated around an appreciation of the machine, its uses, and possibilities.\textsuperscript{454}

One of the leaders of this movement was Riemerschmid, who, as well as developing mass-produced furniture, was involved in many other areas of design. Apart from decorative fields, he appears to have been involved in town planning, as he produced a design for a garden suburb for textile workers at Hagen, Westphalia, in 1907. The garden suburb became very popular throughout Europe in these years, and Riemerschmid and others were strongly influenced by the ideas of the Englishman Raymond Unwin (Parker and Unwin 1904).\textsuperscript{455}

1908

Between 1908 and 1909 Sauvage began to evolve designs for set-back buildings. This idea of recessing upper storeys of apartment blocks not only improved the quality of inner city housing but also alleviated the feeling of being surrounded by facades on either side of the street. More importantly it allowed more natural light into the streets. Exploiting the structural advantages of reinforced concrete enabled Sauvage to recede each floor level and introduce the roof garden - which ensured, in the extreme urban density of Paris, an unpolluted collective garden. While the idea sounded simple enough, it did involve difficult planning problems such as structural difficulties, stairwell access, changing relationships between floor layouts, and, as the front facade receded, there was a corresponding step back at the rear of the building over courtyards. Sauvage subsequently devoted the rest of his design life to solving these problems.\textsuperscript{456} Also, the forms which emerged moved increasingly away from Art Nouveau towards the strict geometry of the Modern Movement.

It is suggested that during this time the Belgian van de Velde began to lose much of his original prestige and influence on design.

\textsuperscript{454} Pevsner, Nikolaus \textit{The sources of modern architecture and design}, p.170.
\textsuperscript{455} Ibid., pp.196-197.
\textsuperscript{456} Delevoy, Robert and others \textit{Henri Sauvage}, p.47.
ideas;\textsuperscript{457} while in Barcelona, Gaudí was receiving his greatest recognition.\textsuperscript{458} He had become increasingly involved with the Sagrada Familia project, and his designs for this moved further away from the Gothic masonry influences of his youth. Apparently whilst on site in 1908 he was asked by a visitor whether the Sagrada Familia was the last of the cathedrals, to which Gaudí replied "No, it is the first of a new series".\textsuperscript{459}

As previously noted, apart from the Turin Exhibition buildings, the Italian d'Aronco carried out his best design work in Turkey between 1901 and 1907. However, in 1908 he was forced to return to Italy as his protector Abdul Hamid was dethroned. In the same year he received a commission for the town hall at Undine, which apart from traces of 'Floreale' reveals that he too was changing his design style.\textsuperscript{460}

Vienna held two exhibitions in 1908 - one on modern architecture\textsuperscript{461} and the other by the Klimt breakaway group called 'Kunstschau'. The latter was held in the new pavilions designed by Hoffmann, and the work displayed appears to have been a great success. This was especially so with Klimt, whose work for this exhibition and the one of the following year were his greatest achievements. He was also credited with introducing the art of Expressionism to Vienna. However, while he may have been ecstatically acclaimed by some, he was equally disliked by others. Negative views came from politicians such as the liberal Karl Kraus, the conservative Eduard Potzl, and also the architect Loos, who had continually criticised Klimt's work and influence on the direction of art in Vienna.\textsuperscript{462} In the same year Loos delivered a speech titled 'Ornament and Crime' which he had designed to shock the complacent middle class of Vienna. In this he argued against the erotic directions in which art was heading, and the unnecessary "plague of ornament" which was ruining Austrian

\textsuperscript{457} Binney, Marcus "An Architect of Unfulfilled Promise", p.1182.
\textsuperscript{458} Tarrago, Salvador \textit{Gaudí}, p.82.
\textsuperscript{459} Collins, George R. \textit{Antonio Gaudí}, p.25.
\textsuperscript{460} Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Nicoletti, Manfredi "Art Nouveau in Italy", p.53).
\textsuperscript{461} \textit{Ibid.}
\textsuperscript{462} Powell, Nicolas \textit{The Sacred Spring}, p.125.
Art and design.463

Following the collapse of Ashbee's Guild of Handicraft he and his wife decided it was time for another trip to America, more specifically Chicago. Here Ashbee was disappointed to note that the city's great days of aesthetics were past. He felt that Wright had grown bitter in his attitude, and Louis Sullivan, whom Ashbee credits with being the first to introduce life into American Architecture, had withdrawn to writing. After Chicago, Ashbee travelled to Los Angeles where he was equally disappointed. The highlight of his visit was a meeting with the architect C. Sumner Greene, whose domestic work was greatly admired by Ashbee.464

1909

During this year Voysey designed two houses - one for his friend A.W. Simpson in Kendal, and the other located on the outskirts of Bath, and described as a 'Gothic' bungalow. Also Francis Newberry had asked James Morton, for whom Voysey had designed many textiles, to attempt to persuade Voysey to accept the position of Art Director at the Glasgow School of Art. Although he had very little building work at the time, Voysey was not prepared to leave London465 and turned down Newberry's offer.

Guimard designed three buildings in Paris, two apartment blocks and his own Hôtel Guimard following his marriage to the American artist Adeline Oppenheim. The former two buildings - the Treinois flats (1909-10) at 11 rue François Millet, and the apartment (1909-11) at 17-21 rue La Fontaine466 were located directly opposite one another. Both buildings were similar to his earlier Jassé De Apartments (1903-05 refer Fig.50), and while these blocks also contained a strange

463] Comini, Alessandra  
Gustav Klimt, p.6.
464] Winter, Robert W.  
465] Brandon-Jones, John and others  
C.F.A. Voysey - Architect and Designer, p.11.
466] Dunster, D.  
Hector Guimard, p.103.
roofscape of dormers with overhanging eaves, the rest of the buildings revealed increasing restraint. Both internally and externally the forms were much more refined and balanced; undulating surfaces and curves were more taut and controlled. An example of this is the superbly balanced composition of stone forms surrounding a typical window (Fig.57a). This I feel sums up the sensitivity and excellent stonework of Guimard's buildings during this time: the way stone is given an almost plastic quality as it delicately emerges from flat surfaces. In the window (Fig.57a), and the detail of a downpipe (Fig.57b), Guimard's interest in standardisation of components is revealed. In both buildings he has used similar detailing and iron work, even going as far as developing a cast decorative form for downpipes.

For me one of his best buildings is the Hôtel Guimard (Fig.58a) at 122 avenue Mozart. Externally this building is quite deceptive. It is located on a corner site, and due to closely surrounding buildings there is no indication that Hôtel Guimard is triangular. A glance at a plan (Fig.58b) reveals the extremely restrictive and difficult proportions Guimard had to deal with. The plan (Fig.58b - the main reception level) reveals a masterly handling of a difficult problem. Guimard has not only provided a functional and interesting layout, but has set the whole interior in motion, merging interior and exterior forms together. The difficulties of this kind of planning have already been discussed in Gaudí's Casa Milà (1905-10), but here Guimard has also expertly handled curving internal spaces, and managed to use all available space. Unfortunately he only achieves this on one floor, as the other three levels and the attic have a more rigid geometric layout of partitions.

The exterior of the building shows similar restraint to the previous apartment buildings, particularly in restricting the materials to light-coloured brickwork and finished stone. However, in the Hôtel Guimard he has managed to achieve greater modelling in these very compact facades. Everywhere the brickwork and stone undulate, expressing internal rooms, and again it is interesting how the brickwork and stone merge with one another. The more plastic forms of stonework frame windows and face the lower walls at footpath level. The whole composition is characteristically asymmetrical, and above the delicate narrow balcony on the top floor Guimard has allowed the
Figure 57
Hector Guimard: Detail of Apartments at 17-21 rue La Fontaine, Paris 1909-11

a) Window stonework

b) Downpipe detail
a) Perspective view
third floor plan

Figure 56  Hector Guimard: Hôtel Guimard, Paris
b) Plan
roof and eaves to curl over the facade. Above this once again the roofscape is dominated by narrow vertical dormers with strange overhanging eaves. While this building reveals a little eccentricity, it does provide an example of excellent planning on a restrictive site, and is also one of the fullest expressions of Art Nouveau Architecture. Of further interest is that Guimard's output as a furniture designer virtually ceased after 1909. This is considered a strong turning point in his style, as he was a prolific designer in this field.

In another area, French design ideas were about to be greatly influenced by the visit of a Russian dance company. This group was managed by Diaghilev, and they were known as his Ballets Russes. They appeared in Paris for the first time in 1909 and had an enormous impact.

The explosion of colour and the boldness of design that the Parisians saw during that season brought an end to the delicate tendrils and curves of the Art Nouveau period.\[467\]

This influence caused design ideas to become more formalised and geometrical. As previously revealed, similar forms had already been introduced by designers in other countries.

From the time Gaudí had been appointed as architect for the Sagrada Familia (c.1883), both he and his client Bocabella had expressed the desire that the church become the centre of a colony of schools and craftsman shops located in the square surrounding the Cathedral. As well as the religious ideas behind the project, the Cathedral became the symbol for the new Barcelona - the modern metropolis overtaking the old medieval centre.\[468\] The realisation of his ideas only occurred in the small school he designed next to the Cathedral in 1909. This building is extremely important for its innovative structure.\[469\]

Through Gaudí's relentless search for economy and efficiency in his

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469) Tarrago, Salvador *Gaudí*, p.103.
structures, and his innovative use of traditional Catalan brick vaulting, he gradually became fascinated by undulating vaulting and the hyperbolic paraboloid. These ideas were fully realised in the Sagrada Familia School, where he developed a lightweight roof of alternating board vaults (Fig. 59a, b, c) which are clad in lightweight ceramic tiles laid edge to edge. The undulating roof is supported by a similar lightweight perimeter wall which also gains rigidity and strength by similar undulations. This roof structure has been seen as an early forerunner to 'egg-shell' concrete structures.470 Also, in 1928 this simple structure made such an impression on the young architect Le Corbusier that it inspired his roofing solution to the Law Courts in Chandigar in 1951.471

Berenguer collaborated with Gaudí on the Sagrada Familia and the school, and apart from executing many of the drawings for these projects, he managed the builders' accounts and explained Gaudí's ideas to the builders on site. Also during 1909 he designed a block of flats, a chapel, and a number of other small projects.472

Italian design ideas continued to appear confused and therefore difficult to follow. The architect Sommaruga had submitted a competition design for the government palace at Montevideo. This building was of monumental proportions, and appeared to combine strong geometric vertical and horizontal forms with "Hindu religious buildings of the tenth to fourteenth century".473 While elsewhere a completely different attitude to design began to emerge. This occurred with Marinetti's Futurist Manifesto of 1909, which looked enthusiastically to what the future had to offer.

