

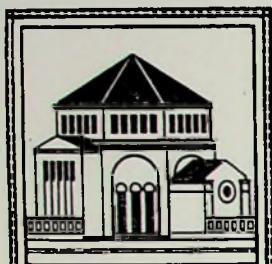
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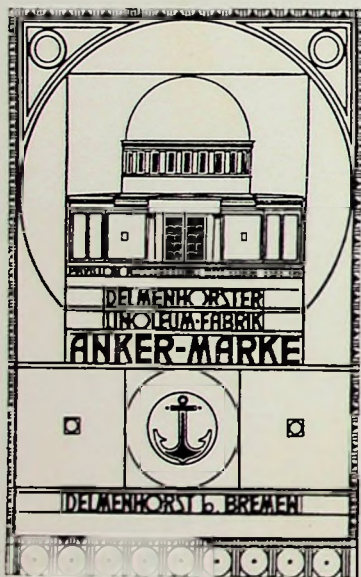
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DEUTSCHE SCHIFFBAU-
AUSSTELLUNG 1908



ALLGEMEINE
ELEKTRICITÄTS-
GESELLSCHAFT

PETER BEHRENS' DESIGNS



by Joan Harley

Industrial Design • 4

N . C . A . D

April 1985



1911

Peter Petersens

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Neo-Classicism
The 'New' Architecture
Design + Culture
Expressionist 'Hiccup'
Colour
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*Behrens' Early Work
Neo-Classicism
The 'New' Architecture
Design + Culture
Expressionist 'Hiccup'
Colour
The 'Seriousness' of a Design*



Geboren den 14. April 1868
in Hamburg.
Für übrigen Ausbildete
Peter Behrens



HIS LIFE - THE PAINTER

Peter Behrens was born on April 14, 1868 in St.Georg, Hamburg. His father died before he was six and left him a great deal of money. In 1886, when he left school, he chose to study art. He attended the Gewerbeschule, Hamburg, the Kuntsschule, Karlsruhe and then studied as a private pupil with the Hamburg artist Ferdinand Brutt in Dusseldorf. In 1889, he moved to Munich and studied under Hugo Kotschenreiter. In this year, when he was 21, Behrens married Elizabeth (Lilli) Kramer.

His paintings of 1891-2 are unusual for a man of his standing. They are paintings of poor people and scenes of industrial landscape. This early interest in the industrial world could have been a hint to his later involvement in industry. Behrens took part in the Munich Sezession of 1892. This was the first formal organised secession of artists from a German Academy. In 1893, at the first Sezession exhibition, Behrens exhibited his "Zecher bei golbem Lampenlicht" (Toper by yellow lamplight). This painting attracted an enormous amount of attention. It was compared to Karl Scheffler's 'Die Blaue Stunde' (The Blue Hour). Klinger's painting was known as 'Blue Happiness' and Behrens' as 'Blue Gloom'.

Behrens was friendly with Otto Eckmann at this time. Two other paintings Behrens exhibited at the Sezession in 1893 were influenced by Eckmann - particularly in the subjects he chose.

In 1894-1895, Behrens turned to landscape painting. These were small paintings in an impressionistic manner which he painted out of doors.

ART NOUVEAU

In 1896, Behrens visited Italy for the first time and fell in love with it. When he returned, his paintings became symbolic and were a reaction against Impressionism and Realism. He took up woodcuts as a medium. One of these woodcuts - 'Der Kuss' (The Kiss) is a well known example of Art Nouveau. This woodcut may have been inspired by Rodin's sculpture 'The Kiss' or from a photograph of Natalie Clifford Barney kissing her friend Evalina Palmer. The two profiles are of indeterminate sex and have a mirror-like similarity (fig.2a) However, this painting reduces the human figure to nothing but ornamental design. Nothing of the warm, life-like embrace of Rodin's 'Kiss' of 1886 remains.

His three main paintings of 1897 were the 'Iris Portrait' (of his wife, Lilli), 'Die Trauer' (Sorrow) and 'Ein Traum' (A Dream). From these paintings it is already clear to see Behren's favour in static forms, centralized and symmetrically placed and with a strong feeling of geometry used in their composition.

The Art Nouveau phenomenon only really manifested itself in design in Germany after 1895 and was heavily influenced by France, Belgium and Britain. But from the beginning, the Jugendstil of Germany and Austria showed a split between the highly ornate and curvilinear forms derived from nature and a harder, tougher decorative vocabulary which was more controlled and subdued. German and Austrian architects by working in the rectangular rather than the curvilinear mode of Art Nouveau, placed themselves in the vanguard of the twentieth century stage of the Modern Style. Behrens, Hoffmann, Loos and Obrist were particularly responsible for this. An interesting theory in 'Art Nouveau' by R. Bossaglia shows a different opinion on the decline of Jugendstil; 'In the decline of Art Nouveau, Jugendstil was destined to be the first to become unbearable and corrupted by sickly affectation - or to be revived in hybrid forms like Italian Florealism.



Natalie Clifford Barney
+ Eva Palmer



For this reason, the fortunes of Jugendstil scarcely survived the beginning of a new century'.

The earliest breakaway from Art Nouveau came from R.A. Schröder; In 1899 he designed a flat in Berlin. His chairs were without curves, his walls, ceilings and fireplaces were divided into rectangular geometric patterns. In 1898, in Vienna, Adolf Loos designed a shop interior lacking in applied ornament. The value of his work relies on the materials used and the dignity of the proportions. In 1900, Behrens designed a set of cutlery which could not be termed Jugendstil. (fig. 56b)

Although the German designers of the time were concerned with standards of craftsmanship rather than with industrial production, it was the unsuitability of Art Nouveau to stone and brick, still the most widely used building materials, that led to its early rejection. Another reason for the rejection was that it inevitably implied a crafted method of production.

ARTS + CRAFTS MOVEMENT

Around 1898, Behrens' painting declined. Behrens and other artists of the time began to consider painting as "selfish" and wished to become involved in work which served the people in general. He took on more diverse activities. These included glass, porcelain and furniture. He became a member of the 'Vereinigten Werkstätten für Kunst im Handwerk' (United Studios for art in Handicraft). He exhibited in their exhibition at Glaspalast in Munich in 1899.

In 1898, Behrens designed a range of wineglasses and a range of white plates decorated with various patterns. In 1900 he designed a series

of vases made by Mehlem of Bonn. 1901 he designed full tea, coffee and diner services in white porcelain with green, blue and red decoration. (See fig.)

In 1900, Behrens designed a dining room for a friend; Otto Erich Hartleben. The furniture for this room was a range of cherry-wood chairs, stools and settles. Behrens also tried designing womens' clothes; rational dress, without corsets or stays.

The aims of the Arts and Crafts movement, as understood by Behrens are illustrated in the passage below. It is clear that he saw a progressive unification of the practical with the beautiful. He was looking for ways of developing forms whose beauty was directly related to purpose and construction.

"Architecture is the art of building, and comprises in its name two ideas: the mastery of the practical, and the art of the beautiful. There is something exhilarating in being able to combine in one word the two ideas - that of practical utility and that of abstract beauty - which unfortunately have too often been opposed to each other. But we have left that time behind us, and we may affirm with satisfaction that the indications of conciliation are becoming more pronounced. The practical object does not seem to be any longer entirely subservient to mere utility, but combines therewith a certain degree of pleasure. Efforts were made formerly to relieve the bareness of every-day utility by embellishing it, adding ornaments to plain, serviceable objects, and hiding the mere prosaic purpose. The object was often loaded with unnecessary, purposeless additions, and thus the desire to use it was decreased. Then came the realization of the physical pleasure existing in the useful and the suitable, and by degrees people wanted to see the intention, to observe the suitability of things. They advanced further, and laid stress on the purpose and the construction; made them more prominent, and produced forms which invited use; and finally arrived at the point of logical observation in its artistic aspect. This development of artistic perception, combined with the progress made in our technique and the fertility of the modern style and its justification. Thus we shall now be able, owing to the combination of the two ideas of art, to speak of architecture corresponding in the highest degree with the spirit of the time....."

(W.Fred, 'The Artists' Colony at Darmstadt', THE STUDIO Vol. XXIV, 1901, p.29)

Behrens, Muthesius and other designers became aware of the need to design for machine made, mass produced objects. This was partly because of the economic situation. Through the influence of England and in interest in simply expressed forms and good quality craftsmanship, the standard and awareness of design was fairly high by 1905. But in many cases, these points formed a hindrance to the development of design for machinery and mass-production.

At the same time as the Arts and Crafts movement, Behrens was also interested in typography.



Behrens: Title page for 'Der Bunte Vogel' 1899

T Y P O G R A P H Y

Behrens' earliest published lettering was for the decorative title headings for the fifth volume of 'Deutsche Kunst und Dekoration' in 1899 (fig 6a). This was an Art Nouveau type of lettering but slightly more restrained and clearer than most Art Nouveau lettering. He also designed the surrounding decorative frame. An interesting aspect about this decoration is the depiction of a Classical Greek building. Which could point to Behrens' later affinity with Neo-Classical buildings.

BEHRENS-SCHRIFT; 1902

This is one of Behrens' best known letterings. Here, the Art Nouveau influence is gone. The curves are straightened. This typeface is based on the Gothic hand used in manuscripts. As in designing all his typefaces, he was mainly interested in their readability and harmony. The actual typeface of this lettering has an even more right-angled order about it with the finer flourishes eliminated. This was due partly to the punch cutters. This perhaps helped to reinforce the idea that geometric forms go hand in hand with machine production. (fig.6b)

KURSIV-SCHRIFT; 1906-7

This is based on early Romanesque German scripts and differs from Behrens-Schrift in having softer, more curved forms throughout. The typographical ornament accompanying the Kursiv reflects the type of patterns he was using as decorations on his architecture during this period.

ANTIQUA; 1908

This first appeared in the catalogue for the Shipbuilding Exhibition in 1908. This is a Roman alphabet. There is a strong emphasis, characteristic of the growing Nationalism of the time, on its specifically Germanic form. Behrens-Antiqua was often used for AEG material and it also formed the basis of his AEG type.(fig.6c)



6 a

abcddefghijklmnopq
rstuøwxyz chckschf
ABCDEFGHIJKLMNO
PQRSTUØW3 124890

6 b

ZUR AUFKLÄRUNG

6 c

MEDIAVAL; 1914

This is a Renaissance type. This is lighter and not as severe as Antiqua.

AEG STANDARD TYPE; 1916

Behrens was working on this typeface for a few years before he finally arrived with this lettering. This typeface is remarkably similar to the famous Sans-serif designed in England by Edward Johnston for the London Underground. It seems they were both working in the same direction at the same time and quite independently.

AEG CORPORATE IDENTITY ooo

Behrens designed two AEG logos in 1908. The first one, illustrated on the brochure design (fig.7a) is quite ornamental, this retains an Arts and Crafts interest in calligraphy and the hand of the artist. The second one, however (fig.7b), designed in the same year has a monumental directness that shows a confidence and acceptance of simple forms. Five years previously, Franz Schwechten designed an AEG logo (fig.7c). This logo contrasts with Behrens' logos to appear decades behind Behrens'. The banner of 1912 (fig.7d) contains no ornamentation at all. The design consists of the play of space between the letters and their simple heavy forms.

In the AEG publicity material, Behrens abandoned both symbolic representations and the illustration of industrial plants and electrical appliances and looked instead with a simple format with which to depict technology.

For the AEG trademark, Behrens offered the hexagon as an analogy to the technical commerce of the AEG. Thus Behrens turned radically away from the traditional manner in which industrial firms presented themselves. Instead of using the mythologically perceived sources of technology, Behrens assembled the AEG's hexagonal trademark in just the same way as the firm's products were themselves assembled.



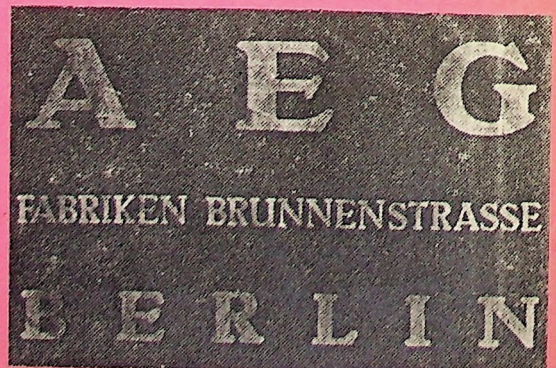
7a



7b



7c



7d

When the Behren-Schrift was first published, Behrens found the reactions of some people disheartening;

"If one reflects that in its own day people could get accustomed to roccoco flourishes of the 'black letter, it is unbelievable that they can't get used to simplicity and readability"

Letter from Behrens to Diederichs, 17 May 1900.
Eugen Diederichs 'Selbstzeugnisse und Briefe Von Zeitgenossen', Dusseldorf and Cologne, Diederichs, 1967 pp114-15

In 1906, Behrens held two courses on lettering and typography at the school of Arts and Crafts in Düsseldorf. These courses were held for teachers in technical and design courses.

Behrens was influenced by Reigl's principles of design which is apparent from an extract in his 'Von Der Entwicklung Der Schrift' of 1902 where letter forms give "next to architecture, quite the most characteristic picture of a period, and the strongest testimonial of the spiritual progress of development of a people".

For Behrens, decoration alongside lettering was not achieved through drawing alone; the background itself had a definite form and was not merely an empty space lying alongside or behind the figures. Blacks and whites, each maintaining their own identity, were subtly matched and balanced. These characteristics are especially prominent in posters as well as typographic ornaments by Behrens.



88 Behrens, poster for AEG electric light bulbs, before 1910.

D A R M S T A D T

The Grand Duke Ernst Ludwig von Hessen of Darmstadt was one of the most important patrons of the new movements. Large scale patronage by wealthy individuals became an important encouragement to designers in Austria and Germany in the following years. He founded the artists colony at Darmstadt, for seven artists, including Behrens and Olbrich. He was helped by Alexander Koch, a tireless advocator of art who had inherited, through marriage, a wallpaper factory in the neighbourhood. Koch founded the periodicals 'Zeitschrift fur Innendekoration (Interior Decoration magazine) and 'Deutsche Kunst und Dekoration (German Art And Decoration). On the first page of the first issue, he appealed to German artists and patrons for "genuine, great artists (to work for) the lesser arts".

In 1899, following a proposal made by Koch, the Grand Duke called his seven chosen workers to form the 'Artists' Colony' and to prepare the exhibition 'Ein Dokument Deutscher Kunst' for 1901. The artists were given a three year contract and a housing subsidy. The 1901 Mathildenhöhe Colony was the first exhibition by the Kunstlerkolonie and was on the colony's permanent villas at the outskirts of the town. Olbrich, the only professional architect in the group was responsible for the architecture of all the buildings except for Behrens' house. Only Behrens had both designed and furnished his own house.

There was a strong English influence on the German and Viennese artists and this element is evident at Mathildenhöhe, Darmstadt where it was transmitted not just via Vienna but via periodicals and the close association of Koch with English Arts and Crafts. This was especially noticeable in the emphasis on quality and unity.

The idea of an artists colony gathered support from politicians and businessmen. Although it was also hoped that local light industry would benefit from the colony, there is no mention of machinery, mass production or cost effectiveness in any of the projects

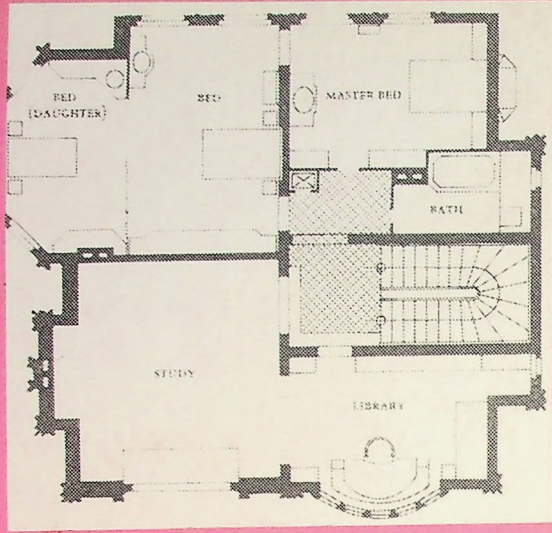
undertaken by the Darmstadt colony. Yet later, after the exhibition, the artists felt that they should be designing other types of objects in their aim to bring art into all aspects of life. This may be seen in that in 1906, Olbrich is reputed to have designed a car, and Behrens went to work in the AEG.

BEHRENS' HOUSE - DARMSTADT ooooooooooooooooooooooooooooooooooooo

At this stage, Behrens was 32 years old. The Darmstadt house was Behrens first attempt at architecture, and so, was a big step for him from Art Nouveau, Graphics and Arts and Crafts objects. The reactions to the house were varied. B.Risebero refers to Behrens' house as "A whimsical house which gave little hint that he was to become one of the masters of early modern design", and that he was "Influenced by the total design approach of Morris".

The form was probably inspired by the vernacular forms found in the Baltics, which Behrens admired. The exterior is rather strange with decorative green glazed bricks against a white background and strong red tiles on the roof. The chimneys are tall and slightly Tudor in style. (fig.10a)

The interior, however, is quite interesting. One side of the house has two floors and the other side has three. The form of the house is based on a cube. The house is in complete contrast to Olbrich's picturesqueness and is ordered and rigid in that the rooms were contained in areas sharply defined as rectangles and squares. Behrens also linked his rooms together as an organic, informal way, based on the lifestyle of the occupants in a far more forthright manner than Van de Velde had yet dared to. On the ground floor, the house has a simple and compact plan, with an entrance hall from which the staircase rises, with wide sliding screens opening from it into the music room, which is in turn, interconnected with the dining room. In this



10a

way, almost all of the ground floor could be opened to make a continuous space for, for example, musical evenings. Yet the rooms could still be closed off for maximum privacy when required. The plan is quite like that of F.L.Wright's own house of 1889 in Oak Park, allowing a real flow of space through the ground floor rooms.

Many windows were used in an informal manner. This was used to produce an impression of extension into space beyond wall limits. He used this very well in a corner living room of a house at Wetter in the Ruhr.