We declare that the splendour of the world has been enriched by a new beauty - the beauty of speed ... A roaring, racing car, ... We will sing of the stirring of great crowds - workers, pleasure-seekers, rioters

471) Tarrago, Salvador Gaudí, p.103.
473) Ibid. (from: Nicoletti, Manfredi "Art Nouveau in Italy", p.44).
a) undulating timber rafters clad in tiles

alternating vaults

b) 'scissor' rafters supported by central beam

-rafters in plan following wall curves

'scissor' form of rafters

lightweight partition

thin undulating walls

c) section

Figure 59 Antonio Gaudi: Sagrada Familia School, Barcelona, 1909 - Structural Details
... we will sing the midnight fervour of
shipyards blazing with electric moons. 474

Between 1909 and 1910 Hoffmann designed a villa in Vienna for the
composer Gustav Mahler and his wife. The design reveals a strange
separation between decoration and the rest of the building, which
consists of a rigid cube and a large steeply pitched roof. The cube
is penetrated by a symmetrical layout of tall narrow windows which
are stopped by a strong decorative eaves line. Above, the dormers
follow the lower window layout. The entire exterior is very plain
with a repetitive vertical fluted surface on all facades. Decorative
is applied like 'icing', on vertical floral bands either side of windows, terminating above these in a large bunch of flowers.
Above this again is a floral horizontal cornice which curves outwards
to meet the eaves. 475

The most prominent architect in Germany at this time was Behrens
who designed his most important work for the AEG, a large German
electrical combine. In his buildings all forms of Art Nouveau have
disappeared. The designs are dominated by bold simple massing, and
exposed structures. His 1909 turbine factory in Berlin is considered one of the most beautiful industrial buildings constructed up
to that time. 476

It seems Ashbee had remained in America, as he recorded another
meeting with Greene in 1909. Following a visit to the American
architect's workshop and a number of his buildings, Ashbee felt
Greene's work was some of the best he had seen in America. He was
most impressed with the fine craftsmanship, structural detailing
of timber, and aesthetic qualities of the combination of different
timbers. Unfortunately Greene and his brother Henry only had a
short period of success, with World War I marking an end to their
careers. 477

474) Pevsner, Nikolaus The sources of modern architecture and
design, p.197.
475) Powell, Nicolas The Sacred Spring, p.70.
477) Winter, Robert W. "American Sheaves from 'C.R.A.' and Janet
In these few years immediately prior to the war design activity, particularly in the area of Art Nouveau, began to dramatically come to a halt. Ashbee had returned to England, and in 1910 the American Frank Lloyd Wright visited him at Chipping Campden. Voysey became disillusioned with the revival of classical forms which was encouraged by the architectural schools, and the leading young architect Edwin Lutyens (1869-1944) and his contemporaries. Voysey's distinct lack of work following 1910 was caused by an increasingly reactionary attitude. From the early years he had believed Pugin and Ruskin were right in claiming Gothic as the superior style. He saw himself as the last disciple of Pugin, fighting for a Gothic tradition of honest English building. Due to this attitude he found he was losing commissions and clients to other architects who were prepared to design in the latest fashion.

During the turn of the century Mackintosh had shown a delight in fighting the unidentified majority who were against the new design style; though by 1910 his enthusiasm and energy had dissipated, and he seemed to give up this fight. He supposedly turned to heavy drinking, began to mistreat clients, and generally lose interest in his partnership with Honeyman and Keppie. Around 1912-13 the firm entered competition drawings for Jordanhill Demonstration School, Glasgow. Mackintosh had been asked to prepare a design for this competition, but after several months failed to present a workable solution. At the last minute Keppie and his assistants submitted a design, which subsequently won first prize. This was followed by an allegation that Keppie had stolen Mackintosh's design, and as a consequence of this Mackintosh resigned from the firm. He was last recorded in the office records of 1913, and the partnership was officially dissolved in 1914. This is an interesting account of events as one of Mackintosh's former clients, W.W. Blackie (of 'Hill House'), gives a slightly contradicting report. He met with

479) Brandon-Jones and others. C.F.A. Voysey, p.31.
Mackintosh in autumn 1915, and he reveals that Mackintosh was deeply depressed about not receiving general recognition in Scotland. He told Blackie about finishing his partnership with Honeyman and Keppie, and that this in itself did not worry him. Of more concern to him was that his plans (I assume for the Jordanhill School) for a public building had been submitted and he would now have no control over the project. It is also fascinating that Mackintosh's sketchbooks, which to date had provided a close record of his development, did not reveal any of the turmoil he was going through. In fact the tranquillity of his drawings acts as a direct contrast to the situation. The belief that he took to drink and insulted clients is considered an oversimplification of the situation, "... and at worst a deliberate and sustained attack on his character". He had certainly made enemies over the years, but this had been caused more by his success than anything else.

Following the previous events, in 1914 (Blackie's meeting with Mackintosh is considered to have taken place in 1914 instead of 1915 as noted), Charles and Margaret Mackintosh quietly left Glasgow and travelled to Walberawick in Suffolk. Here they worked on water-colour paintings and flower studies, and later sent this work to be exhibited in Liège, Ghent and Paris. Due to the outbreak of war in August 1914 the work did not appear in Paris.

During 1910 in Paris an exhibition of models, photographs and drawings of Gaudi's work was held in the Société Nationale des Beaux-Arts. This is recorded as the most important exhibition of his work during his lifetime. At the same time Guimard was also involved in another of his many exhibitions, in this case displaying a clock design and embroidery at the Salon des Artistes Décroateurs. He also

482) Billcliffe, Roger Architectural Sketches and Flower Drawings by Mackintosh, p.12.
483) Ibid.
484) Blackie, Walter W. op.cit., p.11 (note 1).
486) Collins, George R. Antonio Gaudí, p.32.
designed the Hôtel Mezzara (1910-11) at 60 rue la Fontaine, Paris. This small building was built as a house and showroom for a textile manufacturer. The street facade is very restrained and surprisingly symmetrical in layout. Guimard has again restricted his material to light-coloured brick and finished stone, and his decorative ironwork is reduced to a minimum. The main entrance is on the left-hand side of the building, and a narrow corridor leads visitors to a large central reception room with a main staircase which provides access to an upper mezzanine balcony and private rooms. Due to the exposed structural ironwork the room has a strong similarity to Horta's early interiors (refer Tassel House Fig.18b). The Hôtel Mezzara is lit by a huge stained glass roof light, the phallic outline of which has been noted. This outline appears frequently in Art Nouveau designs, and is occasionally revealed in window profiles.

Following the Hôtel Mezzara Guimard designed a Synagogue (1913) at 10 rue Pavée, Paris. In this very unusual austere building the last remnants of Guimard's Art Nouveau can be detected. On the facade undulating surfaces and stone carving are very restrained and kept to a minimum. Inside, the only characteristic features occur at the junction between the columns and ceiling. The interior is very narrow and high, with an unusual double level of balconies on either side above the main ground floor.

Concrete architecture continued to evolve with Perret, who introduced an exposed concrete structure in his Théâtre des Champs-Elysées of 1911; though he was not the only architect to do this as Sauvage had used a complex structure of part concrete, part metal in his Majorelle Building in the Rue de Provence in 1910. This was another commission from the Nancy designer Majorelle, who wanted a building which combined commercial premises on the first three floors, and apartments on the next five (the two top storeys were recessed). As well as this design work Sauvage used innovative planned construction methods, and mechanised tools (compressors from

488) Ibid., p.82.
489) Ibid., pp.92-93.
490) Pevsner, Nikolaus The sources of modern architecture and design, p.154.
America) for the first time in France.\textsuperscript{491} Following this building Sauvage successfully constructed his first set-back building at 26 rue Vavin, Paris in 1912. He clad the facade of this in white ceramic tiles, which were popularly called "métro ceramic" due to their extensive use in the underground from 1889. Along with these buildings the partnership of Sauvage and Sarazin are credited with introducing the concept of multi-functional buildings - with shopping and services on lower floors, and housing above.\textsuperscript{492} At the peak of this success Sauvage and Sarazin dissolved their partnership, though the two architects continued to be friends.\textsuperscript{493} Sauvage set up his own office in the Rue Vavin building, though his activities were also greatly reduced by the war.\textsuperscript{494}

Around 1910 Gaudí abandoned his active participation in architecture and dedicated the remaining years of his life to the Sagrada Familia. The reasons for this were his increasing religious involvement with the church. Another possible cause is the fact that taste in Barcelona during this time was turning away from Gaudí's organic forms and the 'Modernismo' Movement back towards classical styles.\textsuperscript{495} Gaudí was very realistic in his attitude to the Sagrada Familia, and he knew he would never complete the building. As early as 1901 he had stated that such a mammoth project needed the involvement of more than one man.\textsuperscript{496}

Unfortunately it is difficult to provide a very clear record of the project as it had evolved through so many years. Following the completion of the crypt and the raising of the chevet walls (c.1893), the completion of the portal gables did not take place until 1903. Work on the towers proceeded slowly, with the first of these not completed until 1918. The unusual openings in these towers are for acoustic purposes (Fig.60a) for the long cylindrical bells, one of which was successfully tested in 1915. The complex cubistic pinacles took approximately another decade to finish, with the last of

\textsuperscript{491) Delevoy, Robert and others Henri Sauvage 1873-1932, p.50.}
\textsuperscript{492) Ibid., p.48.}
\textsuperscript{493) Ibid., p.254.}
\textsuperscript{494) Ibid., p.50.}
\textsuperscript{495) Collins, George R. Antonio Gaudí, p.23.}
\textsuperscript{496) Ibid., p.14.}
Figure 60  Antonio Gaudí: Sagrada Familia Cathedral, Barcelona, 1884-1926

a) Inside face of Nativity Facade
Figure 60  Antonio Gaudí: Sagrada Familia Cathedral, Barcelona
b) Passion Facade
the bright coloured glass mosaics being applied in 1930. As a contrast to his nativity facade, Gaudí designed the other transept, known as the Passion around 1917,\textsuperscript{497} and even today this is not complete (Fig.60b).

Originally the 100 metre towers (Figs.60a,b) and the eventual 150 metre high central dome of the Cathedral were intended to dominate the skyline of Barcelona. Today, however, this has been lost in the enormous expansion of high rise in the city over the last few decades. Apart from the aesthetic issues involved in this project it has been revealed how right from the outset Gaudí had been concerned with the more practical issues of natural light, acoustics, and an efficient structure. Apparently just before his death he had toyed with the idea of vaulting the building with concrete.\textsuperscript{498} The only way to obtain an appreciation of the enormous size and complexity of this Cathedral is to examine the plaster model, a replica of Gaudí's, which is now located in the crypt. This reveals the huge proposed columns down either side of the nave which branch out at a higher level like large trees to support the vaulting.

Of more interest is the extreme contrast in design styles, which is most apparent on the interior of the building. As an example, on the inside of the nativity portal (Fig.60a) there is this uncomfortable junction of a strict geometric style with surrounding organic forms. This is the most obvious contrast in styles throughout all of Gaudí's work, and as Berenguer was so closely involved with the Sagrada Familia, it is difficult to ignore the possibility of his ideas appearing in the more geometric forms. In 1911 Gaudí suffered a severe period of illness, and after his recovery he became even closer to the Berenguer family. When his friend Berenguer died in February 1914 this was a great shock for Gaudí, who said he had lost his right hand.\textsuperscript{499}

It was fitting that Italy should produce some excellent examples of Art Nouveau Architecture during these years, considering they did not become involved until much later than neighbouring countries.

\textsuperscript{497} Collins, George R. \textit{Gaudí}, p.29.

\textsuperscript{498} \textit{Ibid.}, p.25.

\textsuperscript{499} Pevsner, Nikolaus and Richards, J.M. \textit{The Anti-Rationalists} (from: Mackay, David "Berenguer", p.63).
In Florence the most active architect was Giovanni Michelazzi, and while he produced a number of fine Art Nouveau buildings, his best was the Villa Angelica at 99 Via Cipone Ammirato of 1911 (Fig.61). This building for me represents one of the most total expressions of Art Nouveau Architecture I have visited. The asymmetrical exterior of this small house reveals curving and undulating forms of equal enthusiasm and skill to anything by Guimard, Horta or Gaudí. Michelazzi has used a rich combination of unusual grained stonework framing dark brown-red brick, glazed terracotta, and honey-coloured timber roller shutters over window openings. Similarly to Guimard's rooflight in the Hôtel Mezzaa, Michelazzi has included a phallic outline in the upper central window, but in other areas he introduces an element of fantasy, with glazed terracotta dragons supporting the gutter, stylised terracotta owls on the stonework, and iron snakes on the downpipes.

These features are continued inside the building with a large wrought iron dragon supporting the stair balustrade. The entrance hall is lit by a large stained glass rooflight of a spider in its web, surrounded by shades of blue glass. The external curving facade is carried through to inside walls, and in each room richly carved timber work, stained glass, and light fittings are designed in the full Art Nouveau spirit. These features are carried further by characteristic hand-painted frescoes on the upper walls and ceilings of each room. Each one of these is different and, while definitely Art Nouveau in form and two-dimensional in appearance, they definitely have an Italian 'Floreale' influence.

Around 1912 the young Italian architect Antonio Sant'Elia (1880-1916) began to evolve a new style of design. On the verge of war in 1914 he announced his manifesto on Futurist Architecture. This was along similar lines to Marinetti's ideas in 1909. In fact the work of Sant'Elia, Marinetti, and Boccioni fought for the same goals. The connection between this and Art Nouveau is that Futurism absorbed two important features from the earlier style: "... the expression of dynamism and the dream of the total artistic construction of human environment". Sant'Elia evolved early ideas

Figure 61  Giuseppe Michelazzi: 'Villa Angelica',
99 Via Cipone Ammirato, Florence, 1911
on future cities with complex traffic systems, and also skyscrapers with recessed facades (similar to Sauvage buildings in Paris). Unfortunately both Sant'Elia and Marinetti were killed during the war, and one of the designs were ever realised.\(^{501}\)

By 1910 Wagner's design ideas revealed a complete departure from Art Nouveau, and he too looked to the geometry of the future. He designed an apartment house during this year which included a studio and flat for himself, one for Hoffmann, and another for part of the Wiener Werkstatte. This building was given another wing by Wagner in 1912. Between 1910 and 1912 he also designed the Lupus Sanatorium. By 1914, at the age of 72, he was considering going to Australia, where he had been asked to design a capital.\(^{502}\) Loos was also active during these years, designing a number of shops and houses. The most famous of these was the Steiner House of 1910, built completely free of any ornamentation, symmetrical, with plain windows of varying shapes and sizes.\(^{503}\)

A similar style was continuing to grow in Germany, with Behren's pupil Gropius designing his first buildings. In the same year as the Loos Steiner House, Gropius, in collaboration with Adolf Meyer designed the Fagus Factory at Alfred on Leine. "The two buildings have this in common: a ruthlessly cubic shape and the total absence of ornament".\(^{504}\) The next building by Gropius was a model factory built for the Werkbund exhibition of 1914.\(^{505}\) Apart from a glass pavilion designed by Bruno Taut, other buildings were not favourably reported. The Festival Hall designed by Behrens was disappointingly classical, while the interior of Hoffmann's Austrian pavilion, and van de Velde's theatre, were considered backward-looking with their curving forms. Coinciding with the exhibition was a discussion where Muthesius was arguing for standardisation of designs and objects produced by the Werkbund. The Belgian van de Velde spoke out against this, and said that as long as there were artists in the

\(^{501}\) Pevsner, Nikolaus The sources of modern architecture and design, p.190.
\(^{502}\) Powell, Nicolas The Sacred Spring, p.59.
\(^{503}\) Ibid., p.87.
\(^{504}\) Pevsner, Nikolaus op.cit., p.176.
\(^{505}\) Pevsner, Nikolaus Pioneers of Modern Design, p.215.
Werkbund they would resist any form of standardisation. Between 1910 and 1911 German publications on Wright's work in America captured the admiration of the Dutch. In 1911 the Dutch architect Berlage visited Chicago, and on his return to Holland gave a series of lectures on American design.\textsuperscript{506}

\textsuperscript{506} Pevsner, Nikolaus Pevsner, Nikolaus design, p.180. Pioneers of Modern Design, p.191, and The sources of modern architecture and
AFTER WORLD WAR I

Many of the leading architects of the Art Nouveau period had lost their prestige following the war years. Some tried to adapt to the new design ideas, but all were outdated and seemingly cast aside. They had already begun to be superseded prior to the war by the ideas of the new generation of architects and designers born in the 1880s. The trend was towards modernism and the machine.

In England Mackmurdo, who had been credited with so much in the formative years of Art Nouveau, continued to produce a number of designs, though they do not appear of any significance. He subsequently concentrated on social themes until his death in 1942. Voysey's work around 1920 was focussed on wallpaper and fabric designs which continued to be popular. His architecture was out of fashion, being replaced by "Banker's Georgian", though in 1927 there was a revival of interest in his buildings. This had been inspired by a number of magazine articles. In 1936 he was awarded a distinction for industrial design by the Royal Society of Arts, and finally in 1940, a year before his death, he was awarded an RIBA Gold Medal. His contemporary Ashbee made another visit to America in 1916. This time it was to return Wright's visit of 1910, and during the visit the two architects travelled to Chicago together. Ashbee had already realised that both Britain and America were losing interest in the Arts and Crafts. So following the war he went to Jerusalem where he played an important role in restoring many old parts of the city, and reviving an interest in Arab handicrafts. He died in the same year as Mackmurdo (1942). It is interesting that the firm of Liberty and Co. managed to retain their popularity following the war. Their pewterware known as "Tudric" was still in production during the 20s and 30s.

The Mackintoshes found no peace in Suffolk, as not long after their

2) Brandon-Jones, John and others C.F.A. Voysey - Architect and designer, pp.11-12.
4) Garner, Philippe Art Nouveau for Collectors, p.103.
arrival war was declared. Due to their sudden unexpected appearance in the village, Mackintosh's long walks alone in the countryside, and his close ties with Vienna, he came under suspicion and was summoned before a local tribunal. Fortunately this incident was quickly cleared up, though following this the Mackintoshes decided to move to Chelsea in London. During this time he continued to sketch and paint, and he also received a number of minor building commissions. However, this work was also short-lived, and around 1922-23 he decided to give up architecture and concentrate on water-colour painting. In 1923 the Mackintoshes left England and eventually settled in the south of France at Port Vendres. During this period he produced his finest watercolours. In 1927 he was forced to return to England suffering with cancer of the tongue, which eventually caused his death in December 1928.5

Following Mackintosh's departure from Glasgow (1914), it seems he may not have missed a great deal of work. From 1914 to 1928 there were very few important architectural commissions. Architects such as Salmon, Gillespie and Burnet received very little work, and when the profession did pick up again around 1927 the trend was for classicism.6 Even the Glasgow tearoom movement was drawing to an end. One of the major causes for this was Miss Cranston selling all her premises in 1917. During the year her husband had died, and she subsequently lost all interest in her tearooms.7

After the war Guimard designed a number of apartment blocks, houses, and an office building. However, this period could be described as a third and final phase in his design style. In these buildings almost all traces of Art Nouveau have disappeared, though occasionally stone and ironwork reveal traces of his previous style. The new buildings are dominated by straight vertical and horizontal lines, and he even begins to step back the upper storeys of his apartment blocks. He also began to use precast components. In his last apartment block in Paris, (36-38 rue Greuze) of 1926-29, and

7) Howarth, Thomas op.cit., p.147.
in his own house outside Paris (demolished 1969), he incorporated precast building components in tubular asbestos-cement. Both the stepping back of his buildings and the use of precast materials were perhaps influenced by the work of his friend Sauvage. Guimard however had now reached the end of his career. In 1929 he was awarded the Légion d'Honneur, and he remained in Paris until 1938, when he and his wife moved to New York, where Guimard died in 1942. Sauvage had also continued designing after the war but he became torn between two principles. On the one hand he strove to improve living conditions with his low cost hygienic housing, while on the other he was involved with commissions for luxury and comfort which were demanded by the wealthy classes between the two wars. His solution to this, following the war, was to launch his energies exclusively into technological improvements in building. This lasted from 1922 to around 1932 and ended with disappointing results. In 1928 he became a tutor at the Ecole des Arts Décoratifs, and later he was appointed professor of the Beaux-Arts, where he stayed until 1931, a year before his death.

Between the years 1914 and 1918 Victor Horta and his wife were in America acting as cultural ambassadors for Belgium and Europe. Following their return, he carried out work on the Palais des Beaux Arts during the 1920s, and the new 'Gare Centrale' in Brussels. The events following this prior to his death in 1947 have not been uncovered.

In Barcelona Berenguer's death (1914) signified the end of the most intensive building activity on the Sagrada Familia. Following this only the towers were completed (refer Fig.59a) and "... Gaudí did no other work of importance". The next mention of Gaudí is in 1924, when he protested publicly against the police who had closed

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10) Delevoy, Robert and others *op.cit.*, p.51.
all of Barcelona's churches to prevent a traditional celebration. For his actions Gaudí was jailed and fined. In June 1926 Gaudí was hit by a trolley bus and severely injured. He did not recover from this, and died a few days later. His death was met by a public outcry, and an immense crowd lined the streets during his funeral procession. 15

Four years after his invitation to Australia in 1914 Wagner died from malnutrition, being too proud to seek or eat food from the black market during the war years. 16 His students: Olbrich, one of the leaders of Darmstadt, died in 1908, Loos in 1930, and Hoffmann in 1956. In America Sullivan died in 1922, leaving his student Wright to lead American Architecture for many decades to follow. 17

Generally, the Great War caused an enormous decrease in design activity, but as revealed in the last chapter, designers had begun to turn away from Art Nouveau well before 1914. I feel the main reasons for the decline in the style were machine production and a subsequent change in taste. Although some Art Nouveau architects attempted standardisation of components, many felt the asymmetrical forms and curves of the style could not be mass-produced by machine. Therefore design began to turn to geometry and straight lines which were more in keeping with machine capabilities of the time.

Also, Art Nouveau suffered a similar problem to Morris’s Arts and Crafts - realising design and craftsmanship of such high quality was not cheap to produce. Because of this the objects created during the 90s were out of the reach of many people. Indeed, it has already been pointed out how much of the progress of the style relied heavily on the patronage of wealthy clients. This, coupled with the extremes the style was taking to around the turn of the century, also led to a change. Some of the French interiors of this time were often totally overpowering, as every surface and object in the room appeared to be in motion. Another cause for change was the notion of unity of design. While this was a great strength in some ways for

16) Powell, Nicolas The Sacred Spring, p.59.
17) Pevsner, Nikolaus The sources of modern architecture and design, p.59.
the style, it was equally a weakness. In many interiors where every object was designed to relate to the overall harmony in a room, it was impossible to introduce odd pieces of furniture or fittings of a different style. This makes it difficult for people to establish their own individuality, and to introduce personalising objects into their own living environment. Finally, there was a distinct change in the taste of colour, from light pastels such as pinks, greens, and blues of Art Nouveau, to bright reds, oranges, yellows, and black of the new age.

It seems unfortunate today that Art Nouveau only lasted for such a brief number of years at its peak, as so many innovative and exciting design ideas were developed. It was the enormous energy and enthusiasm common to designers of all countries that has most intrigued me. Throughout this Dissertation I have concentrated on revealing the way architects and designers of the decorative arts closely collaborated with one another: the way in which they inspired and encouraged the development of the new style. Concentrating on architecture I have tried to reveal why the style achieved success in so many countries and the most important contributions that were made by each of these.

Also, due to the versatility of designers, it would provide a false picture if one field was studied exclusively of all others. I feel very strongly that the style was far more than a mere decorative achievement, and although decoration is an important aspect, it should not be separated from the many other attributes of the style. Often the decorative side is concentrated on in an attempt to link countries and developments together. For me a far more important and unifying tie between countries was the strong nationalistic attitudes which developed. Each had similar ideals, and these were to break with historicism and create a totally new design style. This break alone is often considered the major achievement of Art Nouveau. Also, through the introduction of international exhibitions, designers of all countries were given equal opportunity and inspiration. Eventually this led to an influence from the art of eastern countries, particularly Japan. Also in the search for new ideas local vernacular architecture, and a study of nature, formed the seed for the new style. In promoting new ideas designers realised the value of advertising, which led to extensive use of
the poster and the establishment of many magazines.