THE DINING ROOM

Although there are still curvilinear elements of Art Nouveau present in the dining room, the forms are, on the whole much more simple and more in keeping with the sort of work being produced in Vienna. Behrens designed the japanned white furniture and panelling and silver and crystal electric light fittings over the white dining table and chairs. The carpet and other accents were wine red. The room appears light and graceful and happy. His dining chairs are like Van de Velde's Bloemenwerf Chairs of 1895. Their form is clean and simple with clear sweeping lines. The whole room has a unity in the Sheraton Oval motif which he uses throughout the room. (fig.11a)

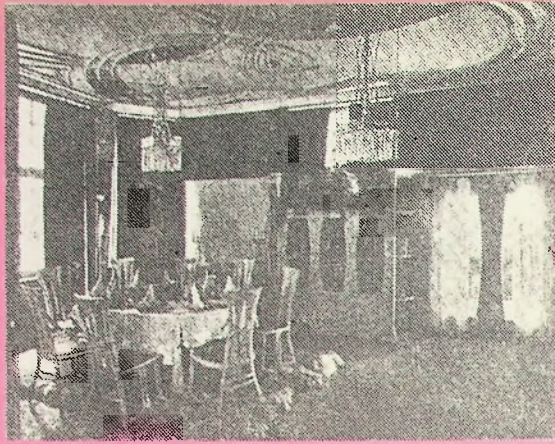
THE MUSIC ROOM

This room is in complete contrast to the dining room. This room is dark and intense with hard geometric forms. The furniture was made in dark stained wood. He drew on many vernacular forms which were familiar to his contemporaries. This is evident through the slightly medieval impression given by the panels and furniture. This was later to be replaced by a more classical quality. fig.11b)

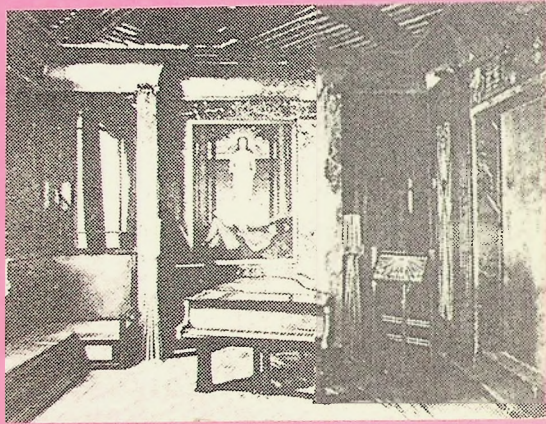
THE LADY'S ROOM

Here more rectilinear forms are used. The settle fits neatly and geometrically into the corner. The carpet is almost cubist in its geometric abstraction. (fig.11c)

The front door shows how he links the geometric and curvilinear together. (fig.11d)



11 a



11 b



11 c

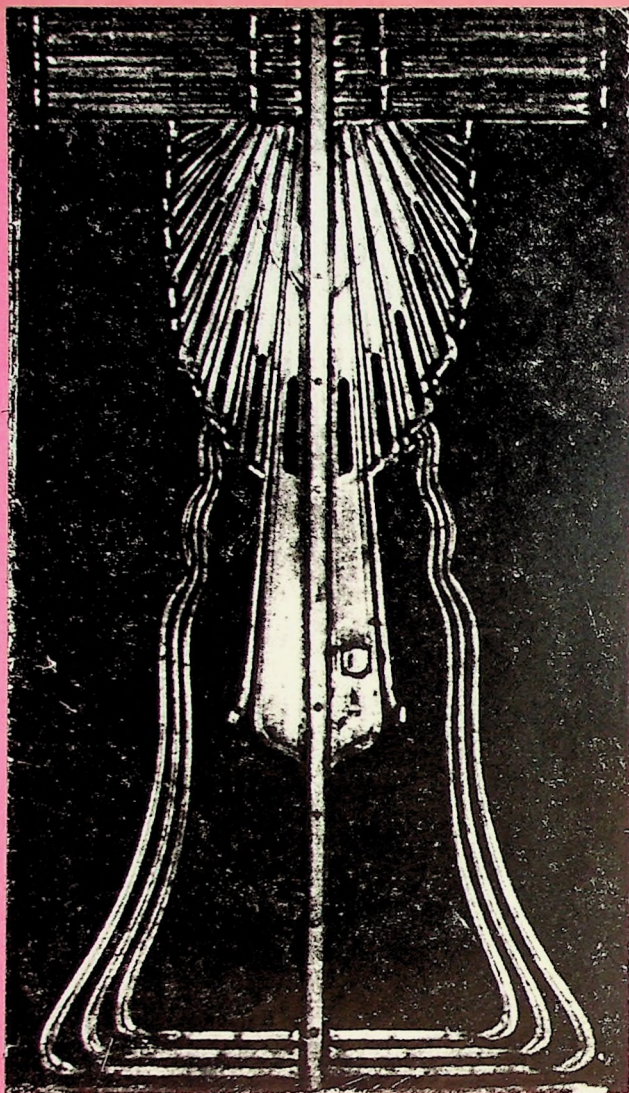
The Darmstadt house marked a breakaway from historical forms, but it is more important as an attempt to use a synthesis of shapes directly dictated by comfort, convenience and function as an anticipation of a more reasonable kind of home life, simpler than any then existing. The house is not just a place for family accommodation, but a kind of sanctuary where art and life are combined and integrated. This design encouraged other architects to take increasing liberties with the solidity of walls and their relations to the rooms themselves.

At Darmstadt, Behrens saw the development of "A new style, surpassing that known to us" as a real possibility. He wanted to see "Art enjoyed in the sense that all life needs the beautiful, and beauty gives everyone life", and that the whole of life, should become "a great equally valued form of art.....Life itself should be once more a style". This is reflected in what Heinrich Pudor in 1905 said of Behrens; that "He was neither chiefly a painter, nor an architect, nor a designer, but rather an artist of "Life" ". One of the reasons for this is probably that Behrens was a self-taught architect. He designed his house from the point of view of someone who intended living in his house. He had fewer pre-concieved ideas through studying architecture, but approached the problem of designing his house with a clean palette.

In contrast to the first quote in this chapter:

"The contribution of Peter Behrens, whose first work as an architect was in the construction of his own house, is the most coherent testimony to a homogeneous design for a house and furnishing realized by a single artist and includes also a garden and outer enclosure. As early as 1901, the special artistic position and the prophetic significance of Behrens' house was recognised" (Hanno-Walter Krufft in "The Werkbund" Lucius Berkhardt (ed) 1977)

At Darmstadt, Behrens still supported the Jugendstil. The ornamental layout for his booklet "Feste Des Lebens Und Der Kunst" 1900, was pure Jugendstil. (fig12a). But he was rapidly moving away. The



11 d



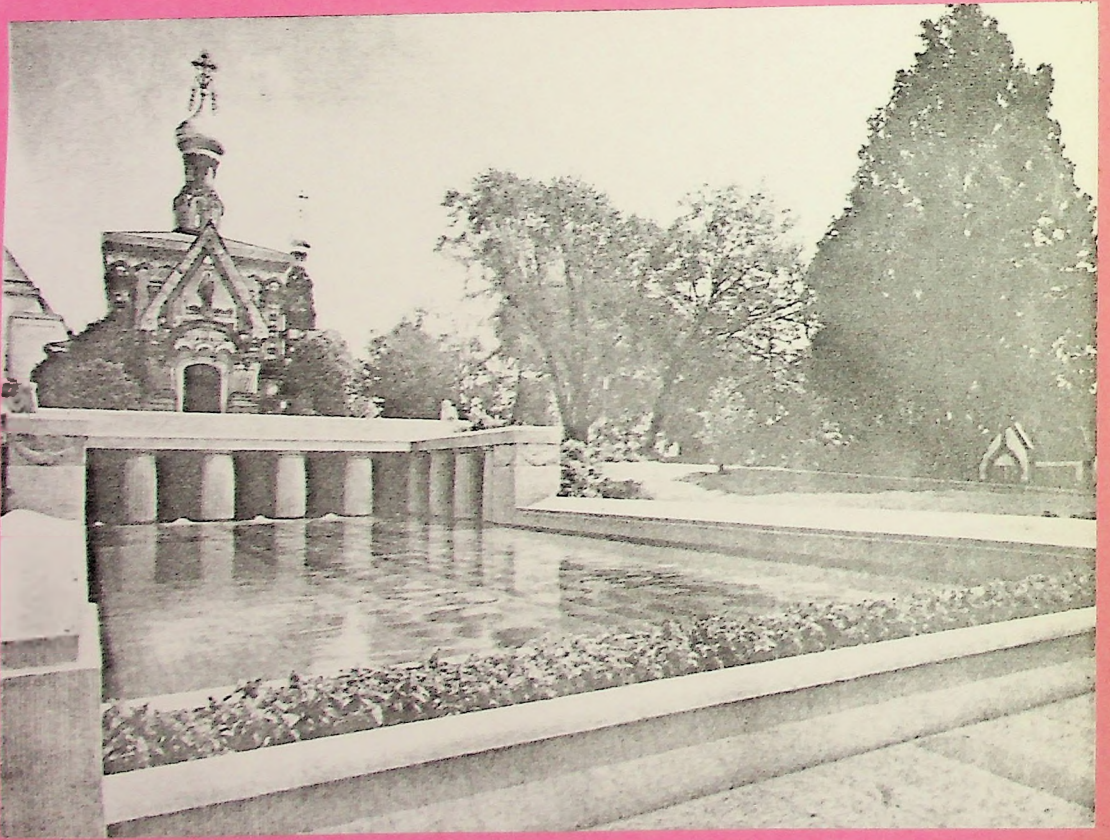
12 a

Darmstadt group was dominated by Behrens and Olbrich. This linked Germany and Austria together interpreting the form-language of the Vienna school in Germany. Behrens' was a moderated Jugendstil and associated with a system of parallel and straight lines. Here is to be found the germ of what was later to be called the "Style Munchois". By 1903, all traces of his fluent linear rythm had gone. Behrens' influence in the Künstlerkolonie was quite strong and helped other German artists to move away from Art Nouveau. This influence is most notable in architecture, where he moved towards the restraint and clarity of the modern movement.

Olbrich and Behrens both designed the "Reflection Pool" in 1901 at Darmstadt. The shimmering pattern at the bottom of the pool was deliberately designed to mingle with the play of light on the surface of the water. (fig.13a). This pool is yet another suggestion that Behrens admired Classical architecture which he intterpreted so much in later years.

THEATRE ooo

The booklet mentioned above; Feste des Lebens und der Kunst of 1900, was Behrens' first major essay. At this time, Behrens was very enthusiastic about theatre. The full title of the essay is: "Celebrations of Life and Art: a consideration of the theatre as the highest symbol of a culture". It was a twenty-five page booklet dedicated to the artist's colony. The booklet itself was designed with scrupulous care. He used a bold sans-serif type for the cover which was an unusual step for the time. The booklet is both a description of an ideal festival theatre, a discussion of realism and a stylization in stagecraft, anda rhetorical statement of his vision of life as a kind of artistic ritual, of the theatre as a complementary celebration of life. This manifesto shows the romantic side of Behrens and that he was an idealist.



FROM JUGENDSTIL TO ARCHITECTURE OF PURE GEOMETRY

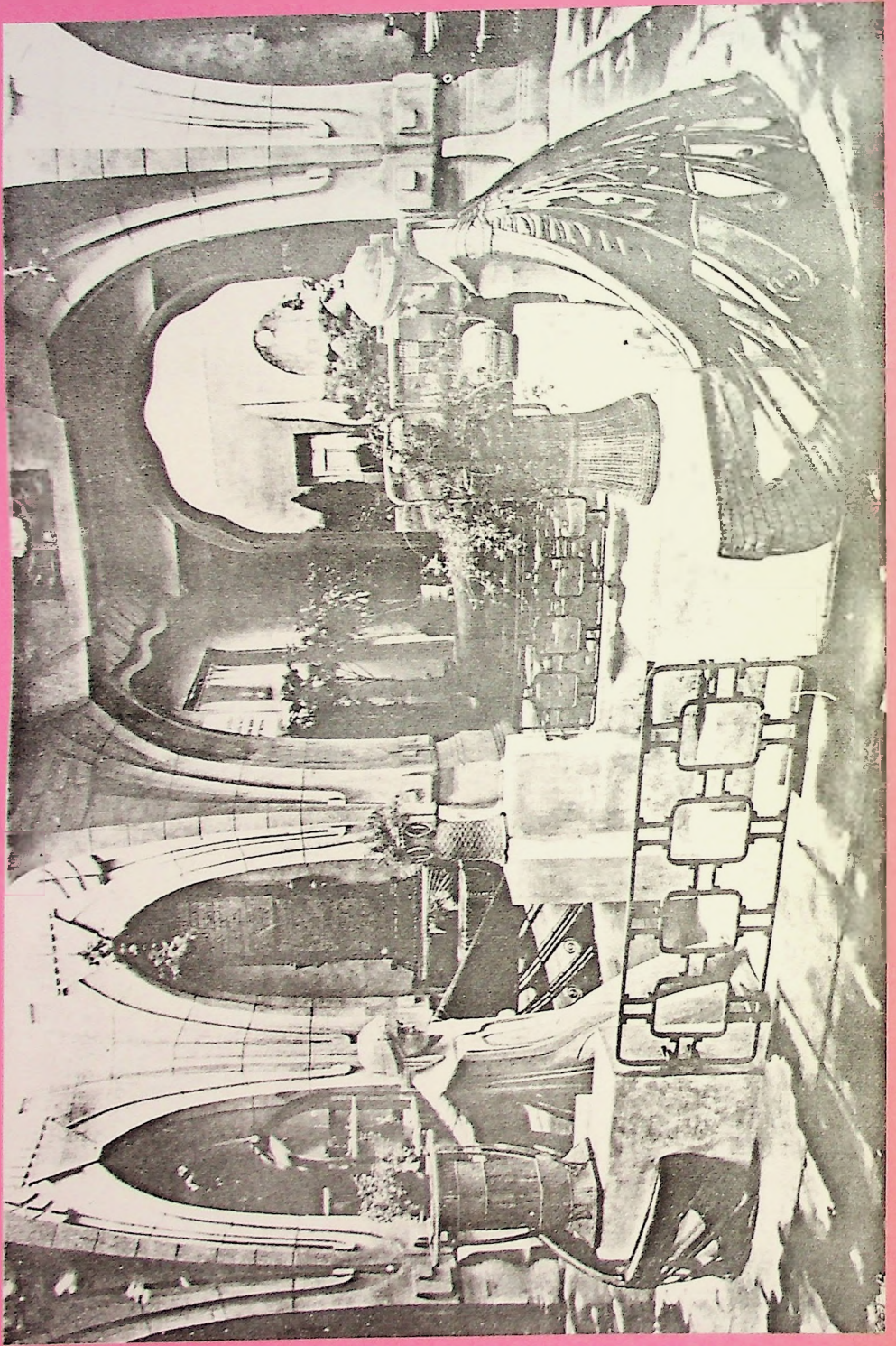
During 1901, Behrens directed a course in applied art for established craftsmen in Nuremberg. The object of the course was to act as a corrective to the adoption of half understood Art Nouveau mannerisms by local craftsmen and to bring them into contact with a leading artist of the new movement.

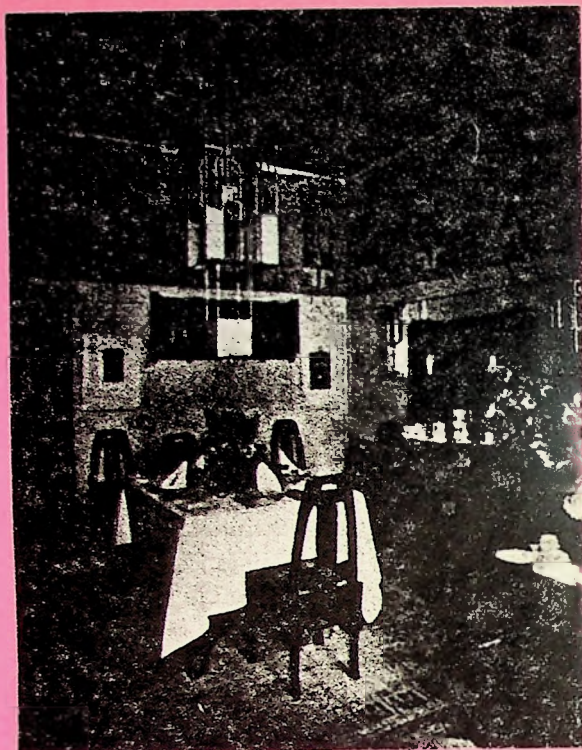
TURIN EXHIBITION 1902

This was the 'First International Exhibition of Modern Decorative Arts'. The Hamburger Vestibul was a reception room designed by Behrens for the exhibition (fig.14a) This was a large rectangular room, each of the four walls was opened up by a wide, flat topped arch. Cross-vaults at the corners supported the flat ceiling which had a large rectangular opening covered with a yellow opalescent glazing. In the centre of the room was a sunken pool with two winged figures of concrete kneeling at the ends.

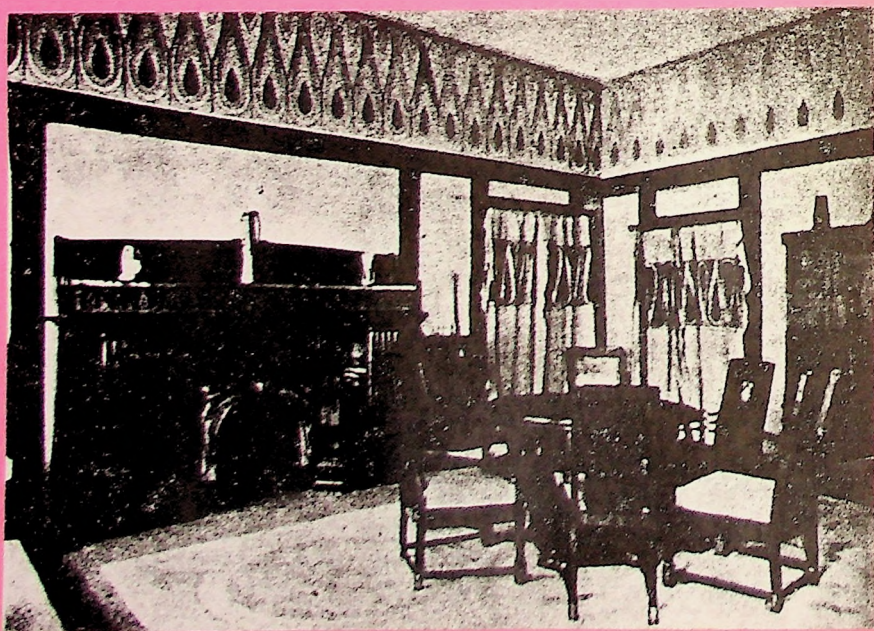
This is in fact more like a Belgian Art Nouveau interior than Jugendstil and is quite unlike any of his other works.

A dining room for the exhibition of Modern Living Rooms designed in the same year (1902) (fig.14b) is far more restrained. The room was rectilinear, centred on a square table for four. The light fitting hanging over the table is interesting. It is made of cubic and rectangular shades hung from a cage of metal rods and looks almost deStil-like. This is probably Behrens' first example of his use of the proportional grid. The chairs show a slight Jugendstil influence, but very solid at the same time.





14 b



15 a

The Living Room for L.Alter (fig.15a) also for the Turin exhibition of 1902, designed by Behrens shows that he had moved away from the accepted Jugendstil stance. The only real trace of Jugendstil is in the pattern along the top of the walls and the curtains. This illustrates Behrens' more practical side. He saw Art Nouveau and Jugendstil as being more appropriate for two-dimensional applications. He contrasted the pattern on the walls with heavy, dark, straight borders on the walls below.

BEHRENS AND DESIGN EDUCATION ooooooooooooooooooooooooooooooooooooo

Around the 1860s, German industrial and applied art products were regarded as inferior to those from England and America. For twenty years after the unification of Germany in 1870, German industry had neither the time nor the cause to worry about this. It was concerned solely with the task of development and expansion. After the resignation of Bismarck in 1890, a change occurred in the cultural climate of Germany. It was now felt that improved design in both craft and industry was essential to future prosperity. It was felt that they could only begin to compete for a share of the world market with products of exceptionally high quality. Friedrich Naumann, in his 1904 essay "Art in the Epoch of the Machine" argued "in opposition to William Morris' Luddism that such quality could only be economically achieved by an artistically cultivated people, oriented towards machine production".