During the period new developments in design often met with a great deal of controversy. I feel the most successful architects were not only talented designers, but also realistic and practical men who were prepared to fight hard for their beliefs, and overcame continual heavy criticism. They knew how to make use of exhibitions and publications to promote design developments. Also they were supported by the enlightened attitude of many publishers, entrepreneurs, entertainers, and aristocrats. In short, clients whose enthusiastic patronage made the full emergence of Art Nouveau possible. Leading directly from this, the cost limits set by clients are generally the governing factor in all design projects. During the period some architects were given limitless budgets, enabling them to fully evolve their design styles. In other cases cost limits were highly restrictive. One interesting example is where a particularly limited budget was suggested to have enhanced an architect's design style by greatly reducing the use of ornamentation on his building (Mackintosh's Glasgow School of Art).

In more practical areas Art Nouveau Architects always revealed an awareness and use of the latest building materials, construction methods, innovative structural solutions, and the co-ordination of new services such as lighting, heating, elevators, and an early form of air conditioning. In more aesthetic terms there was the introduction of colour, which not only dramatically changed interior design ideas, but also affected the exterior of buildings. This occurred in the introduction of a combination of many different materials such as: random rubble, finished stone, ceramics, brickwork, timber, and ironwork. These materials were always imaginatively combined, and emphasised a new dimension of texture, light and shade. Exterior forms became sculptural asymmetrical compositions to create a complete break with past styles which had been dominated by symmetry. Planning also began to influence the external form of buildings, and interiors became a series of three-dimensional interrelated spaces. These were much lighter due to increased glazing and an imaginative use of skylights. Internal flexibility was introduced with lightweight non-structural partitions. From the influence of nature all forms became increasingly organic. As these developed they became more stylised and less related to plants. The
evolving forms were imaginatively combined with a great deal of sculptural sensitivity. The end result always relied on the swirling undulating power of line, often creating a sensual air of mystery, a dynamism, and a kind of captured potential energy. This was the growing force of nature expressed by architects in their buildings.

Unfortunately when relating the close collaboration which existed between designers, this often appears more like plagiarism. When writing about creative issues, particularly architecture, often authors concentrate exclusively on the design aspect which I feel provides an incomplete picture. This is why I have included the many other aspects involved in creating a building. The development of Art Nouveau relied on the free borrowing and interaction between all designers, and this cannot possibly reduce the value of the work created. I personally feel the mere fact that the buildings I have described were constructed is a remarkable achievement in itself.

My intensive research on Art Nouveau has revealed many areas which need further examination. At present there is a great deal of repetitive material concentrating on decorative areas of the style. There is a distinct lack of information in English on many countries, particularly Italy, Russia, Scandinavia, and The Netherlands. Also lacking are detailed biographical details on individual architects and designers. I have come to realise that the buildings I have described, plus many others I found during my trip, justify a complete study in themselves. There are so many fascinating aspects about them which I have not been able to include.

Finally, for me this in-depth study has not only greatly improved my understanding of Art Nouveau and enabled me to develop my own opinion, but it has also increased my curiosity. I intend to continue research into areas I have mentioned above, and also find out if any form of the style reached southern countries outside Europe. As colour was an extremely important aspect of the style, and I have not been able to visually express this, at some future date I would like to prepare an exhibition concentrating on the visual delights of Art Nouveau Architecture.
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**BROCHURE REVIEWS**


Sterner, Gabriel "Art Nouveau - Jugendstil - Modern Style".
This Appendix provides a critical summary of books, journals and brochures used in compiling this Dissertation, restricted to material in English, or translated into English. In each case I have attempted to bring out specific points of personal interest directly connected with the Art Nouveau Movement. The desired goal is to provide an initial source for subsequent research. A point worth noting is that I have found a great deal of overlapping information in material available on the subject. This aspect is clearly revealed in these summaries.

BOOK REVIEWS


The Introduction provides a useful insight into the fundamental role of Mackintosh’s sketchbooks in his design process. While he is often considered a gifted artist, this source concentrates on revealing the clever practical use he made of this ability. It is suggested that Mackintosh systematically compiled sketches to provide a record and source, similarly to the way most of us use photographs today. These records became his workbooks, which were constantly turned to for inspiration. The sketches are separated into three broad phases suggesting parallel developments in Mackintosh’s life. Apparently he also kept an extensive collection of current articles, books, photographs, diaries etc., as a further source, and perhaps to keep pace with developments and work of contemporaries. Finally there is a suggestion that examination of his later watercolours contradicts common opinions on his life following 1910.

The Introduction is followed by a Chronology and a list of Mackintosh’s trips throughout his life. The final main section of the book provides an extensive, excellently reproduced collection of his sketches. These cover a wide area, from architectural details and flower drawings to watercolours just before his death. Each sketch is dated, followed by a brief explanation of size, subject, and the medium used. In some cases cross references are used between sketches comparing a change in style or technique.


The book is divided into five sections: an introduction, Voysey’s architecture, furniture, pattern design, and metalwork. Of specific interest are the introduction and architectural sections. The former contains valuable biographical information extending into Voysey’s architectural background. Included with this are his early influences, beginning with Rossetti and moving into the Arts and Crafts. When it came to ornamentation in buildings he followed Pugin’s theories rather than Ruskin. He also admired Morris’s design ability, but had no interest in his socialist theories.

Voysey is revealed as a total designer interested in all fields. Specific reference is made to his textiles and wallpapers, which became extremely popular throughout Europe. Interested in each...
country developing its own national style, he suggested local vernacular as a good starting point. After the war years his architectural practice virtually ceased, but he continued to design papers and textiles. Described as a perfectionist with strong personal design ideas, he would turn down a job rather than compromise. When given the opportunity he would design everything in his buildings, right down to the smallest article.

The architecture section reveals how right from the outset Voysey's work and commissions eventually led to a specialisation in domestic buildings. As his style developed he became increasingly keen to design a complete home, with every detail of the interior. Dismayed by the increased use of classical forms by his contemporaries, he introduced his own style of Gothic. In the majority of his buildings he used white roughcast, in an attempt to exploit the geometric forms of the building, always maintaining his forms were derived with an aim to economy. This is followed by a list of his existing works, and a comprehensive photographic record of this, with a brief description of each building.

The furniture, pattern and metalwork sections are also valuable for an interest in these specialised aspects of his work. The layout is similar to the architecture section, with a brief outline of the distinguishing style of Voysey. This is followed by a photographic record of many works, accompanied by a brief description in each case.

While I found all sections of the book valuable for useful points and quotations, I did find some examples of overlaps and repeated information, being caused by a different author writing each section.


I found this book an enjoyable and valuable contribution to all aspects of Gaudí’s work. The first chapter concentrates on an extensive coverage of his personal life, from birth to death, including such aspects as his character and general health. Of interest here is that the author strongly suggests that a Freudian analysis of Gaudí may provide information towards a more complete understanding of his life and work.

This is followed by an analysis of his architectural development, with suggestions of early influences, rival contemporary architects, and an explanation of each project in chronological order. In these project studies useful information is provided on Gaudí’s clients including an interesting account of the unorthodox methods he used to design and instruct the building of Casa Vicens. His buildings are also examined in practical terms: use of materials, structure, massing, form and plan layouts. Some of the innovative procedures credited to him are the use of parabolic arches and ‘eggshell’ vaulting. The final years of his life are concerned with the Sagrada Familia, and an analysis of this reveals his concern with acoustics, illumination and colour in the building. He believed the architect should be concerned with all areas of design in a building. Collins reveals him as a man who kept in touch with contemporary work and architects of his time. This chapter is followed by a useful chronology of his
life and work, with a final section providing a photographic record of many of the projects mentioned in the text.


Delevoy, Robert "Henri Sauvage Inhabitual Architect and 'Intertextual Strategy'". pp.4-9. Introduced with a brief personal biography, explaining Sauvage's amazing ability to change styles throughout his career, changes keeping his work up to date and acceptable. Also his partnership with Charles Sarazin, who was given more credit for his business mind than design ability, although he was not as skilful as Sauvage in either area. Sauvage is considered as credited with the innovation of set back buildings ("Babylonian style") and pioneering work in prefabrication and industrialisation, in collaboration with Franz Jourdain.

Grenier, Lise and Culot, Maurice "Henri Sauvage 'L'Ame Fantasque' (Quixote Mind)". pp.11-29. This chapter concentrates on his architectural influences, education and development. It introduces many of his friends and some of the early projects he was involved with.

Layer, François "Sauvage, or the Renunciation". pp.31-62. Very similar information to the previous chapter from a different point of view. A more detailed explanation of his ability to change with the times, always adapting to new materials and building techniques, exploiting them to his advantage. Following this is a brief mention of his personality, respect for particular contemporaries, and his acquaintance with influential people of the period. Some other areas of building innovation are mentioned, along with the company formed for Low Cost Hygienic Housing in 1903. This was followed by many interesting projects, and eventually led to the crystallisation of the idea of set back buildings in Paris. After a description of the development of this theory, he ventured into the realms of Megastructures.

Taylor, Brian Brace "Sauvage and Hygienic Housing, or the Cleanliness Revolution in Paris". pp.63-70. From the formation of the company mentioned in the previous chapter, in 1903, he was working on low cost housing. Many prominent people were speaking and writing articles on the importance of hygiene in housing, and this became a major topic of concern during these years. Sauvage had picked up on this and eventually introduced the concept of housing including shopping and medical facilities.

Grumbach, Antoine "The Pure and the Impure". pp.71-74. This chapter consists of four headings: Myopia, Type and Model, Facing, and Transparency. All are concerned with the value of Sauvage's work and the difficulty historians have in defining his style. Because his design ideas changed so frequently, he never really developed a distinctive recognisable style. Myopia deals with this difficulty of recognition. Type and Model expresses different forms of his buildings, Facing relates to the practicalities of stone against ceramic tiles for facades, and finally Transparency explains the increasing amount of glass he used in building.
Delevoy, Robert and others. *Henri Sauvage 1873-1932* (continued)

Grumbach, Antoine "The Pure and the Impure" (continued)

These chapters are followed by an extended photographic coverage of work mentioned in the text, and finally there is a useful section titled "His Entourage", which includes brief accounts of his friends and acquaintances. These summaries include: Alexandre Charpentier, André Jules Collin, François Garas, Hector Guimard, Franz Jourdain, Francis Jourdain, Louis Majorelle, Alphonse Laverrière, Jean Louis Pascal, Henri Provensa, and Charles Sarazin.

Sauvage receives little mention in other resources researched on Art Nouveau. This book reveals many good reasons why he deserves more recognition. Unfortunately, as each chapter is written by a different author, there does tend to be an overlap of information in places.


The inside cover of the book provides a useful map of Guimard's work concentrated mainly in the 16ème arrondissement of Paris (near the Bois de Boulogne).

Naylor, Gillian "Hector Guimard - Romantic Rationalist?"

After providing a brief introduction to the Art Nouveau movement and Guimard's early influences, many of his projects are described and analysed. Most of the material concentrates on the Castel Béranger and the Paris Métro entrances. Included with the project descriptions is an account of his growth of ideas leading to the concept of total design, and the expression of structure and materials. This is followed by a description of his unsuccessful attempt at mass production of building materials, beginning just before World War I. The chapter is a really good source for quotations from other prominent figures about Guimard's work.

"Selected Buildings". This, the main section of the book, provides an excellent photographic coverage of his work in chronological order. Included with each project is a brief explanation and description.

Brunhammer, Yvonne "The Castel Béranger Testing Ground of Hector Guimard". This chapter provides a detailed account of the Castel Béranger, revealing many interesting points about the history of the project, and the completed building.