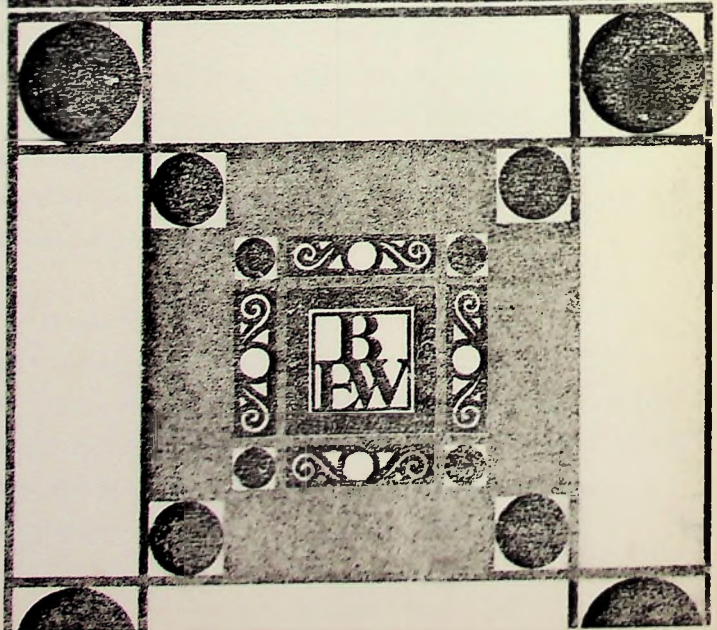
In 1896, Herman Muthesius was sent to London as an attaché to the German Embassy in order to study English architecture and design. He returned to Germany in 1903 as controller of the Board of Trade for Schools of Arts and Crafts, and appointed Behrens as head of the Art School in Dusseldorf; He also appointed two other Avant-Garde architects; Hans Poelzig, head of Breslau and Bruno Paul head of Berlin. One of the most interesting aspects of the Dusseldorf School

MITTEILUNGEN DER BERLINER ELEKTRICITAETS- WERKE

JAHGANG 3

SEPTEMBER 1907

NUMMER 9

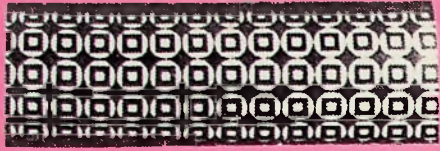


was the setting up of preparatory courses. Behrens had travelled to important schools of art such as Paris, London and Glasgow. He felt it was essential for students to experience different aspects of artistic activity and to learn techniques of observation and analysis before proceeding to specialize in a particular branch of design. A distinction was made between representational drawing and outline drawings. Geometrical analysis and exercises were also made, and students were encouraged to make patterns from them in different materials. These innovatory courses were the basis for Gropius' courses of the Bauhaus. Behrens believed that;

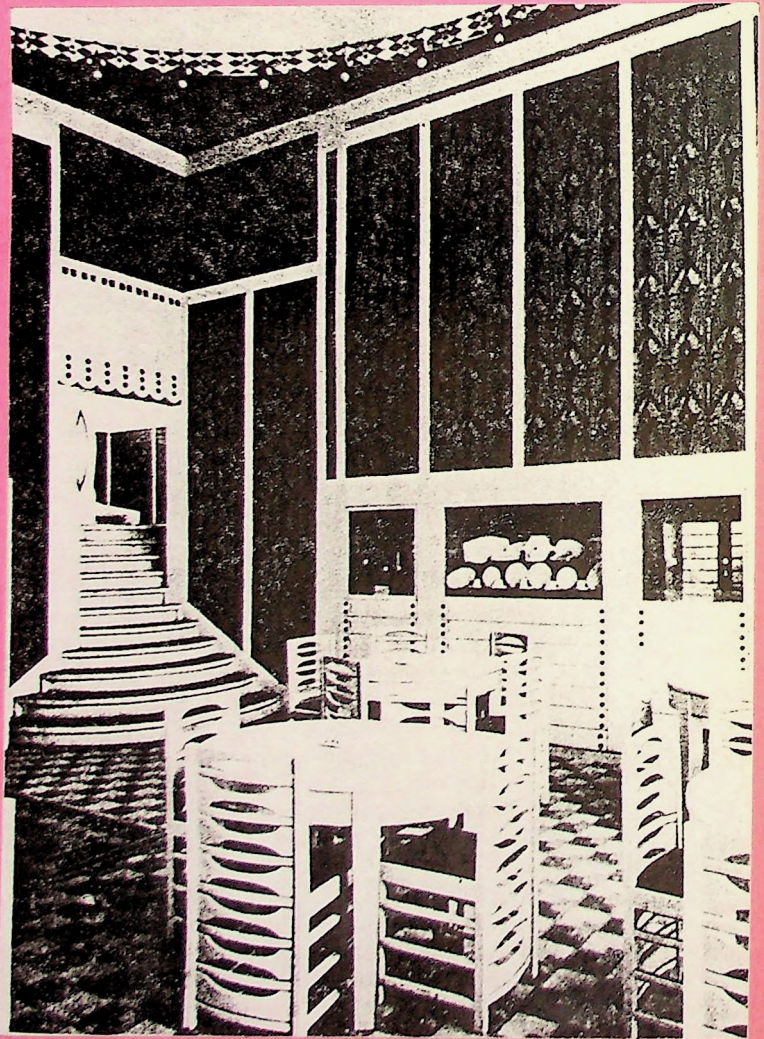
"Today's school of applied art has to meet both the demands of the handicrafts for aesthetic directives and the needs of industry for artistic impulses".

In 1904, the Dutchman, J.L.M.Lauweriks joined the staff of Behrens' school in Dusseldorf. Lauwericks had a distinct influence on Behrens. Lauweriks had worked with Dutch Gothicists and studied Gothic laws of proportion. He joined the Theosophical Society, a body concerned among other things, with the mystical significance of simple geometric shapes and pure colours. He based his teaching on a geometrical grid. This grid was basically evolved from a square, within which a circle was inscribed. From this simple figure, the grid was developed by subdividing and duplicating squares. Influenced by this, Behrens' style underwent a transformation in 1904. The tendency he had towards the use of simple geometric forms, were, from now on, given a much clearer expression. This principle is beautifully illustrated in Behrens' linoleum pattern, composed entirely of squares and circles, but brilliantly decorative in its effect. This design is an expression of the disciplines of industrial design. (fig.16a).

Apart from a number of domestic commissions, Behrens was mainly designing exhibition buildings, including gardens, exhibition restaurants and pergolas. The curved contours are now replaced by square ones. Most of his buildings and larger pieces of furniture consisting of a series of squares added to each other or projecting into each other. The curves became pure circles or parts of circles.



16 a



17 a

RESTAURANT JUNGBRUNNEN 1904

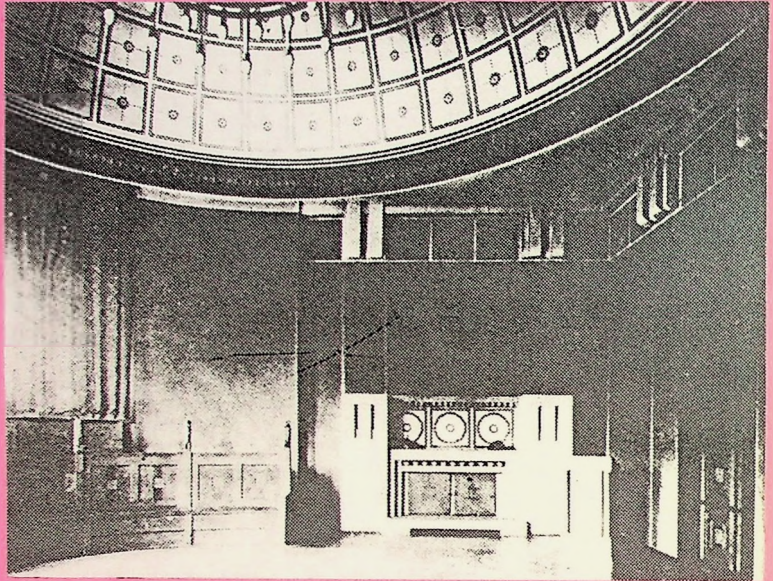
Behrens designed the garden and pavilion for the Dusseldorf exhibition. (fig.17a) The restaurant served non-alcoholic refreshments. (At this time Behrens was active in the Temperance Movement). The restaurant interior is in complete contrast to his Hamburger Vestibul in Turin, 1902. In 1903, Behrens had been to London and Glasgow. The tearooms suggest that Behrens had been influenced by Mackintosh. This is particularly evident in the ladder-backed chairs in white and the other white furniture and details. Max Osborn remarked on the Renaissance character of the garden, and explained that Behrens wished to design the garden as an extension of the interior of a house; "Habitable nature, a living room in the open air". Echoes of this approach can perhaps be seen in Le Corbusier's work in the 1920s.

LECTURE THEATRE, FOLKWANG MUSEUM, HAGEN 1905

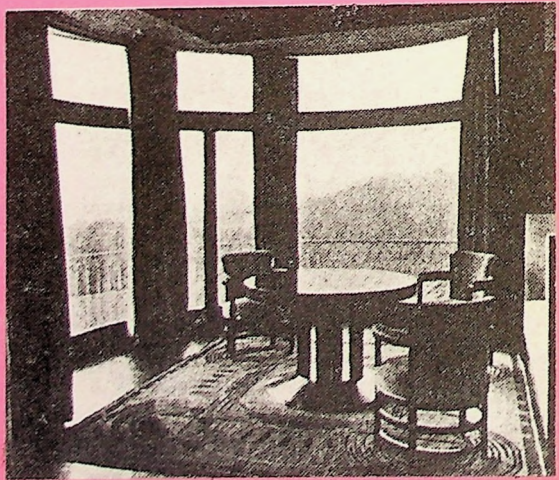
This was Behrens' first Neo-Classical theatre. It is based very clearly on the "grid" system of design. The dimensions of the room are dictated by one basic unit. The unit is a 750mm square. It goes seven times into the height and width of the square side walls. The vertical wall panels are from one to three units, and six high. The room reflected Behrens' growing enthusiasm for classical art and architecture. (fig.17b) Since his first visit to Italy in 1896, Behrens had returned as often as possible. In the summer of 1904, he had spent most of his time in Pompeii and Rome studying the antiquities.

HAUS SCHEDE IN THE RUHR 1904

This house shows how Behrens could combine part of his curvilinear aesthetic with a sophisticated geometric organisation. The detail of the living room is worked from a circle inscribed in a square. The room is virtually without walls; the windows, from floor to ceiling go round most of its diameter. This bringing of more light and air into the room than before is a significant advance. Behrens also designed the fittings, carpet and chairs and circular table which echos the form of the room itself. (fig.17c) The colour of the room is interesting; the woodwork was silver grey, upholstery material blue and curtains yellow. Even today, this colour scheme could be considered 'modern'.



17 b



17 c

NORTHWEST GERMAN ART EXHIBITION, OLDENBURG 1905

The elevations of these buildings were based on rectangles developed from isosceles triangles of 40° . (fig.18a) The relative proportions of the central pavilion to the facades of the wings on each side were in a ratio of 3:1 in area, and the underlying geometry is very clear. The buildings were pure geometry of planes set in pure relationships in space. The construction and the materials are completely suppressed and they have a strange model-like look, as if they were made of sheets of cardboard.

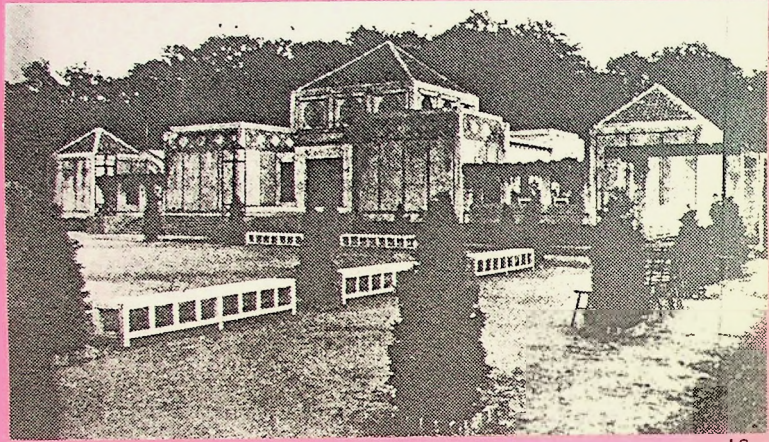
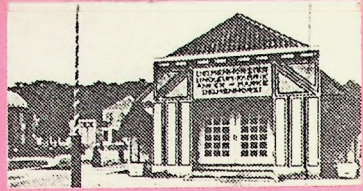
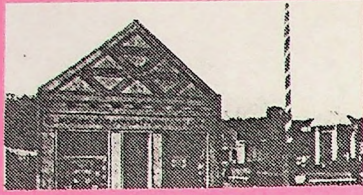
CONCERT HALL IN COLOGNE + THE CREMATORIUM AT HAGEN 1906-7

The Concert Hall design at the Cologne exhibition (fig.18b) was used as a trial study for the Crematorium (fig.18c). These buildings have the same feeling of being cardboard models, especially the Crematorium which was due to the extreme squareness of the pillars and corners. The Crematorium is very like San Miniato al Monte above Florence and its position, on a steeply sloping hillside is very similar. Olbrich had also designed a pavilion for the Cologne exhibition which contrasted sharply with Behrens' Concert Hall; Olbrich's pavilion was an Art Nouveau building, while Behrens had advanced.

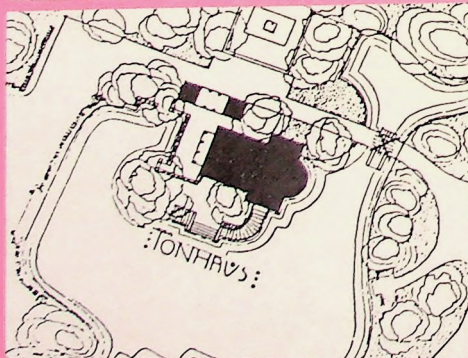
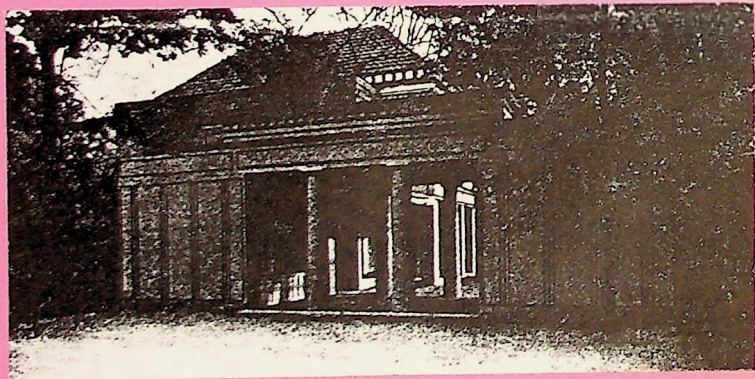
DRESDEN EXHIBITION 1906

Behrens was regional director and was responsible for the exhibition rooms for the Düsseldorfer Kunstgewerbeschule, his own school, and for an independent group of buildings, comprising a concert hall opening on to a small enclosed courtyard, a vestibule and a reception room. He also designed a pavilion for the Delmhorster Linoleumfabrik.

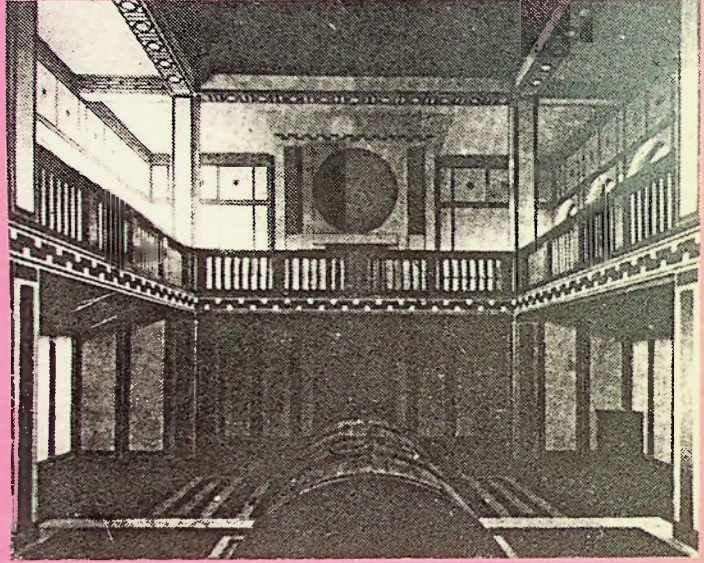
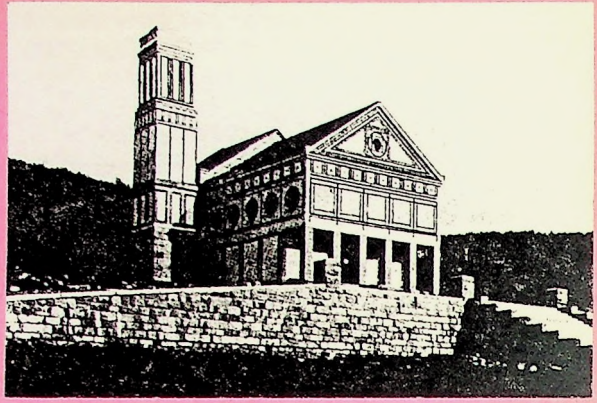
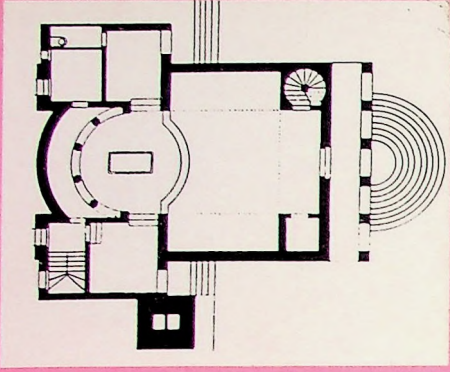
The Concert Hall, (fig.18d) like his buildings of 1905, was white inside with bold patterns taken from a variety of antique and Italian Romanesque sources. Again the geometry of the design is emphasized. The Delmhorster Linoleumfabrik Pavilion (fig.18e) is a very "neat" building, composed of geometric forms, white with bands of black decoration. Behrens also designed the firm's prospectus and developed a range of patterns for their products. It is possible this is what



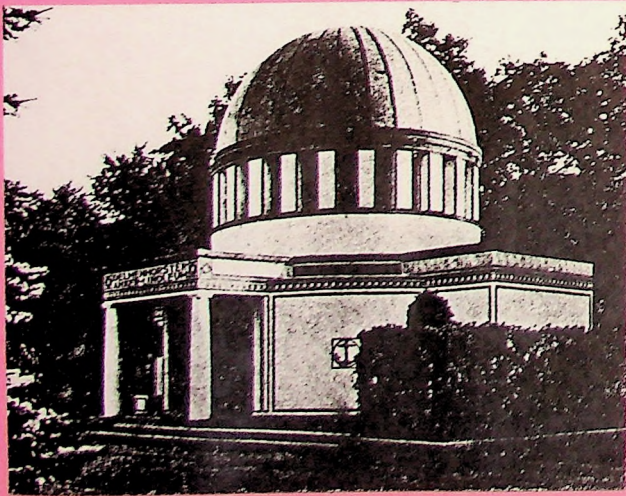
18 a



18 b



18 c



18 e



18 d

drew the attention of Paul Jordon, the technical director of the AEG to Behrens and his work. In a review of the Dresden Exhibition, Ernst Schur wrote "Behrens has, at the moment, a position in Germany that is indisputable - he works with industry and puts fresh life into it".

These building types were peculiar to Behrens. Neither Wagner, Loos or Hoffman took geometric architecture to this length with these themes. They were very important buildings; the severely cubic designs accelerated the process of relieving buildings of their 'appropriate' ornamentation. As mentioned already, Olbrich was still designing essentially Art Nouveau buildings. Despite the solid forms of the buildings, they are gracefully light. They are reminiscent of Hoffmans Palais Stocklet in the way Hoffman used bands of black.

THE OBENAUER HOUSE

This building is based on the cube, with a pyramidal roof. The house shows Voysey's influence in the large, plain white walls, slated roof and grouped windows. (fig.19a). This influence probably came from Muthesius' 'Das Englische Haus' which covered every aspect of the English Free Style. But compared with English contemporary work, it is slightly more adventurous; the large windows in the main living rooms were unlike any of the English work. This house is more loosely composed than his house at Darmstadt. The row of closely spaced, chunky dentils under the slight projection of the upper storey have a slight Neo Classical air. This building also shows the influence of Mackintosh.



T H E W E R K B U N D

In 1906, Muthesius aligned himself with Naumann and Schmidt against the conservative and protectionist group of artists and craftsmen known as the Alliance for German Applied Arts by severely criticizing the state of Applied art in Germany, while at the same time advocating the adoption of mass production.

The following year, the three men founded the Deutscher Werkbund. The initial membership comprised thirteen independent artists and ten craft firms. Behrens was one of the first members chosen.

The Werkbund members dedicated themselves to the betterment of craft education and to the establishment of a centre for advancing the aims of their institution. Because of the heterogeneous nature of the founding group, the Werkbund was by no means totally committed to Muthesius' ideal of normative design for industrial production.

German architects, in general, were trying to tackle the problem of mechanization and especially the relationship of architecture, as an art of design, to mechanical production in all its phases. The relationship was examined most closely at two critical points: the aesthetics of engineering construction, and the aesthetics of product design. Leaders of German architectural thought, like the Italian Futurists, deplored the application of artwork to engineering structures. The Futurists intended to conjure an aesthetic out of machinery and engineering, the Germans hoped to instil some aesthetics into industrial production.

This was the reason for the basic division in the work of the years immediately following 1907. Those most clearly associated with the pure functional art were Behrens, Muthesius, Mies Van der Rohe and Gropius. The Individualists, later termed Expressionists were Poelzig, Berg, Marx and Stoffregen, and yet there was no division of theoretical approach, and all these architects were connected with the Werkbund.

The leaders of the Werkbund campaigned to persuade industry that it was economically viable to be involved in what the Werkbund considered good design. It seemed unnecessarily 'arty' to many industries to have artists involved in the design process of their products. The public also had to be educated. If the public did not appreciate or demand this good design there would be no market for it in Germany. The programme of the Werkbund included lectures and exhibitions on materials and machinery etc. in many towns. The Werkbund and its followers had a growing conviction that architecture and design were skills which industry could be persuaded to adopt. This self-confident attitude of the architects as designers - a kind of intellectual arrogance, shared with the abstract painters and expressionist writers, which affirmed their belief that they knew what was best for the public. This does not apply so much to Behrens. Behrens comes across as being serious and slightly conservative in manner. Gropius and Le Corbusier were more flamboyant and (particularly Gropius) arrogant. These revolutionary ideas came at a time of general political reaction in which the German architect and designer retreated from the position of Morris in two important ways; these were his respect for the capabilities of the machine was replaced by an obsession of its power and that capitalism was accepted without criticism as the best way forward. This change manifested itself in a move from decoration and ornament to functional and structural elements.

Major producers like the AEG proved more amenable to Werkbund principles than the small workshops or independent craftsmen that dominated the traditional art industries. The large firms could afford to experiment with new designs and impose their taste on the public, whereas most small arts and crafts concerns were too dependant on consumer demand to pioneer in the development of styles.

At the Cologne exhibition of 1914, the opposing tendencies of standardisation versus free art came to a head. Muthesius spoke in favour of standardisation, wishing to persuade the Werkbund to accept it as the 'work of the Werkbund for the future' - this being the title of his lecture. He urged the movement towards industrial design, but the protagonists of free art within the Werkbund rejected his proposals. According to some publications, Muthesius was opposed by everyone and

due to no support had to withdraw his programme. But it seems, according to Windsor, that Behrens acted as an arbitrator between Van de Velde's side and Muthesius' - although, at the time he leaned slightly towards Van deVelde. Behrens, in interpreting what Muthesius had said, wrote

"In earlier times, the constant striving for perfection led to, for example, the point where the ground plan of a house could not be better designed than by ensuring that all its aesthetic and functional needs were served. The result was a typical, standardised town house, that was repeated with slight variations. It is in this sense that I understand 'archtypal' art. Artistic freedom shouldn't come into it. But the guarantee of artistic freedom must be one of the sacred precepts of the Werkbund's endeavour"

The war and catastrophe of 1918 suddenly clipped the wings of Germany's industrial advance. Though the war is usually considered the outcome of territorial rivalry, both sides within the Werkbund saw the war as a product of industry. But Muthesius saw industry as a power for good, and many others rejected it. The Werkbund now turned its back on industry. Gropius decided to bring the arts back to craftsmanship. In fact the Werkbund had returned to its point of departure; Morris and the Arts and Crafts. However, this time, Behrens was with Muthesius. At this time, Behrens and Muthesius, as Werkbund representatives were advising the Government on architectural and building matters. Subsequently, the D.I.N. (standards) format was set up and applied to a wide range of industrial products. Van deVelde's contributions were mainly intellectual and Behrens was influential in the practical field. It has been suggested that he was the key figure in the transition to standardization of architecture and design, thereby opening up the way to mass-production.

In 1921, when Riemerschmid (backed by Behrens) insisted that the Werkbund's aesthetic preference for the handcrafts must not lead to the neglect of the design problems in industry, he was relatively isolated. However, by 1923, many Werkbund people, even some of the artists had come around to his point of view. Behrens led the way, pointing out that acceptance of modern industrial technology was the only alternative to economic ruin.

The main impact that the Werkbund made in Germany was cooperation between Art and Industry was where no adequate traditional forms existed, foreexample in the design of electrical appliances rather than chairs, or of factories rather than homes. This is reflected in the type of work Behrens was doing during his time with the Werkbund.

It was the same year that Muthesius set up the Werkbund that Behrens joined the AEG (1907). The two events were related; both meant a re-establishment of communications between creative designers and productive industry, in which industry was a more willing participant than the designers in general. Joan Campbell believed that Behrens' "Position in the AEG corresponded so closely to the Werkbund ideal that he may be regarded as its most representative figure in the pre-war era" Muthesius was the acknowledged leader of Sachlichkeit in Germany around this time. A rough translation of Sachlichkeit is functionalism as the be-all and end-all of design. According to Frampton, "The Sachlichkeit syntax was a mode of expression universally accepted in the Deutsche Werkbund". According to P.Morton Shand in 'The Rationalists'; the Werkbund's slogan of 'fitness for purpose originated with Behrens. "But he contemptuously rejects the dogma of sachlichkeit". The latter interpretation is more acceptable and though Behrens was a rationalist, he never saw functionalism as the 'Be-all and end-all of design'.

ARCHITECTURE FOR THE AEG

In 1907, Behrens was asked by the technical director of the AEG, Paul Jordon to bring a unity of good design to their products - a corporate identity. Part of the reason for this industrial patronage of the arts was economic. The man behind the move was Emil Rathenau, director of the AEG. He held a powerful position in German economics and politics and believed that the capitalist ought to be the prime patron of art and design, by improving the aesthetic aspect of his products. Adolf Messel, Otto Eckmann and Franz Schwegten had worked for the AEG before Behrens. But Behrens was the first architect to be employed with the object of creating a consistent visual image for the AEG, from the design of the buildings and products to the logo. From 1907 onwards, Behrens' primary significance was as a protagonist and exemplifier of standardised design.

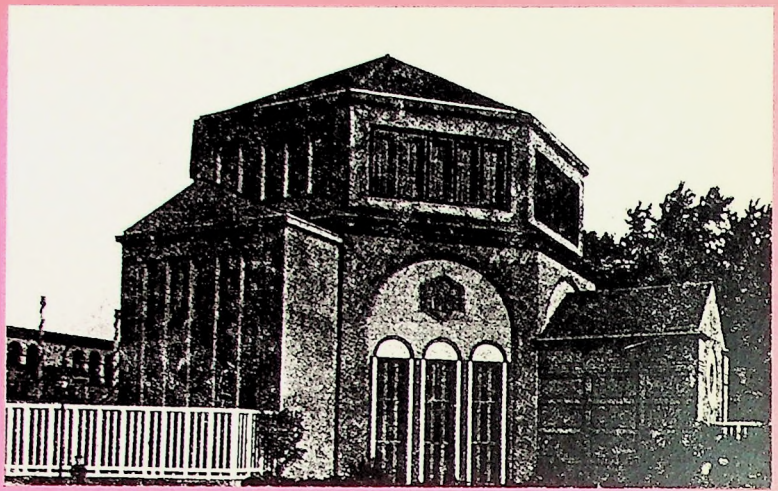
AEG PAVILION, FIRST GERMAN SHIPBUILDING EXHIBITION, BERLIN 1908

This was an octagonal building with a low pitched roof and based on the type of plan found in his Delmenhorster Linoleumfabrik Pavilion of 1906 (fig.24a). Gropius was at this time working in Behrens' office and carried out the detailing of the AEG pavilion

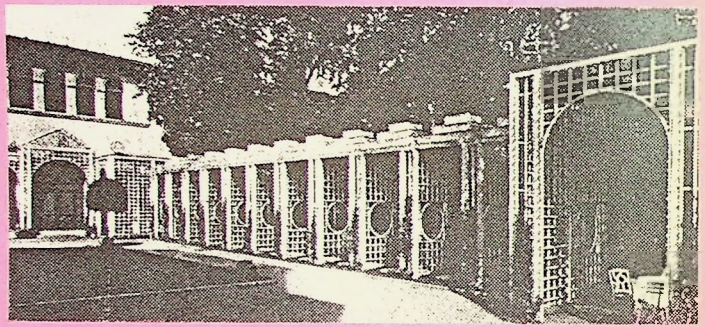
The garden of the pavilion (fig.24 b) played an important role in the overall conception of the AEG's publicity image and as a vehicle for Behrens' ideas on design. The effect of monumentality and solemnity, clarity, order and system was increased by the addition of a festive element; the play of light and water in the garden arbors. Particularly at night, the magic of the lighting, was a symbol of both the firm's massive energy resources and its technical ability. (fig.24c)

POWERHOUSE FOR AEG TURBINE FACTORY 1908-9

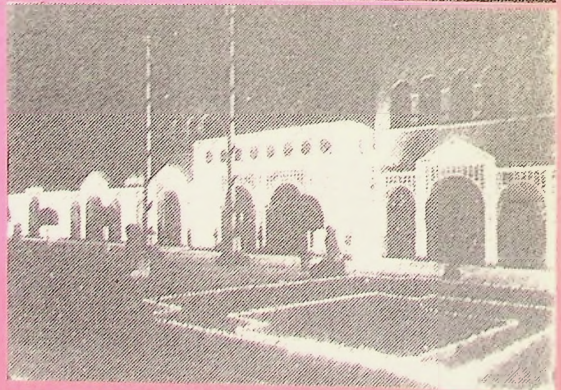
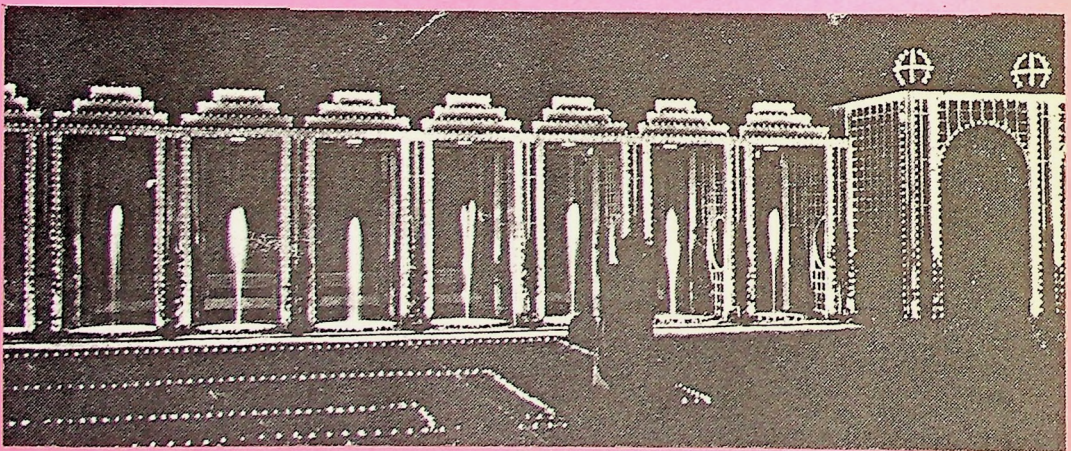
Here Behrens separated the control room from the engine room by exposing the two internal levels through the large windows. Apparently this building was considered as something new and was widely



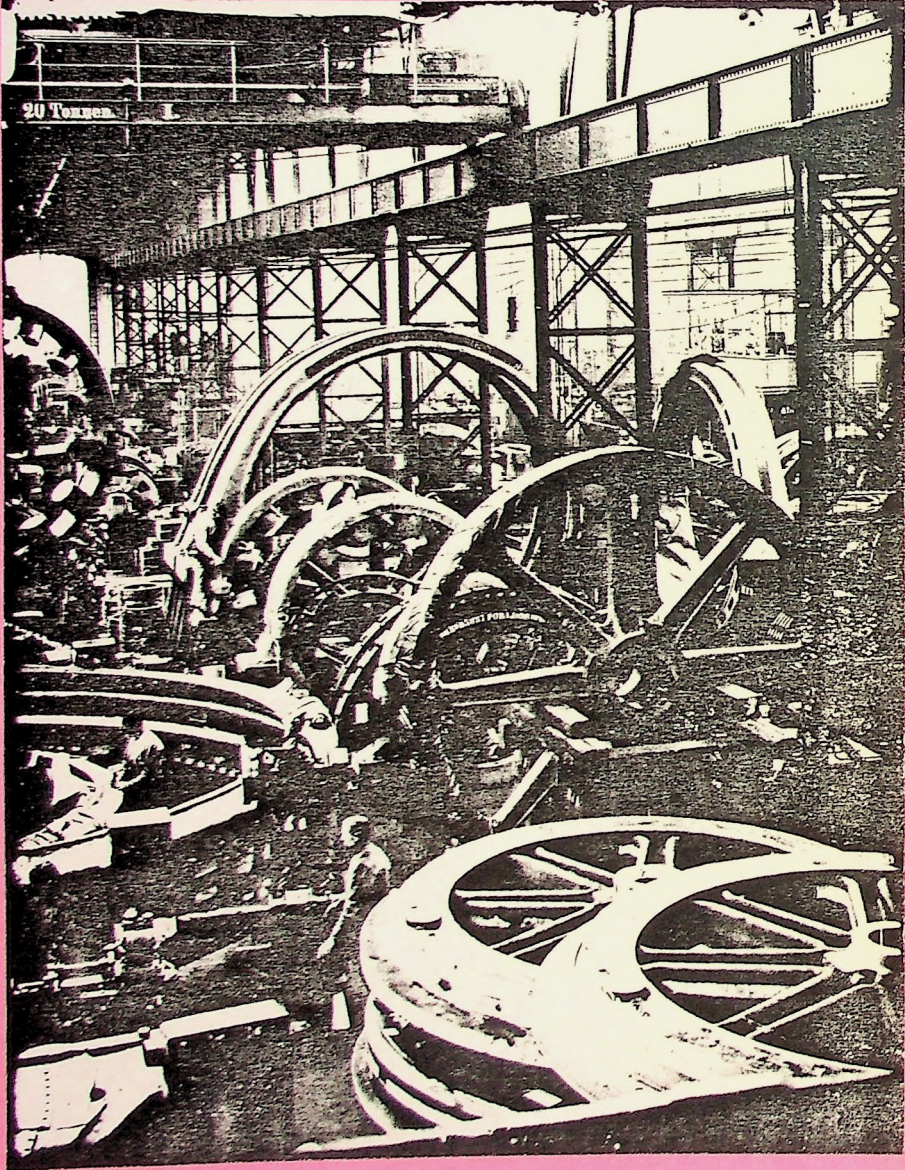
24 a



24 b



24 c



Inside an AEG Machine Hall 1899

imitated. (fig.25a) Auxiliary machines such as those housed on the upper level were usually housed in a damp dark cellar "far removed from the light of day". this design set a precedent for the AEG's pioneering work in the building of power stations.

THE TURBINE FACTORY, BERLIN 1909

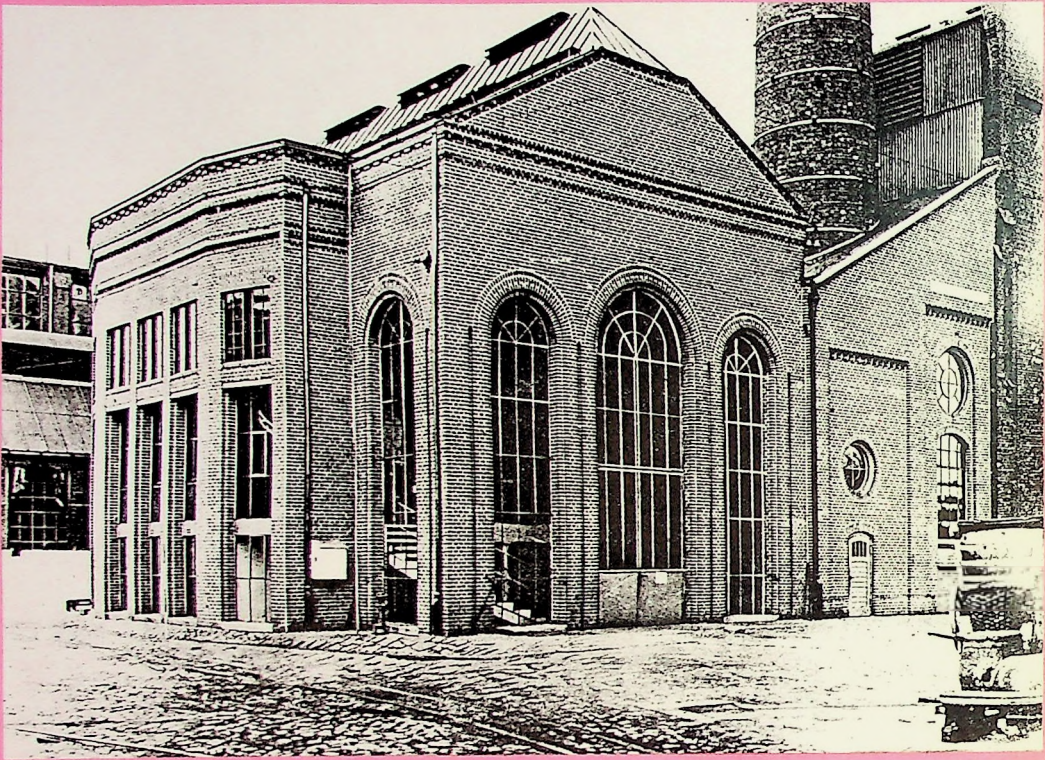
When Behrens' Turbine Factory was built, it had the greatest span of any building in Berlin. The basic concept behind the factory was that all the major component parts of the huge generators and turbines could be moved easily along the length of the shed and be served by any pieces of the plant, in any order. So the building is constructed around a huge gantry which is high enough off the ground to lift any loads clear of obstructions caused by the machinery, but not so high that it infringed Berlin's planning regulations for street frontage height. The engineer in charge, Karl Bernhardt, was considered the best industrial engineer of the time. Behrens wrote of the interior:

"For the construction of the main hall, the overriding archtectonic idea was to bring masses of steel together, and not, as is common with the usual lattice constructins, to disperse them everywhere".