In the first chapter Guimard emerges as a fairly controversial figure; the account of Castel Béranger enlarges the aspect of his character and explains the way he dealt with the heavy criticism he often received. Throughout the book Castel Béranger is rated as his most successful building, and the inference is that he never quite reached this high standard again in work that followed. The final section provides a useful Chronology of his life and work.


A valuable account of the prominent designers of Art Nouveau.
concentrating on developments in the crafts. The movement is described as lasting approximately a decade from 1895-1905, and as having many different styles, but these were all linked by similar goals, the most important being the desire to be new. The earliest influences are credited to William Blake, and English designers who followed, particularly the Arts and Crafts Movement. This eventually led to two main styles: the Belgian and French 'curvilinear', and the English, Scottish and Austrian interplay of horizontals and verticals.

Following this introduction are chapters on Furniture, Sculpture, Glass, Ceramics, Posters and Print, Silver, Jewellery, Wallpaper and Textiles, and finally Personalities. Each one provides a worthwhile and interesting outline of early influences and work by prominent designers. This also adds evidence of the close interaction between different fields of design at the turn of the century. The final chapter, on Personalities, introduces Art Nouveau at its most extreme with a mention of the few influential and colourful characters who supported the style, in some cases by dressing and acting in accordance with design ideas.


Suggested by many as the definitive source on Mackintosh, this book provides a mammoth coverage of the man and his work. The introduction gives a brief account of Scottish social attitudes and conditions and the dominant features vernacular building has developed over the centuries. After this, the book is split into two parts - part one providing a detailed account of Mackintosh's life and the development of his design style; part two investigating the influences from historical sources and local vernacular to the role played by other architects in his developing style.

The main point of interest in part one is the influence from nature, particularly flowers, which developed from his father's influence at an early age. This interest remained with him throughout his life, and played a major part in his design ideas. Next, a record of the importance of his Italian trip and his meeting of the Macdonald sisters. This led to the formation of the group which was nicknamed 'The Four'. The group developed a distinctive style in crafts and poster work, and furniture design: exhibitions are now recorded, with work submitted by the School of Art at Liège which achieved great success, a contrast to the poor reception of their work in London at The Arts and Crafts Society Exhibition in 1896. After finishing their education, reference is made to the role magazines of the time played in making their work known on the Continent, where it was received with great enthusiasm.

At this stage Mackintosh was beginning his training in architects' offices. The account of this concentrates on his work for Honeyman and Keppie, from the earliest projects up to the School of Art competition: provided is an excellent account of the design and the completed building. After this Mackintosh began receiving domestic commissions, and the work for Miss Cranston's Glasgow Tearooms. All throughout this period the Continental magazines were publishing articles on Mackintosh and 'The Four'. This eventually led to his connection with Vienna, and an enormous success at the Secessionist Exhibition of 1900. Mackintosh
later recorded this as the high point of his career, which was closely followed by many other successful exhibitions throughout the Continent. An interesting account is provided of his eventual departure from Scotland permanently, early in the 1900s, his subsequent life in Southern England, and France, prior to his death.

Part two begins with a brief account of Art Nouveau beginnings in England, and the strong influence Japanese Art was having on designers. This part of the book is an account of designers and historical styles which may have influenced Mackintosh. Early Scottish architects and vernacular play a very important part in this development. He recorded this work in sketchbooks, using these constantly for inspiration. His influence on Vienna's architects and designers is evaluated, along with other countries, particularly Germany.


In an undertaking of research on Art Nouveau a book of this kind is necessary in providing a general comprehensive coverage of all areas of the subject. The material is presented in three sections: the movement at its peak, early beginnings, and finally the countries and men responsible for the greatest achievements. A point worth noting is that the author presents Art Nouveau as being primarily concerned with decorative development in all fields.

The first section explains the distinctive elements which separate the style in each country. This concentrates mainly on the curve developed from nature, and explains the many forms which evolved, from a two-dimensional quality in Scotland, to the French three-dimensional curve, most developed in furniture.

Section two explains the variety of names given by each country to the style, Art Nouveau being the most widely accepted, and credited to Bing's Paris shop. This is followed by a history of design developments in the early 19th century, and how this led to many revivals in classic styles. I felt that here, although they may be creditable, the author includes so many possible influences on Art Nouveau that the combination becomes overwhelming. Also new materials such as iron were being introduced, and these led to widespread modifications in design.

In part three each dominant European country and its designers are treated in turn, analysing the aims and work of each: how different design ideas developed which caused each country to move in its own direction. Of most interest is the widespread influence nature had in providing the main source of inspiration; also the five main areas where Art Nouveau may have influenced the 20th century. Once again the style is considered as lasting only a decade from 1892-1902/3.

Throughout the book the strongest criticism expressed against the style is the obsession with newness and escaping past styles, sometimes all else being forgotten to achieve this. While Madsen reveals an extraordinary amount of research, I felt it was unfortunate there was only a passing comment on Gaudi's work and Art Nouveau in Italy.
This book is of value in presenting the similarities and differences of two extremely influential pioneers of the Art Nouveau Movement. The introductory section of the book is concerned with a biographical comparison between Viollet-le-Duc and Ruskin, and their similarities in philosophy. This reveals that both were against falseness in architecture, and insisted on an honest expression of materials. Also they were avid supporters of Gothic Architecture. It is in the support of this that the first discrepancy occurs. Ruskin believed that beauty was created through the workman's hands, whereas Viollet-le-Duc felt it was achieved through rational construction.

Ruskin never considered a new style, he always looked to the past, promoting Classicism and Italianism, and because of this he never considered a national style for England. Because of these reasons, and the growth of industry and the development of the machine, he developed a hatred for the age. Viollet-le-Duc on the other hand was full of optimism for the future, and wanted to break free from Classicism and past ideas. Due to his avid following of Gothic ideas, he believed this was the style to begin with, and promoted it as the national style for France. One of his most famous ideas is encouraging the use, and honest expression, of iron in building. Although it is noted that he was not a pioneer of this, the credit being given to Labrouste.

Although Viollet-le-Duc is presented as always looking to the future and Ruskin as looking to the past, in one final example the situation is reversed. Viollet-le-Duc argued for the restoration of old buildings; Ruskin felt restoration was the worst form of destruction to old buildings, counteracting his contemporary's ideas by arguing instead for preservation.

In England, early 19th century design became dominated by the borrowing of historical styles. The quality of this borrowing had deteriorated a great deal by the 1850s, and led to much discontent and questioning of design ideas. The most important point which is developed in this chapter is how the ideas of Arts and Crafts eventually influenced beginnings of the Modern Movement. The initial link between the two movements was the aim to discard unnecessary ornament in design. Whereas the difference which developed between the two was in attitude toward the machine age. Arts and Crafts fought against the machine; the Modern Movement accepted it and learnt how it could be used to the advantage of the style. As the Modern Movement developed, particularly in Germany, a rift began to occur between men such as Muthesius and van de Velde; the former arguing for standardization of design in products, and the latter, who represented the artists, fighting against this.

Chapter two reveals how initially the machine is blamed for poor quality products in design and workmanship. Striving against this, Arts and Crafts aimed to improve design and quality by returning to medieval craft techniques. This cause became attractive to everyone, the results becoming particularly
noticeable in domestic work, and during these early stages America is considered the only other country to develop this area of design. During the height of the Arts and Crafts, some artists on the Continent began to strive for a style that never existed before. After an extensive analysis of the work and development of many artists, Pevsner points to the beginnings of Art Nouveau. Here, once again, Mackmurdo and the cover of his book on Wren's City Churches 1663 is credited as the beginning of the movement. This work had a great influence on designs which followed, around 1880. Victor Horta of Belgium and Louis Sullivan in America are credited as the pioneers in architecture. The movement was met with great enthusiasm on the Continent, and a detailed account of designers in all fields is provided. The final point of this chapter suggests influences Art Nouveau had on the architecture of Le Corbusier, a leader of the Modern Movement.

Early in the book it is suggested that because of the widespread use of new materials, particularly iron, the engineer's role is becoming more dominant and may overtake the traditional position of the architect. Of value to this point is chapter five, which provides an account of the developments in engineering from the first iron column in a building in 1852 to the introduction of reinforced concrete in the 1870s. Of specific interest is that Morris, and the Arts and Crafts, did not incorporate new developments in engineering, while Art Nouveau was always ready to use anything new.

After Morris, Voysey is credited with a great deal of influence, and is connected with the Modern Movement. This was the first source I had researched which places so much importance on his achievements. Other English designers considered as original and perhaps more revolutionary than Voysey are included. Then there is an examination of the contributions made by Mackintosh in Scotland and Wright in America. Both architects are considered to have influenced the Modern Movement with their imaginative handling of space within buildings. Included with this is an account of Mackintosh's influence on Vienna, and the development of a style in America, specifically Arts and Crafts in Chicago. After this an introduction to the developing concern with housing and urban development is included, and the subsequent English and Continental design ideas in this area.

The final chapter provides an introduction to pioneering designers of the Modern Movement up to 1914. This includes the use of new materials, the discarding of ornamentation, town planning, engineering developments, and the importance of space within buildings. Also of value is the final suggestion that our architecture today has lost its identity, and perhaps we should look back to the years leading up to 1914 for inspiration.

While this book and Pevsner's The Sources of Modern Architecture and Design are valuable contributions, I did find a lot of overlap in the information provided in each book.


In England early in the 19th century Pugin was arguing that all features of a building should serve a function. Interconnected
with this is the use of new materials in construction. Particular reference is made to the pioneering use of iron. In those early years most designers stayed in the safe realms of classical styles. Following William Morris and the aims of the Arts and Crafts Movement a change began to take place. This led to the first real break with traditional styles, which is credited to America, where the steel frame construction of factories was adapted to the skyscraper.

On the continent the campaign to drive out historicism was realised in Art Nouveau. Although there were many names for the style, Art Nouveau was the most widely accepted, and is credited as being introduced by Bing and his shop in Paris. Once again the earliest work in the style is suggested as Mackmurdo's book cover, and influences are revealed from earlier 19th century English artists. A detailed description of the various prominent designers and their work includes Gaudi as a pioneer of the style. The most important point made in this chapter is that, contrary to popular opinion, Art Nouveau was more than a decorative fashion. This point is supported by examples of innovative work by architects of the period.

Turning back to England, Pevsner feels the early combination of nature and stylisation by Morris has never been bettered. It is then suggested that prominent English designers who followed Morris influenced the development of Mackintosh and 'The Four' in Scotland. The work by this group achieved greatest success in Vienna, and later Germany, particularly at Darmstadt. At this point Pevsner provides an interesting account of the changing ideals between England and Germany which caused a strong difference in styles. Austria and Germany are then mentioned as the first countries on the continent to abandon the curve and return to the straight line. The machine is suggested as the main cause of this, and begins to play an ever-increasing role in production.

Other areas of change occurred with the introduction of reinforced concrete into building, and a strong move away from ornamentation. The final chapter reveals the early development of an International Style, which was strongly influenced by the machine, and an increasing interest in standardisation. In architecture the domestic work of Wright in America, and Gropius's early factories, strengthened the identity of a new style. Designers were also beginning to show a concern for housing, with the contribution of the Frenchman Sauvage and the Italian St. Elia being recorded. Until 1909 Italy is mentioned as having little influence in all areas of design; between 1909 and 1914 this situation changed dramatically. The closing points deal with developments in urban design, concentrating on England. Also, due to rapid progress in the late 19th century, engineering began to dominate design ideas. Finally, painters and sculptors had begun to move in different directions also during this period, and this has increased to the point where today the gap between the artist and other designers cannot be bridged.


This book is a collection of articles which appeared in the *Architectural Review* between 1959 and 1968. The introduction, by Pevsner, describes Art Nouveau as the transitional style.
Pevsner, N. and Richards, J.M. The Anti-Rationalists (continued)

between the 19th century and the Modern Movement. He includes a brief account of the dominant architects of the movement and their work. A summary of each essay in the book follows:

Cantacuzino, Sherban "Hector Guimard". A very comprehensive survey of his early design development, and many of the projects he completed. Cantacuzino rates influences from Viollet-le-Duc, Victor Horta, and English domestic work. After 1900 Guimard's interests began to turn to standardisation of fittings and an unusual use of concrete to clad his buildings. The final point made by the author is that Guimard was not a great architect because his interests were never entirely devoted to architectural issues.

Nicoletti, Manfredi "Art Nouveau in Italy". This article provides excellent information on a badly neglected area. It begins with an explanation of the country's remoteness from the rest of Europe, the political situation, the state of the economy, and the high percentage of illiteracy of the people. Eventually the Government, realising these poor conditions, began to promote all areas.

Design went through three main areas of development from 1895 to 1914; beginning with an influence from the English Pre-Raphaelites, the movement eventually became known as Style Liberty, after the English firm of Liberty and Co. This was followed by a Franco-Belgian influence, and finally the German Darmstadt School. Prominent early designers are introduced, and the author goes as far as suggesting that the Art Nouveau Movement reached its peak at the Turin Exhibition in 1902.

Mackay, David "Berenguer". The aim here is to reveal the true situation existing in Barcelona in the late 19th century, and to place Gaudí in context with his contemporary designers. The material concentrates on the movement known as Modernismo, and one of Gaudí's friends and collaborators in work, Francesc Berenguer. With convincing examples the author attempts to reveal how much work normally credited to Gaudí was in fact executed by Berenguer.

Bohigas, Oriol "Luis Domènech". Described as a rival contemporary of Gaudí's and a follower of the Modernismo Movement. An interesting account is provided of his innovative and valuable contribution to Spanish architecture.

Graf, Otto Antonia "Wagner and the Vienna School". This followed the discovery of 50 unknown projects by Wagner in 1863. A description is provided of the difficult social attitude designers had to face in Vienna, and how Wagner fought this from 1863. This is suggested as a main reason why many of his designs were never built, and the article gives a valuable description of the architectural situation in Vienna between 1880 and 1914. Wagner is revealed as a great believer in form related to function in his work.

Vamós, Ferenc "Ödön Lechner". Referred to as Hungary's Gaudí, it is suggested the Spanish architect's work at the Paris exhibition of 1878 may have influenced Lechner. He is noted as a friend of Otto Wagner's and interested in the use of iron in buildings.
Dercsenyi Balazs "Aladar Árkay". Another Hungarian architect influenced strongly by local vernacular and Odón Lechner. Art Nouveau came to Hungary in the 1890s, and although a small group of architects became interested, the movement was swiftly put to an end by the First World War.

Pond, Edward "Mackmurdo Gleanings". An outline of the strong influence Ruskin had on Mackmurdo, their subsequent friendship and tour to Italy together in 1874.

Walker, David "Charles Rennie Mackintosh". A brief account of early influences and work with Honeyman and Keppie. Walker places importance on Mackintosh's trip to Italy and his sketchbooks as sources for inspiration and development. Of interest is the account of the School of Art Competition, his interest in Scottish vernacular building, and regular holidays to England between 1894 and 1898 to study Lethaby's work.

Seklar, Edward F. "Mackintosh and Vienna". Interesting support information for other sources, on the success of Mackintosh at the Secession Exhibition in November 1900, and his contact with Josef Hoffmann through Fritz Warndorfer.


The following four articles are isolated examples of Art Nouveau buildings in England:

"Liberty Metalwork". It is ironic that Art Nouveau Metalwork had the biggest impact in Britain, while all other forms of the movement were firmly rejected by the country. The most successful metalwork was produced by Liberty and Co. in London, and the article provides a record of the work produced.


Beazly, Elizabeth "Watts Chapel". An Art Nouveau inspired church interior, in Compton, Surrey, designed by Mrs. Watts, wife of the famous artist. The decorative work was carried out by the local village people under Mrs. Watts' supervision.

Taylor, Nicolas "The Black Friar". A small hotel in London decorated by H. Fuller and Henry Poole, in a combination of Pre-Raphaelite and 'chunky' English Art Nouveau style.

Banham, Reyner "The Glass Paradise". An introduction to a pioneer of modern glass architecture, Paul Scheerbart, 1863-1915, and his house where almost everything was glass, including the furniture. He promoted Gothic Architecture with the same fervour as his contemporary, Viollet-le-Duc.
Posener, Julius "Poelzig". A German, and a contemporary of Peter Behrens, described as an excellent teacher with a Modernist approach. He became a master of the Expressionists and helped to form the style of Mendelsohn and his followers. Posener goes on to suggest that Le Corbusier, Gropius and Mendelsohn's early buildings were often unuseable due to their early experiments in the search for a new movement.

Pevsner examines some English buildings which were forerunners to later developments in 20th century architecture.


An extremely valuable source covering all fields of the arts during this period. The preface provides a worthwhile account of the early social development of Vienna up to the conditions which existed in the 1890s. Then the political scene is evaluated, including the subsequent development of design and the arts. Of most interest in this section is the phenomenal amount of influential people connected with the city during this period. It is here that Otto Wagner is introduced, with a brief biographical account of his early influences, development and work. What is apparent, though, is the enormous effect this architect had on Vienna. The Secession (the Austrian equivalent to Art Nouveau) was founded by two of Wagner's followers, Josef Olbrich and Joseph Plečník.

The Secession had many followers, and the aims of the movement, along with its prominent designers and their work, are recorded in detail. This leads to the beginning of the Wiener Werkstätte, formed by Josef Hoffmann and Kolo Moser, and financed by Fritz Warndorfer. This workshop made many breakthroughs in decorative design work. The initial break with historicism is again credited to the artists, and in the case of Vienna an excellent account of their achievements is provided. Gustav Klimt is revealed as the leader of these ideas, and it is interesting how much close collaboration existed between prominent designers of all fields in the city.

From this point in the book onwards each chapter concentrates on an appraisal of prominent men of the arts and their role in the Austrian movement. The painters considered are Gustav Klimt, Egon Schiele, Richard Gerstl, Kokoschka. There is a chapter on the development of sculpture, which did not provide any major influences during the period. Graphic Art is next considered and, as mentioned in other countries, this field had a very important role in keeping everyone up to date with recent developments in design work, and reaching a wider public. The final chapter is concerned with music, more specifically Gustav Mahler, the composer and conductor, and Alfred Roller, the stage and production designer, both connected with the Vienna Opera House during the period.

A number of valuable points are introduced in the Prologue by G.R. Collins (also refer to an article by him in the Periodical summaries), suggesting that Gaudí through his work tried to unite form and structure. Also that he was inspired by nature in using a wide range of colours and textures. The remainder of the book is divided into separate sections for each of his main projects, in chronological order.

During his studies, and immediately afterwards, he was involved in civic projects from which he developed town-planning ideas for Barcelona. This is followed by his first private commission, and while the account concentrates on architectural issues, much information on Gaudí's private life and character is included. Of specific interest is his family background connection with ceramics, and involvement with the Spanish movement known as Modernismo, finally passing references to some of his colleagues, e.g. Berenguer. Throughout the detailed description of Gaudí's projects it is constantly revealed that he was more a practical architect than a theorist. He always relied on models to work out ideas, which in the case of the Sagrada Familia and the Güell Chapel developed exceedingly difficult problems. In many projects innovative design ideas are noted, particularly in the Güell Palace, Casa Batlló, and the Güell Park. The account of the Park also contains useful background information to the project.

Concluding points outline Gaudí's abandonment of practising architecture to concentrate on the Sagrada Familia and the chapel in the Güell Colony.


This book comprises a number of articles written by different authors. The one of most importance to this dissertation is summarized below:

Nuttgens, Patrick "A Full Life and an Honest Place". This is an interesting and valuable account of the work and ideals of some of the most prominent British designers from 1880 to the early 1900s. The first considered is William Morris and the innovative interiors of his Red House of 1859. Included is an excellent short biography of Morris, his fight against the machine, and the early aims of the Arts and Crafts Movement.

Two other designers are then mentioned: Voysey, who, contrary to popular opinion, is revealed as having no interest in the Modern Movement; in Scotland, Mackintosh, and the suggestion that his style developed from cleverly borrowed ideas from the Continent; although he is credited with innovative work in the application of advanced technology and an imaginative use of spaces in buildings. After this there is a brief history of the development of the Garden City Movement, with mention of the pioneers Unwin and Howard. At the same time as this the fight against the machine continued by the followers of Arts and Crafts. Some aspects of the movement influenced Scandinavia and Germany, but these countries differed from England by being prepared to use the machine.

The book is divided into two sections. The first provides an excellent introduction to the style, and attempts to reveal characteristics which are common to the different fields of design covered. A comprehensive photographic record taken from the journal Art et Décoration makes up the second section. Included with this is a useful list of all the main designers of the period, with a brief description of each.

The Introduction supports other sources, crediting Bing with introducing the term Art Nouveau, and a description of the sign outside the shop of 1895 is provided. Waddell suggests that although the style was considered new, it had all begun with an earlier interest in applied arts during the 1850s, England being considered the source, with inspiration derived from Morris, the leader of the Arts and Crafts. He encouraged this interest in decorative arts, not only in England but on the continent and in America.

As Art Nouveau developed, many other early influences are included with Morris. Of most interest is that each country developed its own interpretation with a decorative vocabulary. Also the style became characterised by designers who could work in many different fields, i.e., architects were just as capable of designing furniture, or textiles, etc. as they were buildings. Waddell goes on to reveal that above all else nature became the prime inspiring force. This developed the importance and power of line, and the subtle suggestions through this of hidden meanings, which combined together to form the style. On a more commercial level, the importance of the many magazines and journals of the period is stressed. These kept all countries up to date with design trends and changes. As a contrast to the poor quality workmanship which existed up to the 1850s, a major achievement of the style was the fine craftsmanship which developed in all fields. It is suggested that by 1905 the popularity of Art Nouveau was drawing to an end.


The value of this book lies in providing a distinct separation between these two styles, and including them side by side to increase the distinction.

Warren, Geoffrey  "All Colour Book of Art Nouveau". The introductory paragraphs extend the style to last 20 years, from 1890 to 1910, and include an explanation of the importance and expression of 'line'. Otto Wagner's innovative developments in architecture are mentioned, suggesting a pioneering influence. Warren believes that although the period only lasted a short time it created one of the most original achievements of the human creative spirit. Included with this is an extensive survey of early influences, and developments, in Britain and the Continent. This section concentrates on expressing the versatility of designers, a point which is supported by other sources. It is also revealed that while Britain had an early influence on the continent
Warren, G. "All Colour Book of Art Nouveau" (continued)

with Arts and Crafts, once Art Nouveau began to develop as a separate style the English criticised it heavily.

Socially the style became very popular, and prominent artists, entrepreneurs, authors, actors and actresses, and the wealthy are noted to have provided an interest in the style or financial support. The closing paragraphs reveal specific innovative achievements in architecture, and it is suggested that many famous architects of the Modern Movement were influenced by Art Nouveau architects.

Klein, Dan "Art Deco". While outside the realm of this Dissertation, it is worth noting the value of this section in providing a clear concise description of Art Deco. Although the style did not reach final recognition until 1915-20, Klein does suggest it was beginning prior to the War.

The elements which most distinguish the style from Art Nouveau are a use of brighter colours, straight lines with sharp corners, and cheap machine-produced goods. Also it can be split into two main fields: the 'Sybarites' who covered every available surface with flowers, and the 'Revolutionaries' who wanted purity of line, turning to the machine for decoration. Both fields were extremely popular, and an extensive account of the most influential designers and personalities of the period is provided.