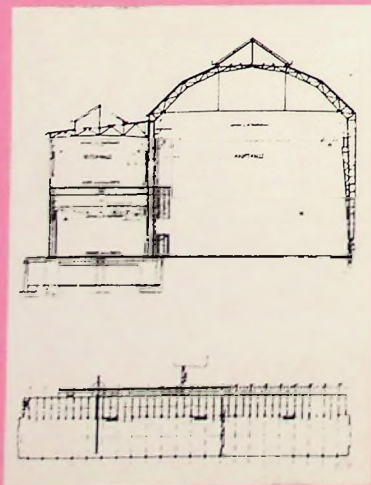
(P.Behrens 'Die Turbinenhalle der AEG zu Berlin' 1910)

Pevsner has referred to this building as "Perhaps the most beautiful industrial building ever erected up to that time". (fig.25b)

Before designing the Turbine Hall, Berhrens attitude to architects working with engineers was not good; he said it was one of the fundamental errors of the age "to believe that artistic form can be determined by or can develop spontaneously out of technology". So his relationship with Bernhard the engineer on the Turbine hall influenced his ideas on the relationship between art and technology. Behrens' inclination toward spatial clarity in the interior and smoothness and simplicity on the exterior was influenced by technical developments. This is seen in Behrens' handling of the crane in the

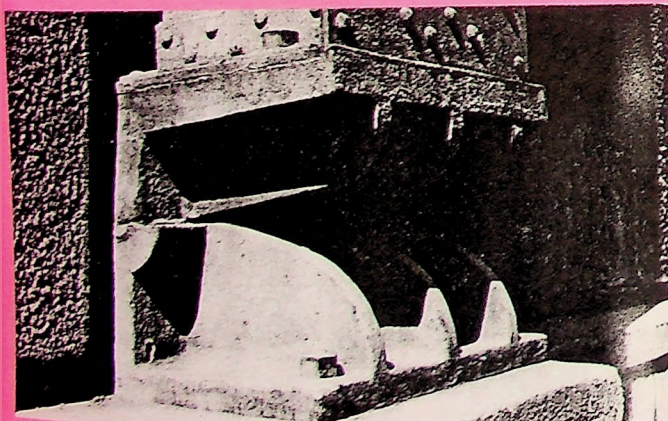
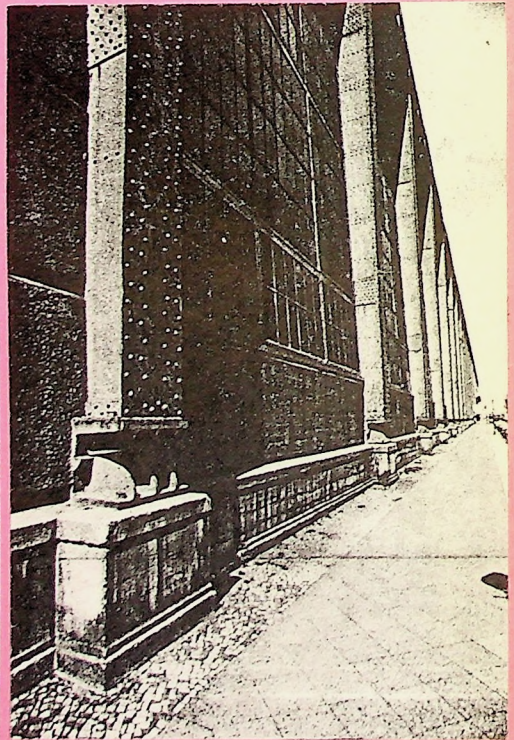
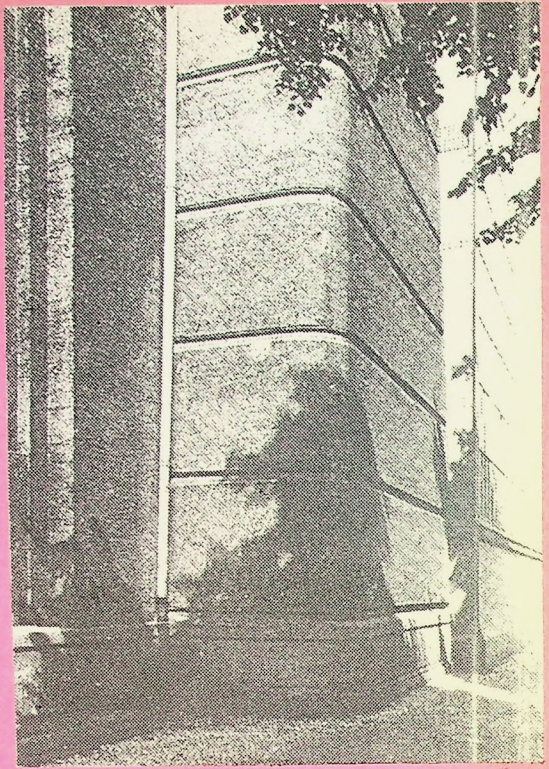


25 a



Elevation + plan of 25 b





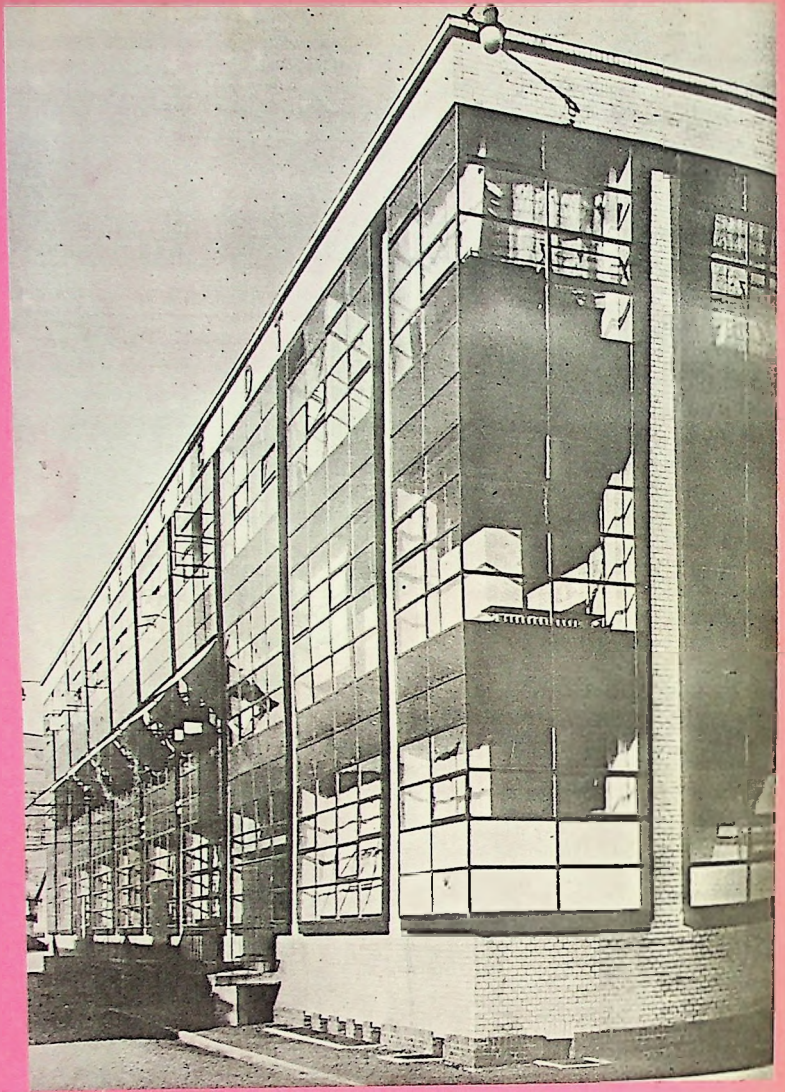
Turbine Hall. One crane was used, the crane supports ran the whole length of the hall. Thus the space inside was much clearer and less cluttered.

The AEG wished to impress their workers by providing a pleasant and spacious factory for them to work in. The worker was to be proud of his fine factory and of the firm he was working for. Gropius expressed a similar thought when he spoke of the "feeling for beauty present even in the workmen without culture". This monumentality' - to quote Gropius again, referring to Behrens' Turbine factory, was at the same time to express the standing of the firm and, as Behrens himself stated, would act as an advertisement for it.

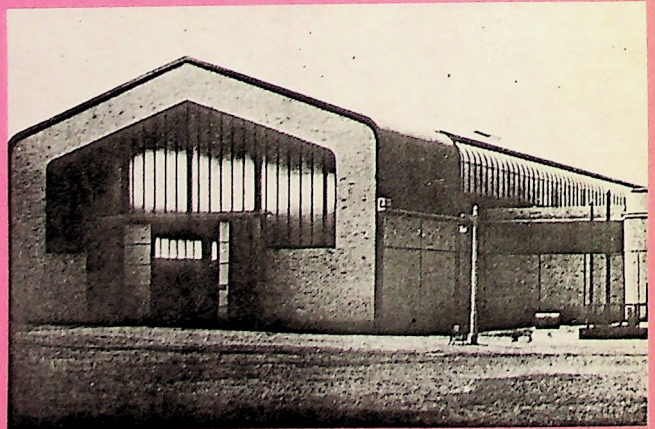
In designing this factory, Behrens accepted industrialization as the manifest destiny of Germany. Thus, the Turbine factory was a deliberate materialization of industry as the one vital rhythm of modern life. The Turbine factory expressed powerfully, the self-awareness of industry. This is a phenomenon really only found in Germany. The building has a classical air to it which makes it unusually dignified for an industrial building, but it is classicism of mood rather than of detail. Frampton's explanation for the shape of this building is very interesting; "Behrens sought to bring the factory under the rubric of the farm - to restore to factory production that sense of common purpose innate in agriculture, a feeling for which the newly urbanized semi-skilled labourer of Berlin would supposedly still have a certain nostalgia". There may be some truth in this. This factory shows Schinkel's influence over Behrens. Schinkel was the most austere of all the early 19th century classicists. Behrens was very much influenced by Schinkel, more so in some of his later buildings than this, but the composition, the monumentality and the treatment of the window bands of the lower concrete block to the left resembles that of Schinkel's articulated walls on the Berlin Schauspielhaus, but with all the Greek mouldings omitted. The Turbine factory achieved the kind of Schinckesque form that Muthesius was to demand of the Werkbund designers two years later.

The Turbine factory broke new ground in several ways. It was built partly of pressed concrete, partly of exposed steel and both materials were very directly expressed. The side wall of glass and steel more than rivals in its openness those of the department stores designed by Art Nouveau architects. But Behrens facade had no applied ornament save the AEG logo. The functional elements of a factory executed throughout in new materials were here for the first time in Germany, without dependence on decoration of any sort. Wright had done much the same five years earlier with his e.z. Polish factory in Chicago on a much smaller scale. This building (the Turbine factory) aspires to monumentality without the slightest touch of academic historicism.

The Turbine hall is probably Behrens' best known building. It is certainly a very impressive building. It is so well balanced that the huge dimensions are hardly realized unless one looks at the people in the street for comparison. It is surprising how many schools of thought claim this building as an example. It has been described as one of the first functional buildings for industry. It has been described as a tectonic building expressing the function of the materials used - this is untrue. In practice, Behrens rarely expressed structural relationships. Here in the Turbine hall, he deliberately conceals them. In the end wall, it is the lightest visual elements; the delicate uprights of the windows that bear the load. The turbine hall is not at all "objective" and does not relate to Sachlichkeit. The building is, in fact, quite expressive of the power of industry and the massive components being made inside. Seen from the front, it creates the effect of an enormous cement block like the tombstones of prehistoric burial monuments. This impression is enhanced by the monumental blocks at the corners. In contrast to the heavy gantry and pilasters, the roof consists of an extremely light concave shape. Behrens did not intend to deceive the public by his architecture. It is perfectly obvious that the glass windows and steel framing could not possibly suffice to support the weight of the 'gable'. It may be that the means of expression used by Behrens



28 a



Model Factory by Gropius + Meyer 1914

were themselves misleading in that people who saw the Turbine hall as an application of the new method proposed by Muthesius and Sachlichkeit. This would be because of the new materials he used in the building; the enormous glass surfaces, the use of concrete in the gable and the plinth and the laminated iron.

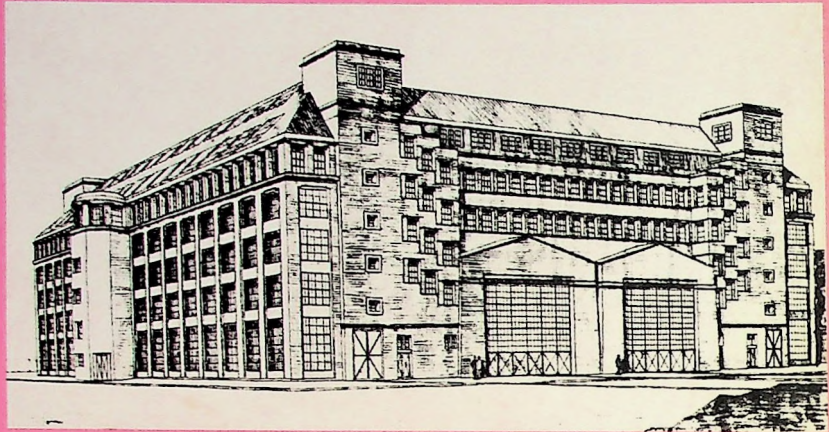
The hint of the theatrical in Behrens' turbine factory was not present in Gropius' and Meyer's Fagus Factory. Yet Behrens naturally influenced Gropius, his pupil. The windows on the right of the main block show his influence and the North side. The Fagus Factory's corners still served to contain the composition, but where Behrens' corners are invariably of masonry, here they are of glass (fig.28a). The Faguswerk's atectonic glazing and nostalgia for the Classical shows Behrens' influence.

About the time that the design of the Turbine hall commenced, Ludwig Mies Van der Rohe entered the studio of Behrens. Both Mies and Gropius were involved in detailing many of the projects turned out of Behrens' studio.

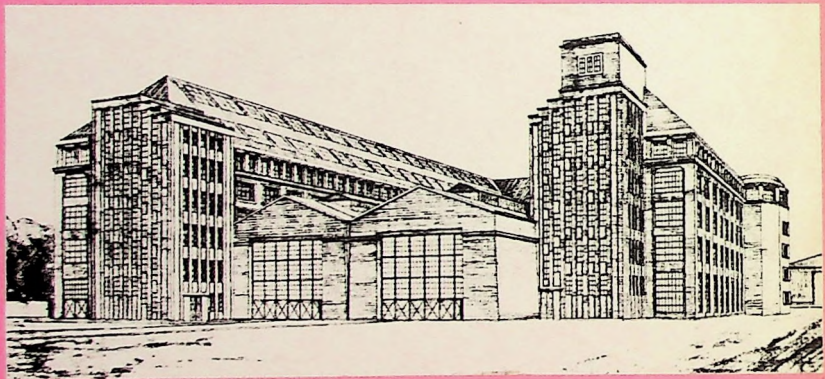
Around 1910, monumentality was important to Behrens; "Monumental art is the highest and most individual expression of the culture of an age". And then in 1914 he also wrote that the speed of city traffic demanded "Broadly expansive surfaces, series of evenly sized details, and clear contrasting prominent features".

AEG HIGH TENSION MATERIALS FACTORY, BERLIN 1910

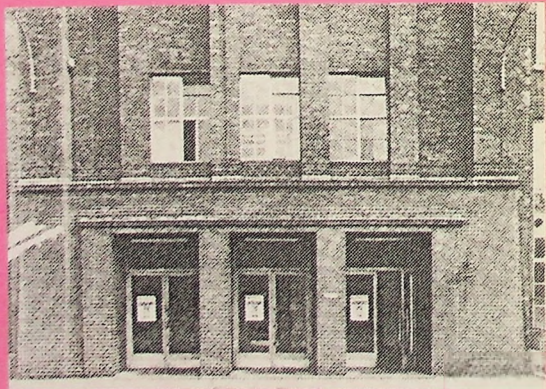
Behrens design was obliged to be almost identical in plan to the old sheds being replaced. This building is of brick, not concrete or steel - not Behrens' choice. The Classical element is still there, clearly shown where paired classical pediments appear low down on the main facade to express the presence of a pair of parallel work-halls within the building. (fig.28b)



Drawing of East Side 28 b



Drawing of West Side 28 b



Main Door North Side 28 b

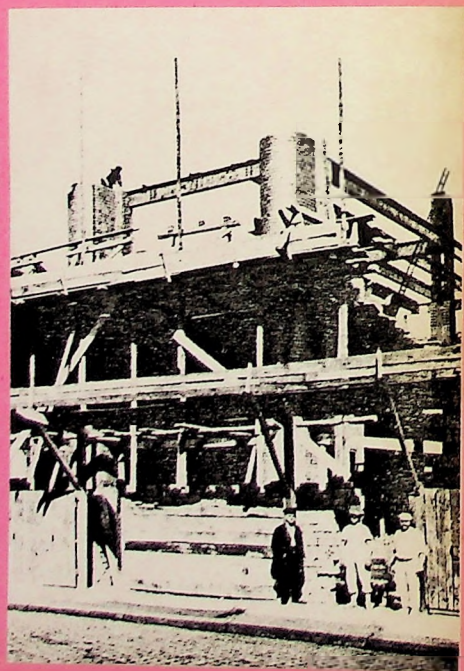
When Behrens came to supervise the construction of the last part of the building, he decided to change the staircase windows onto the side of the tower. This shows that Behrens did take the rationalist concept of revealing on the outside what was happening inside. The subtle differences in the colour of the brick between different parts of the building make the building look more interesting. I must admit that I think there is "too much going on" on the outside of this building; it is muddled and lacks a single stylistic purpose.