Speed and publicity became the important aspects of the 1920s, and it is described as the period of the poster. It did not take long for people to tire of the idea of decoration for the sake of decoration, and the style began to lose its popularity. The end of Art Deco is suggested as coinciding with the Wall Street crash of 1929, although Klein feels the style never ended and suggests that today an influence can still be seen in the style where "anything goes".

The First Notice provides a useful introduction to the Society's 7th Exhibition in 20 years. Provided in the first few paragraphs are the main aims of the Society and the problems encountered to date. A lack of vitality amongst designers within the movement, and poor public taste were the strongest areas of concern. The remainder of this Notice, and the Second and Third Notices, provide a detailed description of the work exhibited.


Two pages of sketches by Paul Hogarth of Moscow buildings (poor reproduction), as an advertisement for a new book titled A Russian Journey; Suzdal to Samarkand, by Paul Hogarth and Alaric Jacob. This may be useful for specific interest in Moscow or Russian Art Nouveau.


As mentioned in this article, and supported by personal research, Endell is normally only credited with two valuable works: the Elvira Studios in Munich of 1897, and his studies on the effects of window proportions published in Dekorative Kunst, 1898. After providing some interesting points about the Elvira Studio, the article lists and dates his other major works. The material reveals that, while Endell was not a particularly active architect, the other work executed deserves more attention. This is supported by photographs and a brief description of some of the projects. While I found the article valuable, the information was a little fragmented and confusing in places.


Baillie Scott makes a particularly valuable reference to his clients the Duke and Duchess of Hesse, indicating the strong influence they had on the work carried out at Darmstadt. He also makes repeated reference to the excellent tastes of his clients. The remainder of the article includes much praise of C.R. Ashbee's work and descriptions of other furniture and fittings at Darmstadt.


A useful account on the development of swirling whiplash lines and lettering, considered a major identifying factor of the Art Nouveau movement. The pioneer work is credited to the English, with A.H. Mackmurdo and the bookcover for his Wrens City Churches, considered as the beginning of the style. Other prominent designers who followed him are noted as Charles Ricketts and his covers for the journal The Dial, and the Scottish designer and architect Charles Rennie Mackintosh.
On the Continent early poster work by Jules Chéret, with magazines and art work by the Belgian group 'Les XX', became the teachers in this field. Belgian artists played a dominant role, with development of script and line work, and following 'Les XX' Henry van de Velde became a major influence in two-dimensional artwork. While I found this article valuable, I felt it was unfortunate there were no connecting links noted between Britain and the Continent.


An examination of some of the reasons why Charles Rennie Mackintosh was not recognised as an early giant of Architecture's Modern Movement. The article explains the decreasing activity of Mackintosh and his contemporaries prior to World War One. This is followed by a brief biography of his early life, concentrating on areas which may have influenced the development of his style; then a mention of his contributions to design, and suggested reasons why he never achieved proper recognition. Binney uses good arguments to reveal Mackintosh as a man torn between 19th century ideas and a design ability which developed far beyond the period.


Here the information of most value is the first-hand account by Blackie, as client, for his house Hill House at Helensburgh near Glasgow. This provides an interesting record of the interaction between client and architect, with an evaluation of the house during the design stages, then under construction. Following this, Blackie, as a friend, records Mackintosh's feelings before leaving Glasgow; and finally the last watercolour work prior to his death.


A good brief history of the development of the movement in The Netherlands, including descriptions of H.P. Berlage's work, one of their most prominent designers. Although the point is not made, the article does suggest reasons why this country has remained fairly insulated in its design development.


A useful explanation of the introduction and development of English Arts and Crafts in Chicago, and how the movement quickly developed strong differences from English ideas. For up-to-date information magazines and exhibitions were heavily relied on, and were supplemented with numerous visits by three prominent designers of the English Arts and Crafts, Walter Crane, Charles Robert Ashbee and Joseph Twyman. (Twyman eventually moved permanently to Chicago.) The effect the Arts and Crafts had on Frank Lloyd Wright is mentioned, and his friendship with Ashbee. The article concludes with a summary of the five major influences English Arts and Crafts had on Chicago.
Useful as a brief introduction to Guimard's early influences, followed by a brief account of some of his work. The section on his initial involvement on the Paris Métro Entrances conflicts with other sources on the subject, suggesting he entered the competition. This was the first article I had found which gave credit to his Hôtel Guimard as a building worthy of more attention.

An interesting specialised aspect of Gaudí, which records the importance he placed on using unusual models and graphics to solve design problems and to express his ideas to others. These graphic methods were constantly changing, the most notable example of this occurring at the turn of the century, when he was faced with expressing radically different design ideas. Also the strong influence the Spanish Renaixenya movement had on his early design development is included.

A personally written, enjoyable insight into the character of Charles Annesley Voysey, containing many useful and amusing anecdotes of the man rather than his work.

This reference contains three different articles:

Due to a slow development of mechanisation, Scandinavia had become interested in Arts and Crafts as early as 1844. Included with a brief account of this history are key people and events which gave the movement continual inspiration.

Credit for the introduction of a similar approach to Arts and Crafts in America is given to the architect Wilson Eyre Junior. The movement had a major effect on Philadelphia in the four decades following 1880. Eyre, with a number of other architects, founded the 'T Square Club' in 1863, which grew to have a national influence on design ideas through annual exhibitions, publications and studio work.

This provides supporting information on possible early influences of Gaudí. The article explains the two main phases of development of Catalan design ideas, beginning with the development of a revival in Catalan Arts and Crafts which coincided with the Renaixenya Movement. Key designers and their work are mentioned. A decade later Catalan ideas changed and came under the influence of Art Nouveau from other countries.

Sidner, Le. pp.22-30. A worthwhile brief introduction into Germany's slow beginnings in the Arts and Crafts; how this expanded and quickly developed in the decade 1890-1890. The relation of this to the realisation of Darmstadt by the Grand Duke of Hesse, followed by a close examination of work produced in the Artists Colony to date (1902). The information I found most valuable was the detailed evaluation of the exterior and interior of the house designed and owned by Professor Peter Behrens.

pp.91-100. A detailed account of the enormous amount of design work carried out by Professor J.M. Olbrich at Darmstadt. A good source for a critical analysis of the quality of this work.

Fred, W. pp.268-276. A concluding article providing a description of the design work of other artists at Darmstadt, not included in Architecture. Valuable in expanding on lesser-known artists of the Colony.


This article is primarily concerned with the questions: Did Voysey have any influence on American Architecture? Or did America have any influence on Voysey? Many interesting suggestions, using examples of work in both countries, are revealed, with magazines and journals of the day forming the strongest link between Britain and America. While attempts are made to answer the questions, the points carry little conviction and the article remains a source for possible influences. One aspect which I found valuable is the contrast between Voysey's reported quiet unassuming personality and the ability to ensure that much of his work was well recorded in current journals of the period.


In comparing Berlage, Horta and Mackintosh the author concentrates on the more practical achievements of their buildings. Berlage and Horta receive the greatest credit for their imaginative use of new materials and an obsession for good detailing. Mackintosh on the other hand dominates in his ability to separate or change space using lattice partitions, different ceiling heights on changing floor levels. In another aspect, detailing and decorative work, particularly in the School of Art building, he surpasses Berlage and Horta for simplicity and sensitivity. The article is a good source for quotes supporting the practical achievements in Art Nouveau Architecture.


Specifically on development of the modern movement in painting, the author investigates the pioneering work of English painters from the 18th century. The idea concentrated on is that England
may have developed the modern movement rather than Paris, if Morris and Ruskin had not achieved so much success in their 'anti-manufacture' movement. This seemed like quite a big 'if'.


Important first-hand account, and valuable support of strong nationalistic tendencies in the development of architecture. Guimard points out the influence of the flower on design in different countries, and how each interpretation of nature is different. Included is an outline of his three major design principles, Logic, Harmony and Sentiment, explaining the role these have played in his work. He believes architects are experiencing a style, and strongly advocates an individual evolution of this in each country. Guimard then mentions America, where he can see too much influence from Paris/Berlin or Italy. He concludes by suggesting that American architects can develop their own national style if his three principles are adopted correctly.


This article follows an earlier one published in *Interiors*, March 1970 (included in this appendix). A brief critical account of an Exhibition compiled by F. Lanier Graham at the Museum of Modern Art, New York. Haber then refers to an article on Guimard in the magazine *Casabella*, no.329 (included in this appendix) as the most complete account of his work to date. Included with this is an interesting and valuable account of lesser-known projects by Guimard at the same time revealing his interest in nature, a primary source of inspiration. Finally mention is made of his concern for providing ample natural light in buildings, a point which is also revealed in the exhibition.


An excellent map locating 33 surviving works by Guimard in Paris.

Hardie, Martin "Neglected Centenaries". *The Studio*, vol.136, September 1948, pp.75-78.

This article describes the value of the work produced by three children's illustrators, Walter Crane, Kate Greenaway and Randolph Caldecott. The surprise, and value, of this was Walter Crane being considered in the role of a children's book illustrator, a fact which was not revealed in other research. Included are interesting reproductions of his illustrations.


Kaufmann suggests two main types of design in the 1890s and 1900s: Some designers interested in structure, space and light; others in creating a setting or a mood. Horta was a pioneer in the first group, and was primarily concerned with
human well-being in a building. Following this there is a detailed description of three of Horta's buildings around 1895: La Maison du Peuple, Hotel Van Eetvelde and the Hotel Solvay. Kaufmann's best description is of the Hotel Solvay, which appears to be his favourite building. The article is completed with a useful chronological list of Horta's works.

Koenig, Giovanni Klaus - Colombo, Emilia "Hector Guimard 1867-1942". Casabella, no.329, October 1968, pp.36-56.

Unfortunately most of this article is in Italian, but the small English section brings up some good points about Guimard, the one of most value being his imaginative planning ability, particularly on the triangular site of the Hôtel Guimard. Included with this is an excellent photographic coverage of his work, especially the Métro entrances.


A report on an exhibition at the Kunstwerke Museum Zürich. The theory presented is that Art Nouveau is derived from three main forms: the 'floral' from organic origins, the 'dynamic' caused by the power and rhythm of the abstract line, and finally 'static geometric' influenced by construction. It is suggested these forms are bound together to create the style. Following this is an account of prominent early designers in different countries. Of interest in this section is the suggestion that Gaudi is linked with Art Nouveau by his use of colour. Many of the exhibitors indicate a belief that the movement began in each country from spiritual sources, i.e., Art Nouveau for its beginnings turned back to early mankind.


Another report on the exhibition held in the Museum of Modern Art, New York, uses excerpts from an introduction by F. Lanier Graham, associate curator. Credit is given to the enormous influence Guimard had on Art Nouveau, and his large ego which helped this along. Once again mention is made of his interest in space, mass, light, volume, colour, and texture in his buildings. Also a reference is made to Guimard's sculptural results which gave an effect as though they were moulded in soft clay.


The exhibition was arranged by Kolo Moser (one of the founding members of the Vienna Secession with Josef Hoffmann), and it is suggested that the work on display indicates a dwindling interest in Art Nouveau, this message being revealed through the changing style of figures in paintings. Levetus concentrates on a detailed description of paintings, with little reference to anything else exhibited. Gustav Klimt is one of the painters mentioned, and even he seems to have moved away from the strange elongated figure which dominated his work prior to the turn of the century.