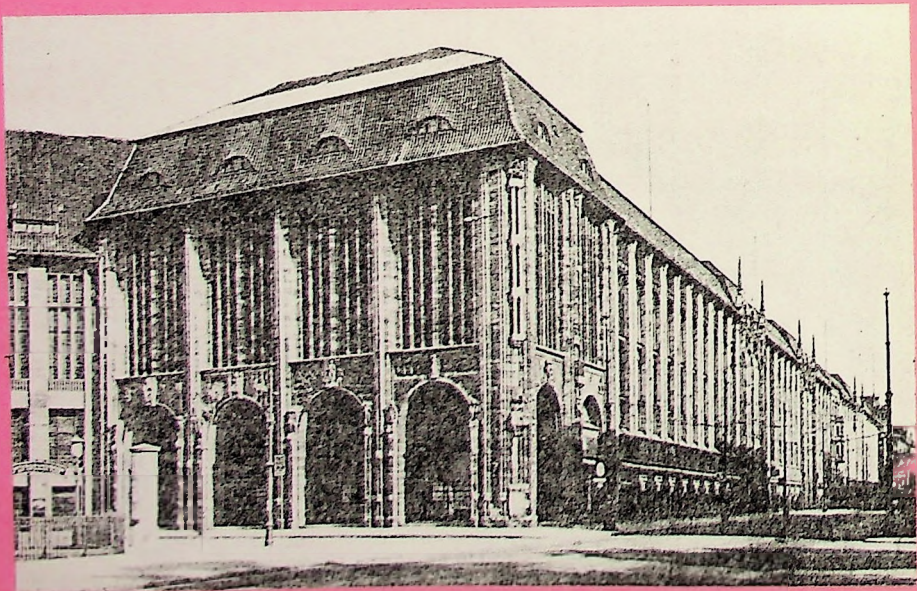
AEG SMALL MOTORS FACTORY 1910

This building is 196m (642ft) long, composed of tall half-round columns or piers of purplish-blue engineering bricks supporting a plain unbroken entablature. (fig.29a) The mullions (which occur every seven pillars) are painted blueish-green. The horizontal lines of the three floors appear as flat surfaces threading their way behind the columns. This has been attributed the "Most spectacular facade ever designed by Behrens" by Goerd Peschken in Burkhardt's 'The Werkbund'. This factory served as a model to the embassy of the German Reich in St.Petersburg. And so, the role of the monopolies may be seen as cultural guides.

The rounded corners on the piers which rise unbroken almost the full height of the building, is somewhat like Messel's Wertheim Store (fig.29b) This was built in the late nineties. The scale of the Small Motors factory is larger and there is none of Messel's rich, half traditional, half Art Nouveau detailing. The careful proportion and straightforward treatment of the structural elements show Schinkel's type of rationalism with no actual reminiscence of classical forms. G.Peschken wrote, referring to this building and Messel's;

"These two architects have found the appropriate form through which to express the great period of the German bourgeois high society. I think it was right that the great captains of industry took the power of the State. If they had not, then there would not be such a convincing form of building that could represent their own power."





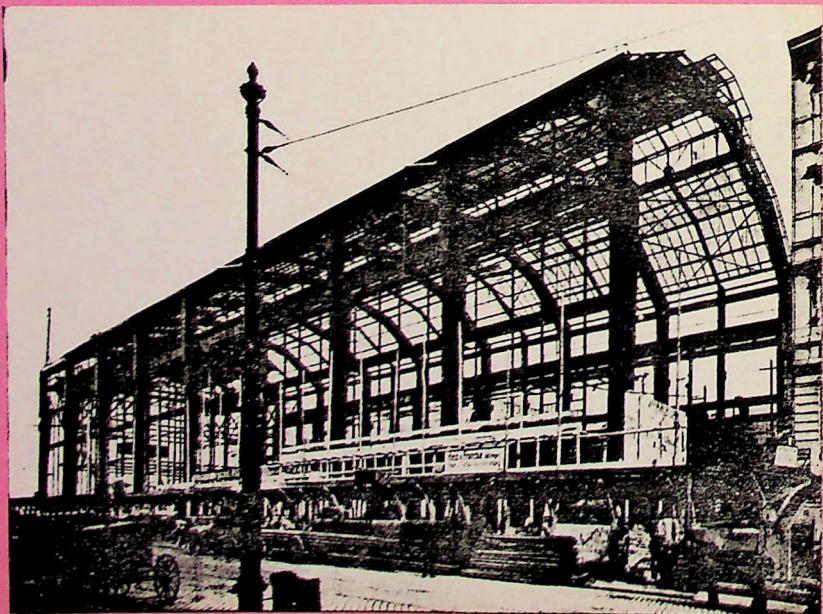
This quote is true and played a major part in any of the commercial projects taken on by Behrens; the word "monumentality" was the key-word used in Behrens office at the time.

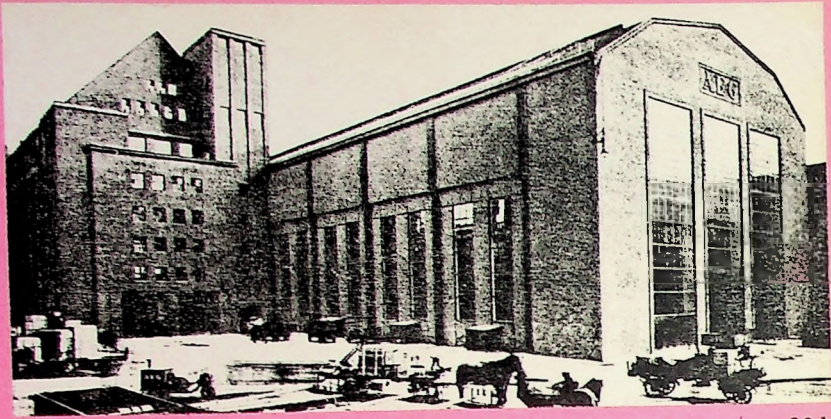
With regard to the Small Motors factory, one contemporary observer noted: "One indeed senses the link back to the classical codes, but one is still very aware of the steely present. One anticipates and looks for the machines".

AEG ASSEMBLY HALL 1912

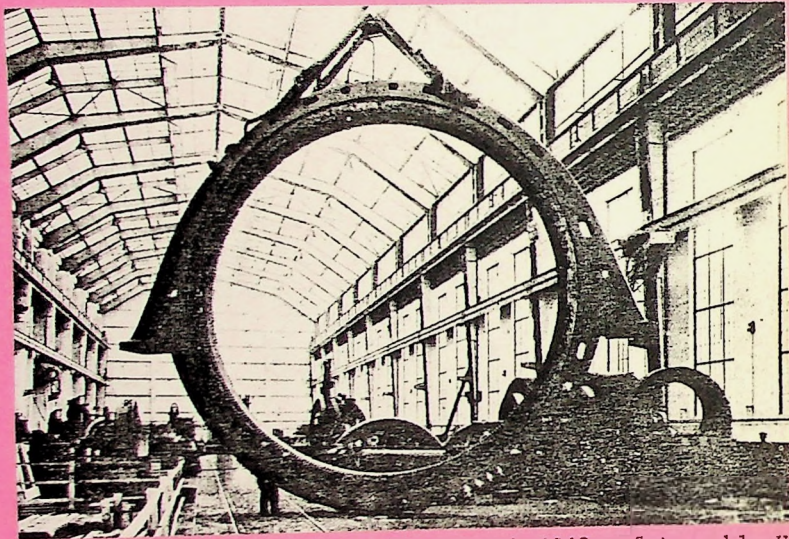
Like the Turbine hall, this building had to support two travelling gantries, each with a capacity of 75 tons suspended above the usual railway line that came inside the building. The building has a steel-framed roof, the structure below this is also of steel with no use of concrete. The metal frame is largely filled with glass but brick was introduced at the base and on the ends. The scale of this building is less monumental than that of the Turbine Factory, though the size is much greater. (fig.30a)

Originally Behrens had a more complex design for the facade of the Assembly hall, involving a stripped classical portico a little like the Turbine factory. But at the last moment, he decided to open up the North facade into three rectangular windows framed by the simplest possible brick moulding, avoiding any specific reference to classical articulation. At the same time, he was experimenting with strong juxtapositions of masses in the railway material factory. These masses overlap asymmetrically (fig.30b) to the left of the Assembly hall. The Assembly hall shows Behrens' approach to an abstract and sophisticated industrial style exempt from formalistic influences. Although this Assembly hall is perhaps the 'natural progression' from the Turbine Hall, the Turbine hall is more memorable and impressive through its monumentality, despite the atectonic use of form and materials. I think the planes going in different

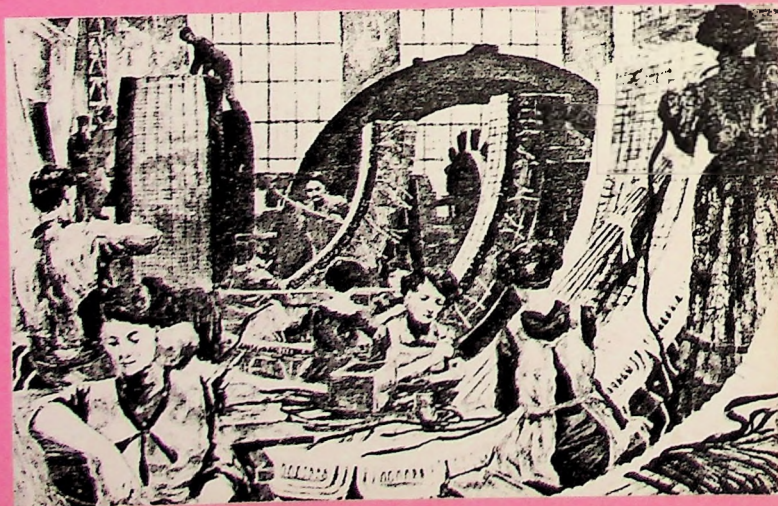




30 b



Photograph 1912 of Assembly Hall



Assembly Hall 1912 by Hans Baluschek

directions (the windows to the piers to the corner piers) give the Turbine Hall a much more three dimensional feel than the Assembly hall. Having said this, I wish to quote R.Banham (Theory and Design in the First Machine Age) on this building:

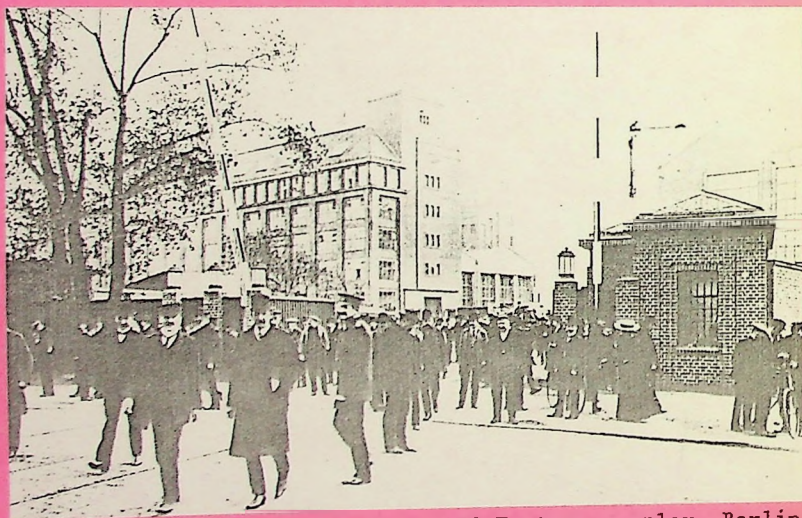
"The development of Behrens' great work-halls for the AEG does show a consistent growth, away from the massive pseudo-classicism of the Turbine factory of 1908, where the management of the massively rusticated and battered corners seems to make nonsense of the frame-and-fill and glass-and-steel structures of the sides, to the Machine Factory (Assembly Hall) where he seems at last to sense that glazed or solid, the walls and roof are only a light envelope drawn over a vast bulk of industrially viable space."

The above statement is, of course, true. The Assembly hall is much closer the Bauhaus type of teaching, the functional aesthetic and 'truth to materials' doctrines than the Turbine hall. It is important as a stepping-stone to today's architecture. But the Turbine Hall in its own right is a fine building and seems to have served as a model for post-war Expressionist Architecture.

Poelzig, who was considered an Expressionist seems to have been influenced by Behrens with his highly articulated brick chemical plant built at Luban in 1912 (fig.31a). This came close to rivalling the industrial style that Behrens had just developed for the AEG.

With his AEG buildings, Behrens turned the hierarchy of the building complex inside out. Instead of hiding them from public view, Behrens sited the workshops along and up to the street line, as the dominant spatial and visual elements. These elements were arranged functionally according to the demands of the production processes and of transportation. This change in viewpoint spelled the rejection of the defensive and retreating response to industrialization that had characterized the 19th century.

In 1908, Behrens wrote 'Was ist Monumentale Kunst?' (What is Monumental art?). Here he defined such art as an expression of the dominant power group in any given epoch. He rejected the importance which Semper attached to the typical expressive load-bearing column as it appears in Classical architecture. This is seen in Behrens' Crematorium and the Turbine factory in a way.



1912, Behrens, AEG Factory complex, Berlin.
Left, the high-voltage works;
Right, the assembly plant.

AEG SHOP FRONTS

Behrens designed the shop fronts for the AEG in Berlin in a severe style. The typography is clean and simple. The large clear glass front of the shopfront (fig.32a) is geometrically balanced by the surrounding rectangular elements. This display of clean simple forms was seen by many and would have been considered 'acceptable' as such a large reputable firm was using it. In this way, Behrens and the AEG were acting as trendsetters.

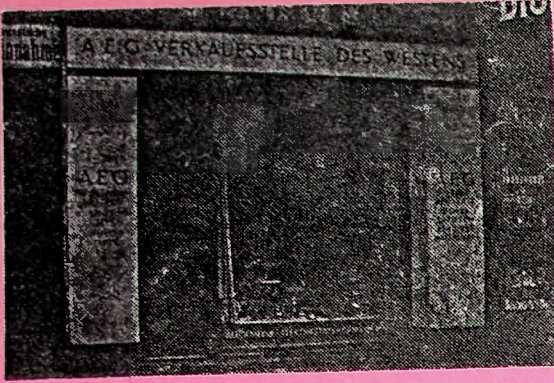
HENNINGSDORF

At the AEG established a complex of factories at Henningsdorf to the North-West of Berlin. Between 1910 and 1915, a number of factory buildings designed by Behrens were erected there. In 1910-11, the AEG built workers' housing in association with these new factories. This was Behrens' first introduction to the design of housing for the masses. These first apartment houses are pleasant and solid three storey red brick buildings with attic windows in the steeply sloping roof. The 34 units vary from two to three room apartments, all with lobby, kitchen and bathroom. There were gardens at the back - Behrens provided gardens wherever possible. (fig.32b)

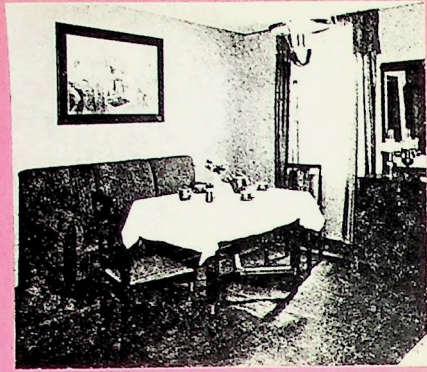
Building these apartments was a social challenge to Behrens. Neither Wright or Perret had to meet this type of challenge. Henceforth, these type of housing schemes would be a major preoccupation with most modern architects.

In connection with these houses, Behrens designed furniture (fig.32c) that was exhibited in the spring of 1912 at the Trades Union Headquarters in Berlin. Various periodicals illustrated kitchens, living rooms and bedrooms designed by Behrens for working-class families.

In 1918, a few houses were added to the AEG housing at Henningsdorf. Here he carried the standardization of the three-room dwelling still further. Owing to the shortage of bricks, he used large standardized blocks of pressed refuse-destroyer clinker and left unrendered. (fig.32d)



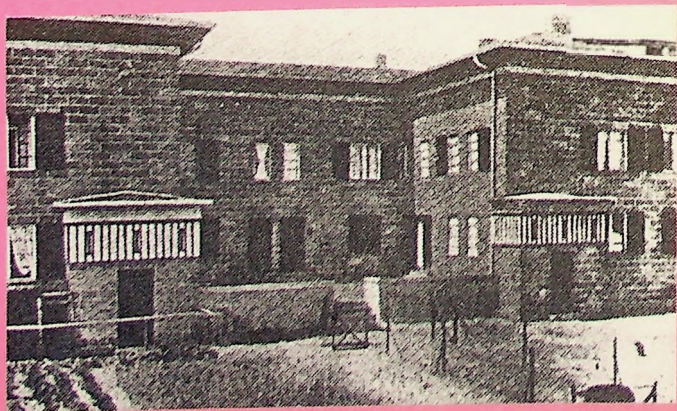
32 a



32 b



32 c



32 d

During the summer of 1910, Le Corbusier arrived in Behrens' office. He spent five months with Behrens. In 1912, in a report written by Le Corbusier on applied art in Germany, he wrote of Behrens:

"His most recent factory, the Turbinhalle may be described as a veritable cathedral of work. He is building the extensive workers' housing estates in which the community of 150,000 souls, who expect to win their daily bread from the AEG are to be housed. Behrens is a powerful, profound, serious genius, gripped by an urge to impose control; he is as if created for these tasks and for this time: most congenial to the spirit of present day Germany."

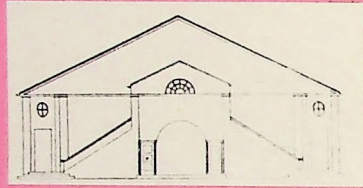
(Le Corbusier, 'Etude sur le Mouvement d'Art Decoratif en Allemagne' La Chaux de Fonds, Haefeli, 1912)

Le Corbusier's 'Villa Jeanneret Pere' of 1912 and his 'Scala Cinema' of 1916 were influenced by Behrens in his new-classical vein. (fig.33a) Of the three who worked for Behrens - Mies, Gropius or Le Corbusier, only Mies remained faithful to neo-classicism. Behrens' Turbine factory showed that materials such as glass and iron possessed within them a secret strength of expression that could be brought out as soon as an artist understood how to develop their means and possibilities. The factories of Behrens provided firmer foundations for Mies Van derRohe's means of expression than the country houses of Schinkel, or of Berlage who, around 1900, brought the smooth wall surface back into European architecture. William le Baron Jenny played much the same role in the training of the younger generation of Chicago architects that Behrens did in Europe. They gave the young architects the preparation they needed to tackle the new problems which the schools could offer no solutions.

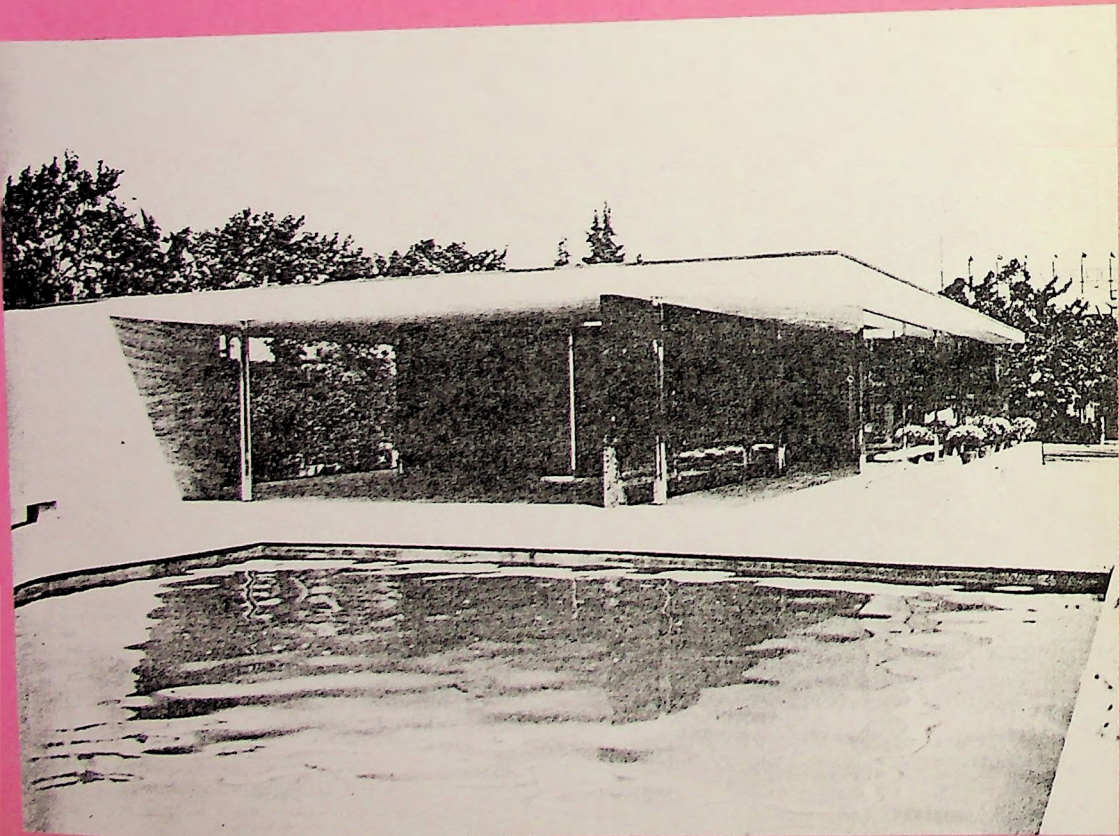
"We young architects found ourselves in painful inner discord. The work of this great master (Behrens) presented an architectural world of unexpected force, clarity of language and disconcerting richness of form."

Mies Van der Rohe.

Mies' luxurious villas for rich clients are along the lines of Behrens'. Behrens was, it seems, generous in his turn to Mies long after they parted company; he is reported to have praised the Barcelona Pavillion (1929) (fig.33b) as "The most significant work of the 20th century".



33 a



33 b

NEO - CLASSICAL THEMES 1907 - 1914

In 1906, Karl Osthaus bought 50 acres of land at Eppenhäusen. He divided the land into three zones and commissioned Van de Velde, Behrens and J.L.M.Lauweriks to design related groups of housings for these areas. Behrens designed the Schroeder House, the Villa Cuno, and the Goedecke House.

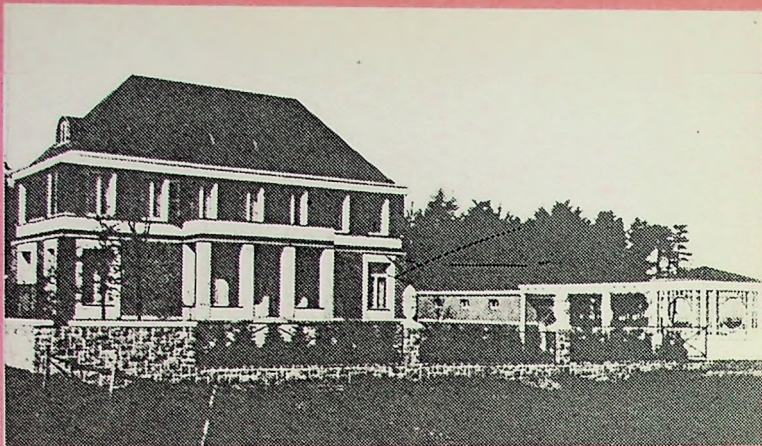
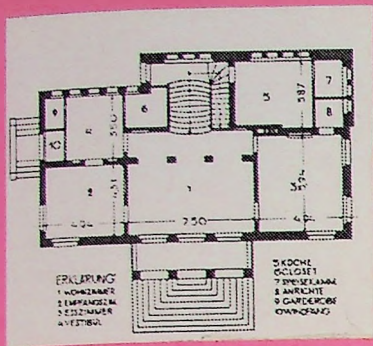
THE SCHROEDER HOUSE 1909

This was the first house of the garden suburb to be started. It was the third house Behrens had designed. It is the first to be severely geometrical on the exterior. The lower storey was in a smooth ochre colour, relieved by white wide stone architraves of the doors and windows (fig.34a). The roof was at a pitch of 45°. The staircase tower and balcony were built, in contrast, of the local grey limestone. This stone, quarried on the estate was used by all three architects as a unifying feature of the houses of the garden suburb.

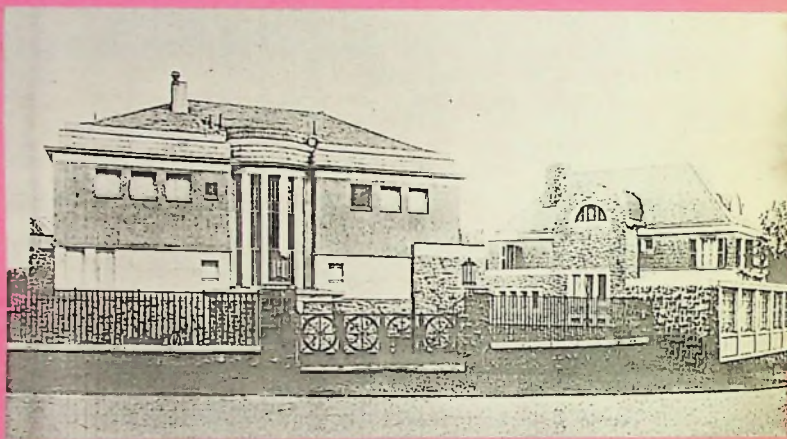
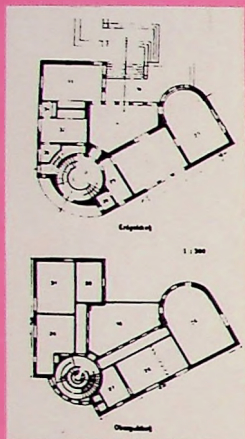
VILLA CUNO 1910

This, like the Schroeder house has a big living room and the staircase forms the centre of the house. (fig.34b) The symmetrical facade corresponds completely to the symmetrical plans. Here, and in the Schroeder house, English influence seems to have been superseded by an attempt (more successful than Olbrich's at Marienburg) to emulate Schinkel.

In the few years between the founding of the Werkbund and the outbreak of World War One, the bourgeoisie and upper middle class was faced with a period of ascendance which was reflected in architectural history. This may be seen in Behrens' Villa Cuno and his Wiegand house. The bourgeoisie were threatened and they turned their back on

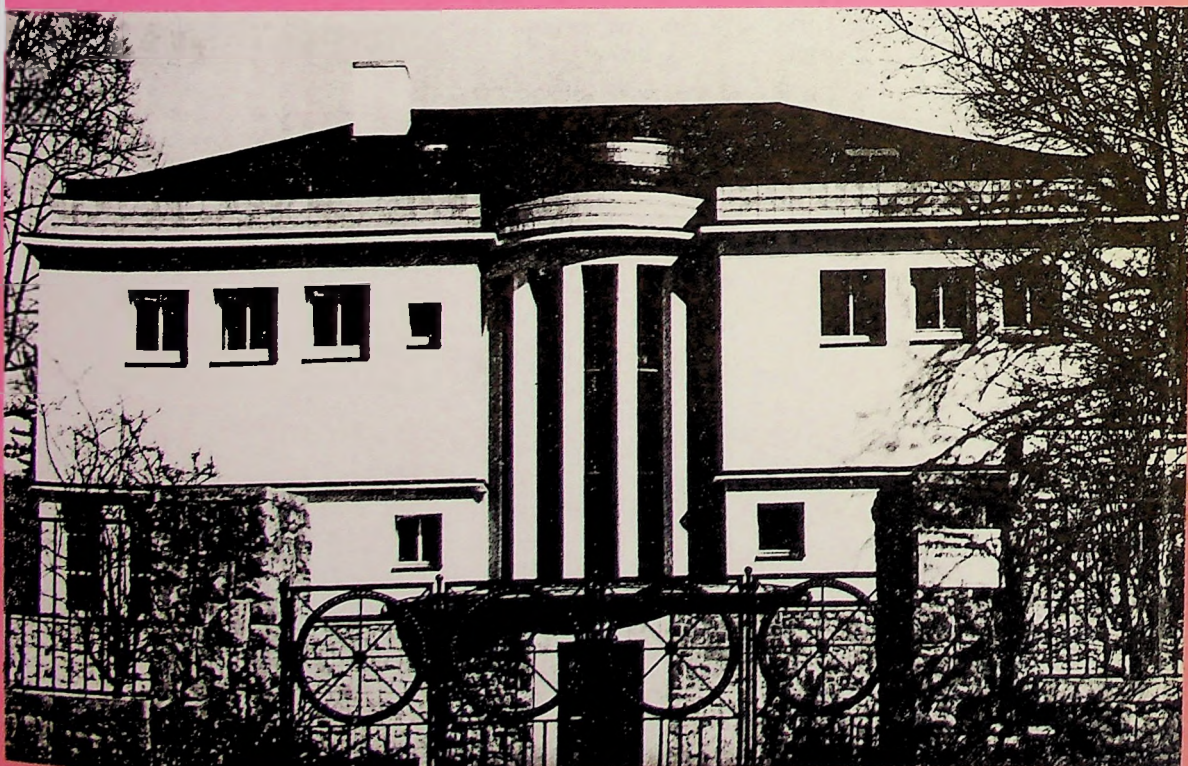


34 a



35 a

Both Villa Cuno + the Schroeder House



34 b

the street. Their villas became more fortress-like. Previously, almost without exception, the villa housed the main rooms at the front, the back was for the kitchen and servants quarters. In the Villa Cuno, in spite of its corner position, none of the bedrooms has windows overlooking the street side. The style of decoration resembles that of a fortress. Its entrance is in the centre and the general plan is symmetrical; the rooms are arranged 'en suite'. The porch has been reduced to a simple entrance hall.

The original plans for this house are more interesting than the final plans. Originally the house was planned as two wings on either side of the staircase-tower, which stood at the corner of the road (fig.35a) The staircase-tower acted as a hinge. In the actual building, the tower still looks like the pivot point of a hinge, but the wings are both on the same plane. Despite this, the tower helps to relieve the rigidity of the house.

There were many problems encountered during the building of this house and when it was finished. There were technical faults with the ledge under the stepped back roof involving the draining off of rainwater. The damp-proof quality of the stone used was poor. The faults took a long time to clear up as Behrens was overworked and away from Hagen most of the time. These problems may have been a reflection on Behrens being a self-taught architect.

It is interesting to note that at the time, Gropius was responsible for virtually all the detailing of the Schroeder and Cuno houses. As he recalled; "In the first phase, wholly in the spirit of Behrens, I had an active share in the Schroeder and Cuno houses, which I saw through in detail almost entirely by myself". It was difficult for Osthaus, who had commissioned the works, to know who was to blame for the shortcomings of the house. It was during the problems of the Villa Cuno that Gropius resigned from Behrens' office. Gropius was already ambitious and arrogant and already, at twenty-six, considered himself very much in the same league as Behrens, and this may have given cause for resentment.

THE WIEGAND HOUSE 1911-12

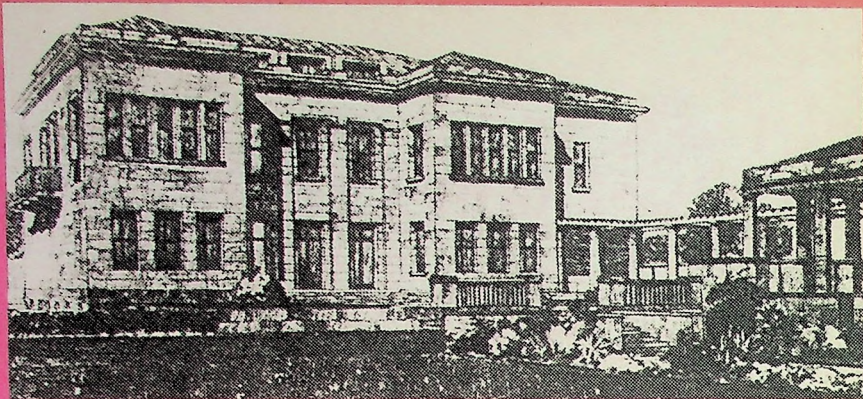
This is considered one of the most important houses of the period and one of the best known of Behrens' career. Dr Wiegand was one of the most distinguished German archaeologists of his time, and it is probable that he took a close hand in the design of his house. It is the only one of Behrens' houses to take new-classicism as far as the use of Doric columns and pilasters (fig 36a). Built in the form of a Greek temple, out of limestone blocks, the house even has a very solemn peristyle, which forms a framework to the entrance door. The peristyle also has an aesthetic function; through the heaviness of its spatial form and its detail, it has to counterbalance the effect of lightness shown by the delicate wooden paneling of the vestibule, an authentic antique piece of Turkish Rococco taken from an Ottoman palace.

Fritz Neumeyer points out the close resemblance of the whole garden front of the Wiegand House to Schinkel's 1826 design for a town house with a pillared court and the resemblance of the peristyle to that designed by Schinkel, if differently positioned. Gropius wrote of Behrens:

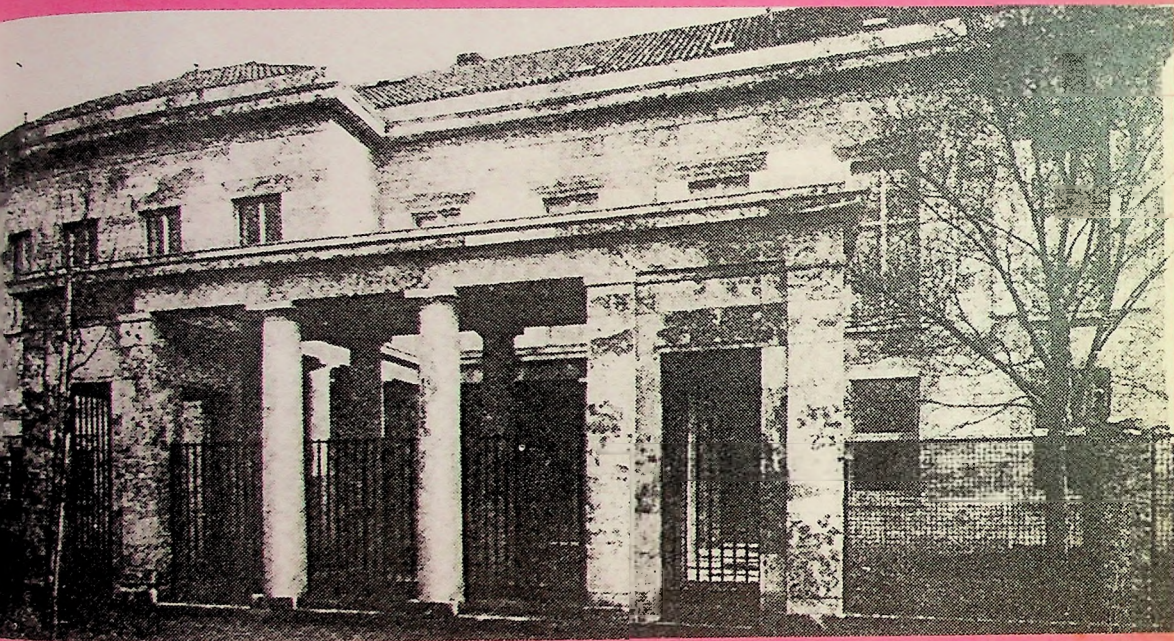
"He led me to the systematic design procedures of the medieval masons' guilds and the geometrical rules of Greek architecture. We often visited buildings by Schinkel in and around Potsdam. In Schinkel he saw his artistic ancestor."

Around this time, Behrens was asserting that he did not see Morris, Burne-Jones and the Arts and Crafts movement as the pioneers of the Modern Movement in architecture and design but rather the 19th century German Neo-classicists.

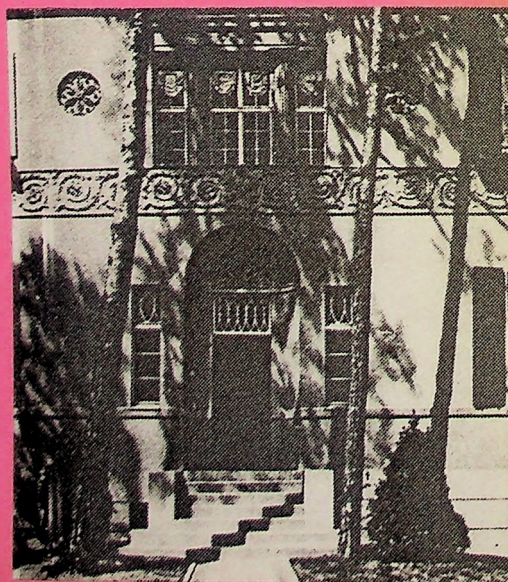
It has been suggested by Buddensieg (p72) that Behrens was influenced by Rathenau's house at Grunewald (fig.36b). This house is a classical revival and "The development of Behrens' work from the abstract, geometric classicism of the Dusseldorf and early Berlin period to the more historical manner of 1911-12 might not have occurred had it not been for the influence of Rathenau". However, Rathenau had turned to Classicism in order to make a private statement about the absolute incompatibility of business, art and individuality; Behrens used it to formulate a restorative synthesis of the three.



The back of the Wiegand House



36 a



36 b

THE GERMAN EMBASSY, ST PETERSBURG, 1911-12

Behrens only had eight weeks in which to submit drawings for this building, but they were delivered on time. They were approved by the authorities concerned, including the Kaiser. Mies Van der Rohe was appointed to supervise the erection and completion of the project. The building had to be a 'Town palace', to fit into an urban setting of fine 18th and 19th century palazzi and to stand as a symbol of Germany in the eyes of foreigners. (fig.37a)

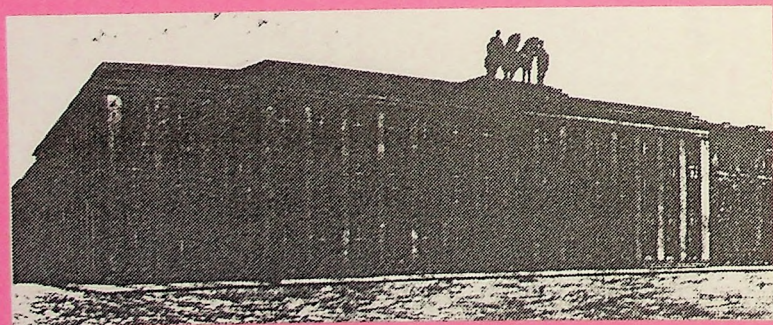
This is an extremely eclectic building. Behrens drew derivations from Renaissance and Baroque palaces. The building is also reminiscent of his Small Motors Factory, it also recalls the Romantic Classical monuments of Alexander I's time in Petersburg. None of the motifs are used in a strictly classical way though. The proportion of the column is too elongated and the interval is too narrow, in order to create a more vertical effect to counteract the long, low shape of the building. The doric, marble floored entrance hall was strongly influenced by Schinkel's interior design for the Schloss Orianda in der Krim.