An excellent source for much-needed biographical information on Horta. Introductory paragraphs reveal his family background and education leading up to his first office job, and an indication of the social attitudes which were developing around 1875-80 in Belgium. The country had previously been dominated by historical eclecticism, and began an attempt to break away from this. Viollet-le-Duc had a big influence on prominent men in Belgium, and this led to the promotion of iron in buildings by the local periodical L'Émulation. Here there is a mention of Horta's earliest work in Ghent (not found in previous research); also an attempt to explain his search for an individual design approach, which began about 1890, and magically appeared in 1892 as a fully mature style. Madsen believes Horta was strongly influenced by Viollet-le-Duc, the group 'Les XX', and prominent artists such as Jan Toorop and Fernand Khnopff. Finally, there is a mention of the change in Horta's work after 1900 to calmer, simpler and firmer lines in surfaces and spaces. The concluding points made seem to fade away - a contrast to the strong beginnings of the article.


Some worthwhile biographical information on Guimard, particularly with regard to his education. Apparently he was more interested in practical work than academic, leaving the Ecole des Beaux Arts before getting his diploma to work with building contractors. As his design theories developed there is mention of an influence from Viollet-le-Duc, and later, in his Castel Béranger, from Victor Horta. This article also records Guimard as winning the Paris Métro competition (an opinion supporting another article already summarised - refer Cantacuzino, S.  Architectural Review, vol.CXLVII no.88, June 1979). The Hôtel Guimard is presented as an example of his excellent planning ability, an asset which increasingly deteriorated in work which followed.


This article followed a revival of interest in the Russian constructionists, concentrating on Viollet-le-Duc's L'Art Russe published in 1877, as the beginning of the movement. Middleton is heavily critical, and notes how Viollet-le-Duc did not go to Russia to write the book, relying totally on prints and publications. An account is provided on the first section of the book which deals with Russian geography and the history of architecture. This is followed by Viollet-le-Duc suggesting his form of Gothic for future Russian architecture. Middleton suggests that Viollet-le-Duc's proposals follow very similar lines to those in his Entretiens, with an insistence on an honest expression of structure, and encouraging the use of iron. L'Art Russe apparently had a considerable influence on prominent Russian architects of the period.

An introductory mention of Muthesius's book Das Englische Haus of 1904 with a brief outline of the contents; also that Muthesius was attached to the German Embassy in London from 1896 to 1903, and he kept a constant note of the development of architecture. The article is dominated by information about Mackintosh and 'The Four', and how their work was rejected by the English but enthusiastically accepted on the Continent. The major contribution in Muthesius's opinion was the unity of design in their interiors, which has had a great influence on the development of interior decoration. He concludes by mentioning the quality of work produced by followers of Mackintosh in Britain.


Early sentences of this article reveal that Art Nouveau was not welcomed by everyone in Paris, and ironically the English were blamed for introducing the style. The credit for official beginnings in Paris are again given to Samuel Bing's shop, opened in 1895.


A small specialised report on an Art Nouveau cafe in Cracow called 'Joma Michalikawa' (meaning Michalik's Pit!). The relevance for this study belongs with the designer Karol Fryez (1874-1963), who studied under Alfred Roller, the famous stage set designer in Vienna's Opera House. Fryez was a leader of the Art Nouveau movement in Poland.


Pevsner's aim is to establish Art Nouveau as a style, not merely a fashion. He disputes a newly published book by Madsen which supports the notion that Art Nouveau relied on its development through the use of decoration. According to Pevsner the break with traditional influences, an introduction of natural light into previously dark interiors, and the importance of structural expression, firmly establishes Art Nouveau as a style. He then goes on to reveal the various social attitudes which existed towards the style at the turn of the century. A good example is the widespread rejection throughout Britain of the Art Nouveau furniture gift, by George Donaldson, to the Victoria and Albert Museum in 1900. The concluding points make specific reference to Le Corbusier, suggesting the widespread influence the style had on modern architecture.


A concise introduction by Pevsner summarising the growth of the Arts and Crafts movement. He concentrates on Morris, then moves on to other prominent men of the period.
The article which follows is a review of the first exhibition of the Arts and Crafts by George Bernard Shaw. The material is everything you would expect from the author, witty and interesting. For me, particularly one quotation is an excellent comment on Morris, which I have made use of in this Dissertation. Shaw also expresses his delight in the high quality of craftsmanship and design in all the work exhibited.

Pevsner concludes by noting with interest that Shaw mentions all of the designers at the exhibition who later became leaders of the Arts and Crafts. A note is made of the enormous effect _The Studio_ (published 1893-5) had in spreading the movement to the Continent.


A review and reaction to Sweeney and Sert's new book _Gaudí - Pioneer or Outsider?_ These authors suggest Gaudí was a great pioneer of the Modern Movement. Pevsner argues against this by suggesting a separate group of architects he calls "magicians", of which Gaudí is one. These architects create fantastic buildings, but their design style is not adaptable to hospitals, colleges, institutions or other buildings of similar functions which belong to our modern age. The architects he names as belonging to the Modern Movement are Gropius, Mies, Loos etc., all men of the next generation following Gaudí.


While Schmutzler agrees Art Nouveau involved all the arts, he believes the decorative aspect was the most important, particularly book decoration. A brief history of the movement includes the widespread effect many English artists had; how their early influences came from Japanese Art, which gradually extended to include Greek, Egyptian, Celtic and Prehistoric Art; although eventually inspiration from nature became stronger than all other influences. The concept of total unity in design also began with the artists, and eventually developed to include whole rooms and buildings (one of the great achievements credited to the movement). These initial stages in England rapidly spread through Europe, and Schmutzler gives the credit to Victor Horta's Tassel House in Brussels 1893 as the birth of Art Nouveau.


This article is an extension of the previous one by Schmutzler (refer "The English Origins of Art Nouveau". _Architectural Review_, February 1955, pp.108-116).

Once again of value in establishing pre-history of Art Nouveau. Schmutzler attempts to show that William Blake is a pioneer in the development of the moving, sinuous lines, so much a part of the style. He also suggests influences on other designers who followed Blake. The arguments used are based on comparisons between paintings by Blake around the 1790s with work produced by early Art Nouveau designers of the 1880s. Blake is also credited as preceding Rossetti and Whistler in the use of
brushwork script on his paintings. Schmutzler concludes by placing Blake alongside Rossetti and Japanese Art as an equally powerful source for the style.


A very sober critical account of Mackintosh’s success and his abilities. The central theme is to show Mackintosh was not a pioneer of the Modern Movement: that he belonged in the 19th century. This is followed by a description of early influences, and heavy criticism of his wife in restraining his design development. There is an interesting account of the School of Art competition, including a description of the innovative use of open space planning, and the structure, which is considered behind contemporary engineering practice of its day. This design is placed in context with development on the Continent and in America. Shand believes Mackintosh was more an artist than an architect, listing the qualities which make the distinction: that he was strongly influenced by Voysey in using roughcast to modernize his 'Scottish Baronial' domestic designs. With regard to the Continent, Mackintosh’s influence cannot be overestimated, particularly in Vienna.


Although this subject is not specifically connected with Art Nouveau, it is a continuation of the ideals established by the Arts and Crafts Movement, i.e. art for everyone. Voysey is promoting the value of art in revitalising the human spirit, particularly relevant to social attitudes following the war years. He suggests sources of inspiration and a continual quest for knowledge. This article contains some amusing and useful quotations.


The main work is preceded by a brief article titled 'The Glitter of Mackintosh', which concentrates on silverware and furniture produced by 'The Four'. It is suggested that ornamental or aesthetic values were more important than satisfying functional needs. (Mackintosh's chairs are notoriously uncomfortable.)

The main article provides an interesting account of Mackintosh's architectural development, including descriptions of early influences and work with Honeyman and Keppie; the use of his Italian sketchbooks and existing Scottish architecture in developing a style; finally, domestic work, and the Library Extension to the School of Art in 1907, his last project in Glasgow. Of specific interest is the account of the School of Art competition, reference to originality, and a suggestion of Mackintosh's flexible design ability in dealing with different clients.
"We are Not Alone!" [Dismantling of La Maison du Peuple].

A note of protest on the disgrace of the demolition of La Maison du Peuple, one of Victor Horta's most revolutionary buildings of 1896.

Winter, Robert "American Sheaves from 'C.R.A.' and Janet Ashbee".

Material used in this article was obtained from Ashbee's Memoirs and an article by Alan Crawford, "Ten Letters from Frank Lloyd Wright to Charles Robert Ashbee", in Architectural History, xiii, 1970, pp.64-76 (the Journal of the Society of Architectural Historians).

Winter provides an excellent account of the many visits Ashbee and his wife made to America promoting the Arts and Crafts Movement. He notes influential Americans the Ashbees became acquaintances of, particularly their friendship with Frank Lloyd Wright, and the many lectures Ashbee presented around the country. Of specific interest is the connection between Elbert Hubbard's communal workshop in 'East Aurora', New York, and the Ashbees' 'Guild of Handicrafts', located in Chipping Campden in the Cotswolds. A lengthy, amusing account is included of Janet Ashbee's visit to 'East Aurora' in 1900. The report finishes with Ashbee's visit to America in 1908, where he discovers little interest left in Arts and Crafts. His faith is slightly restored by meeting C. Sumner Greene and examining some of the work of this architect and his brother. Ashbee is delighted with the high quality of design and craftsmanship.


An introduction to Dresser, considered one of the greatest industrial designers of his day, who promoted high quality design for everyone along similar lines to Morris. Examples of Dresser's work are provided to illustrate his equal concern for aesthetics and the functional requirements of the objects he produced.

BROCHURE REVIEWS


The brochure provides a brief historical background to Finnish Arts and Crafts, which became very strong in the late 1890s. The main sources of influence were taken from the primitive traditional folk culture, and two leaders in investigating these areas were Akseli Gallen-Kallela (known until 1906 as Axel Gallén) and his friend Louis Sparre. This research coincided with the work of the Friends of Finnish Handicrafts Association, founded in 1879.

The exhibition contained many examples of Finnish Art Nouveau in painting, furniture, tapestry, ceramics and architecture,
the most prominent figure represented being the architect Eliel Saarinen. I found this brochure valuable support for the theory that due to strong nationalistic tendencies in the late 19th century, many countries strove to develop an individual design style.

Sterner, Gabriel "Art Nouveau - Jugendstil - Modern Style".

This exhibition, designed by Hermann Vogel in Cologne, was seen at the Edinburgh College of Art March 1978. Both the exhibition and the accompanying booklet provided a valuable introduction to Art Nouveau, with an excellent display of architectural photographs, with examples of furniture and silverware.

The booklet begins with an explanation of the various names given to the movement in each country, and the important role magazines played in distributing information. Early influences are credited to Prehistoric Art, and later Japanese, Persian and Egyptian Art, all introduced through the world expositions. In terms of historical styles, Art Nouveau was influenced by the dynamic curves and undulations of the Baroque movement. Painting also had an influence, the Pre-Raphaelite movement proving the most enduring. In the 1900s Art Nouveau was adopted and fostered by the wealthy, for example the Grand Duke of Hesse and Darmstadt in Germany, Samuel Bing in Paris, and Fritz Wärndorfer, financier of the Wiener Werkstätte, and the initial link between Vienna and Mackintosh in Scotland.

In the field of graphics, the style developed a distinct two-dimensional form in the mid-1890s. This area of design was led and influenced by Henry van de Velde. While, in the development of architecture Otto Wagner and Josef Hoffmann, both from Vienna, are credited with prominent roles. During the last years of the 19th century and into the early years of the 20th Europe and America moved along at an equal rate of development, although the style in each was quite different. The prominent figures during these early years in American architecture were Sullivan and Burnham.

Back in Europe, painting and sculpture began to develop the idea of unity in design; that is, a painting is a part of a room and should be designed to blend or fit into the space. The introduction of the poster had also occurred, and this became popular very quickly as designers realised the possibilities of reaching larger numbers of the public.