Comparing two photographs of this building I noticed that one copy - a dark one, (fig.37b) did not show the heavy keystones and sills behind the pillars. This looked much better than the copy which shows them (fig.37a). The keystones seem to take from the clean, upright pillars and reduce their impact. Although the interior is supposed to be very economically planned, I like this building least of all Behrens' buildings. It was, however, an important building for Behrens. It has been considered to be a prototype for official architecture during the third Reich, and was later responsible for procuring work during Hitler's regime.

In 1918, the national conservatism constituted the soul of Behrens' St.Petersburg embassy. Behrens asserted "German art and technology will thus work towards the one end: the power of the German nation." So strongly was the embassy building regarded abroad as a provocation that the German business world feared a reaction in the export market.



37 a



37 b

INDUSTRIAL, COMMERCIAL + EXHIBITION

BUILDINGS 1911-1919

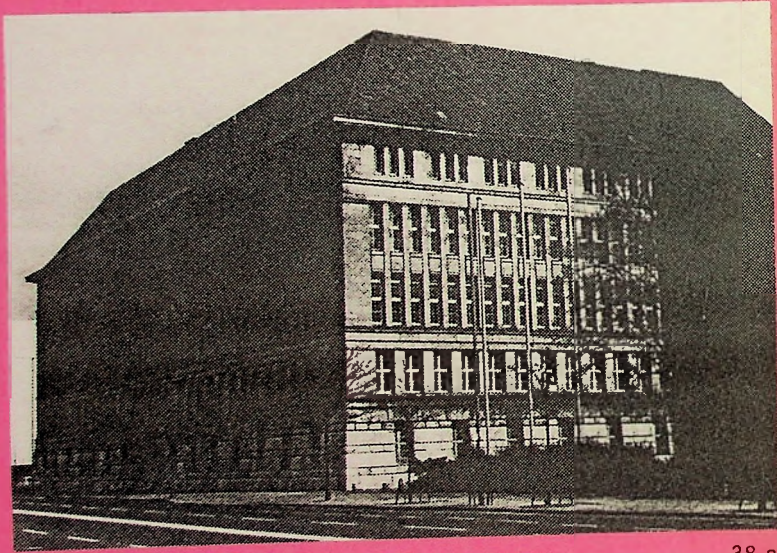
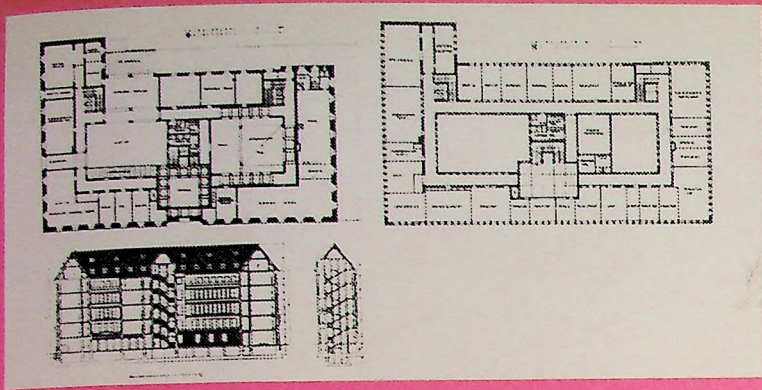
MANNESMANN TUBEWORKS, 1911

In 1910, Behrens first publicly advocated the industrialization of buildings. This was after having tried to make the directors of the AEG realize the significance of rationalizing construction as the first step towards a planned economy of industry. In the design of the head office for the Mannesmann Tubeworks in Dusseldorf, he was able to do this. This was the first standardised office block - a prototype which has been followed with slight modifications since.

This was Behrens' first office building. It was designed in the most logical way; from the office desk upwards. This is rather like the first house Behrens designed - his own; when he designed the house around the life-style of the inhabitants. The best explanation of the design of the building comes from Behrens himself:

"The smallest room required was one to contain only one desk, at which six persons could work. This is, in a way, the unit of the building, the single cell of the whole body. Exact measurements were made of the surface of the desk, of the depth of the chair and of the room required to permit one to pass between the chair and the wall. The distance from the windows and the radiators beneath them was determined, as well as the space required for the typewriter tables and the tables for letters and documents. In addition, it was found what space was required for an unobstructed passage from door to door and for filing cases. The total gave a minimum but adequate floor area for a normal office room. The walls of this room also established at the same time the method of construction, which resulted in an arrangement of piers, in which four are at the narrow sides of the room, and also at equal intervals on the outer wall of the corridor."

(translated from Peter Behrens, 'Zur Erinnerung an die Einweihung des Verwaltungsgebäudes der Mannesmann Röhrenwerke in Düsseldorf, 10 Dezember 1912')



38 a

But when designing the building, each department not only wanted something different to the others, but also to be able to change the office layout whenever necessary. So he designed the building as a square steel-framed structure, with girders of standardized lengths and sections throughout so that two of the offices could easily be turned into one.

Behrens cited the Palazzo Strozzi and the Medici-Riccardi as prototypes for the monumental, compact, closed form he wished to achieve. The building was also influenced by Alfred Messel's 1905 AEG buildings in Berlin. Although its rusticated masonry base and classical pilasters gave it a traditional air, Behrens design achieved a new vigour through its powerful uncompromising cubic mass. Although he used conventional vertical windows, he narrowed them to slits, which in the oblique view, appeared as continuous bands, breaking up the facade in a manner perhaps like the ribbon window which was later to follow.

The following extract is by Behrens from the same article as P.38;

"Basically it is incomprehensible that a building that serves a serious purpose should not reflect this seriousness in its outward appearance. Instead, these buildings are still burdened with bay-windows, little gables and the well-known surfeit of cheap sculptural decoration. Why are the demands made by such a building not adopted as an artistic motif and then given the most noble expression possible, both internally and externally, by means of carefully worked out proportion? Proportion is the alpha and omega of all artistic creation!

CONTINENTAL RUBBER COMPANY, HANNOVER 1911-12

The structure and office planning system was almost identical to the Mannesmann building. The office accommodation was around two courtyards which are on either side of a large central hall. This was arcaded and pillared like the cortile of a Florentine palace.

AEG SPONSORED ELECTRIC RAILWAY LINE

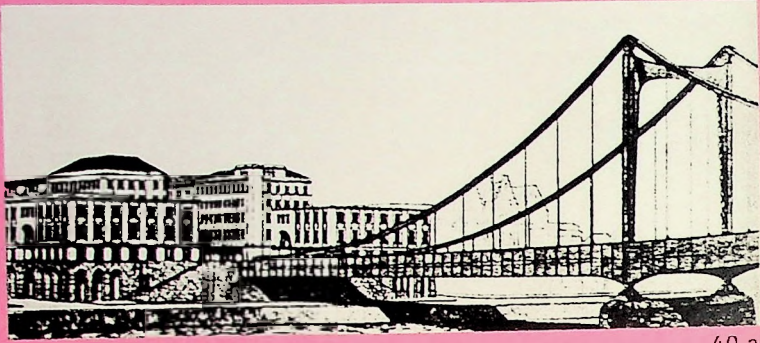
This was the subject of AEG plans between 1907 and 1914, but was never carried out. The proposed railway line was to run underground and some parts as an overhead railway. Behrens prepared drawings for both elevated and underground railway stations. Behrens' designs for the overhead railway reveal an adventurous approach. The idea of supporting a viaduct on single central pillars went back to Werner von Siemens' 1880 plan for an overhead railway on the Friedrichstrasse. Behrens consciously chose the single support system as it took up less room than the portal support system of Siemens and was therefore more suitable for the proposed AEG line most of which was to run along narrow streets. Behrens also designed a diesel electric passenger locomotive for the AEG. An example of this design was found in reasonable condition as recently as 1964!

A SUSPENSION BRIDGE OVER THE RHINE 1911

Behrens, along with Max Berg, Poelzig and others took part in the competition to design a bridge over the Rhine between Cologne and Deutz. The design was a suspension bridge. The approach to the bridge on either side of the river, Behrens planned groups of buildings rather like the Mannesmann office, but raised on rusticated arcading, forming an embankment. Behrens' submission was not successful. (fig.40a)

THE FRANKFURT GASWORKS 1911-12

Here it is clear that Behrens' Schinkelism was not consistent. This complex was designed at the same time as the extremely neo-classical Wiegand house in Dahlem. The various buildings in this industrial complex are built around a railway branch line. Behrens designed the processing plant, on the Northside, and on the Southside, the administrative buildings and those for the technicians and the workforce. The buildings are low and well proportioned with a trace of Schinkel in the low-pitched roofs.



40 a

The most spectacular structure is the cylindrical water-tower, (fig.41a) connected to three lower cylindrical towers, joined by an arched bridge. The three towers were in violet-brown glazed brick. They refer back to Behrens very early work in that they are exercises in basic solid geometry, they also give a hint of the more expressionist feeling Behrens' buildings would have. The buildings are all simply and cleanly detailed with contrasting coloured bricks. Along Schielestrasse, the buildings are strung out and coded in their colour so that they gradually draw a distinction between the domestic and industrial use of each one. This distinction is made with the proportions of yellow brick to brown brick.

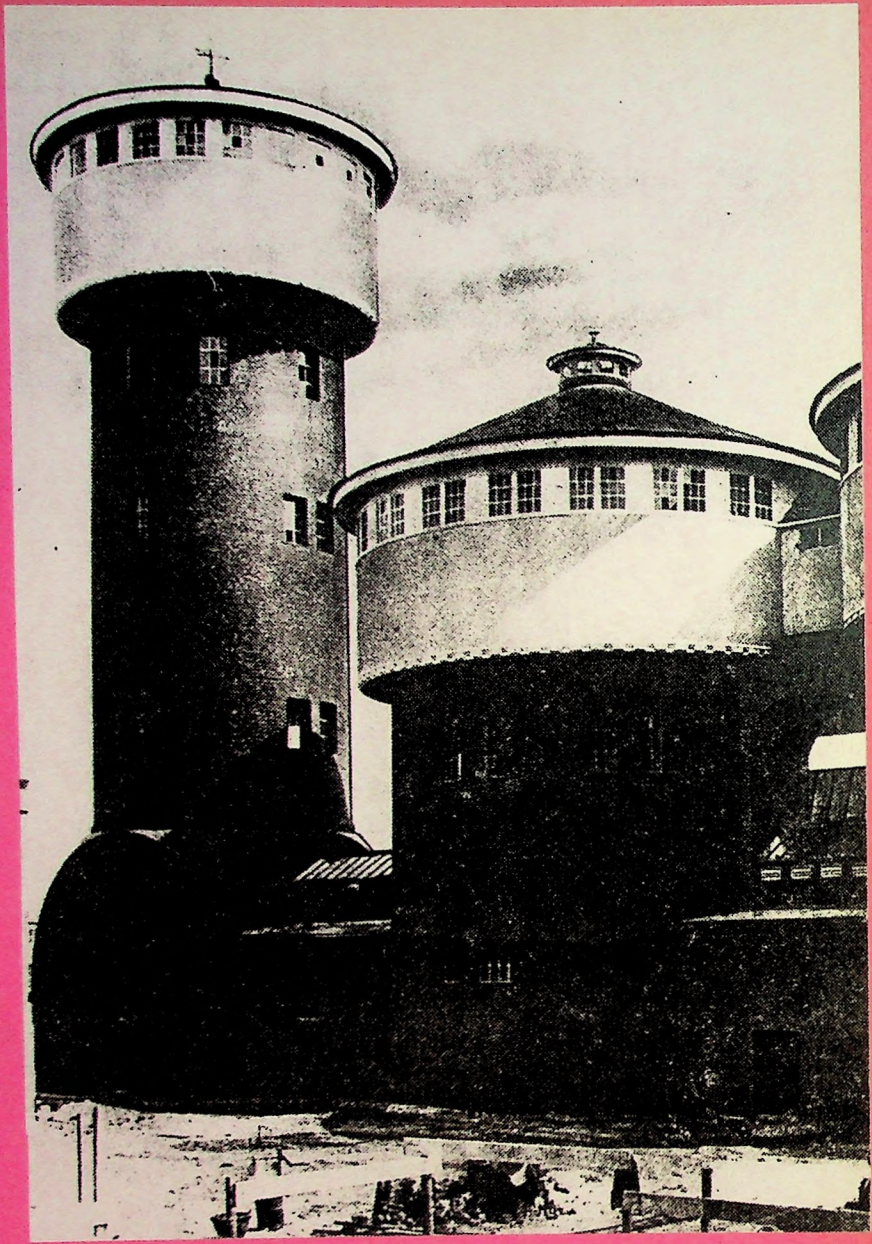
WERKBUND EXHIBITION. COLOGNE 1914

Behrens designed the central 'Festhalle' of the exhibition (fig.41b) He seems to have gone back to the 1906 type buildings of stripped down classicism. It may be simply that Behrens considered this type of building the most suitable for exhibition halls. The function of the building was a 'Festival Hall' and not an office block etc, so it should be treated as such. Frampton wrote:

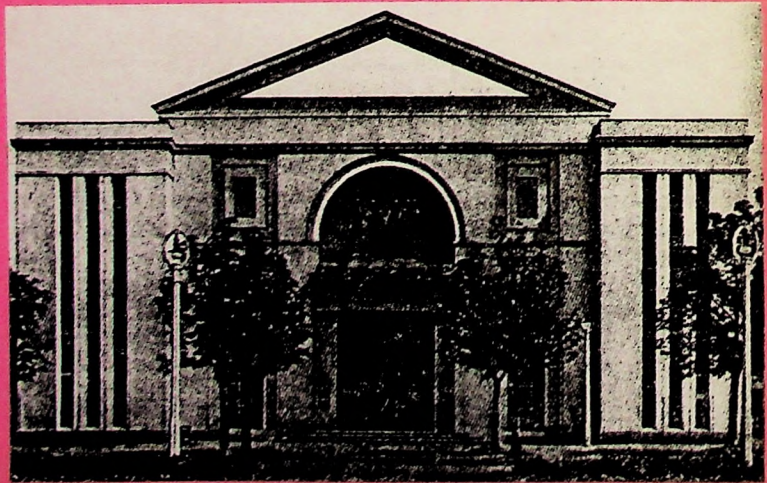
"Even Behrens who, around 1910, stood on the threshold of a new normative style expressly conceived for the representation of the cartel, if not of the modern industrial state (Max Weber's Machtstaat) was to lose his creative nerve by the time of the Werkbund exhibition of 1914 and to retreat into the security of all but neo-classical formula for his Werkbund Festhalle."

This statement does not appear to be altogether fair - particularly when it is based on just one building. Eric Mendelshon's reaction to the Festhalle is similar

"Peter Behrens fails completely. This step backwards, after his Turbine factory, almost convinces one of the chance nature of that creation, which perhaps owed its birth to the constructional genius of one of his engineers. Only Van deVelde, with his theatre, is really searching for form. Concrete used in the Jugendstil way, but strong in



41 a



41 b

conception and expression. Gropius, with his factory, is already in search for something new".

(Letter of 11.09.14 from Mendelsohn, 'Letters of an architect' Oscar Beyer (Ed) Abelard Schuman, 1967)

WERKBUND PAVILION, BERNE 1917

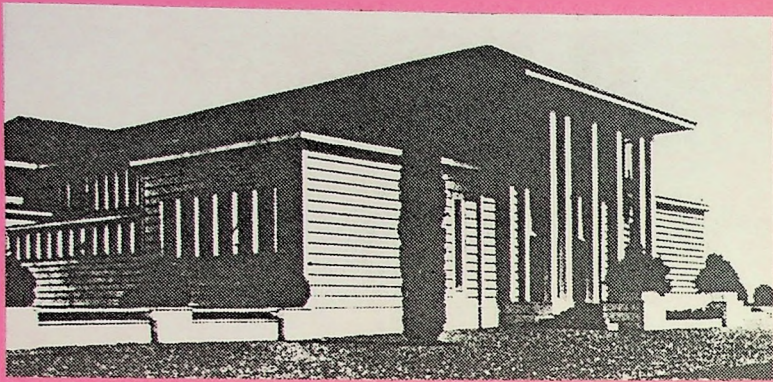
This was a demountable, prefabricated wooden pavilion for an exhibition (fig.42a) This is one of Behrens' most attractive buildings.

1918

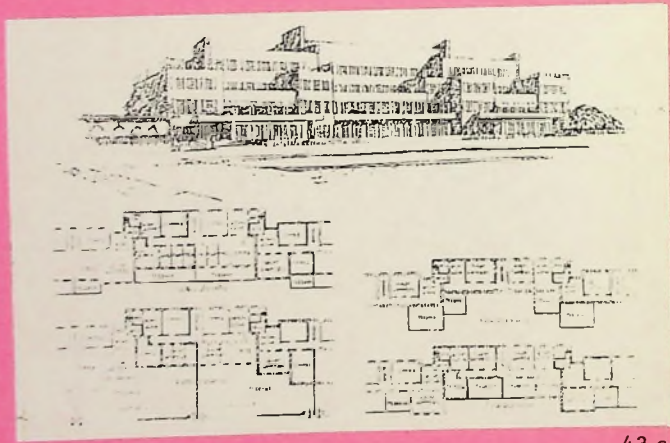
Behrens and Heinrich de Fries wrote an influential book in 1918, 'On Economic Building, An essay on the Housing Estate Question' This was written at a time when materials were in short supply and new housing desperately needed. In this book, he decreed that speed and economy could be obtained in three ways; rationalization of layout; modernization of the technique of construction and by maximum substitution of communal for individual domestic services and more definitely through:

- (i) A harmonious combination of rows of small houses each with its own allotment garden, and multi-storey tenement blocks (a combination Gropius never ceased to advocate) that would enable urban settlements to become self-supporting on good, and therefore relatively dear, sites, and
- (ii) The cheapening of building materials, structural parts, and fittings by far reaching standardization and mechanical mass-production, together with the cheapening of construction by the most extensive possible use of machinery in assembly and erection."

(from 'The Rationalists')



42 a



43 a

The authors advocated the use of built-in cupboards and wardrobes and smaller, lighter, cheaper furniture should be designed to make the maximum use of space. They also sharply criticized 'sentimentality and false romanticism'. in the custom of some architects who modelled workers' housing on small-town and village traditions (a tendency of architects who later actively favoured Nazism).

HOUSING SCHEME, LAUSITZ 1919

This was the next stage of Behrens' development as a social architect. Taking into account the pattern of life of the people, traditionally divided between working in the factories and their own small allotments, Behrens planned the settlement as a farm suburb with communal market gardens, tillage, pastureage and its own co-operative organisation for selling produce.

SILESIA 1920

This was a similar scheme to Lausitz. It was a structural telescoping of back to back houses into rows of two-storied dwellings subdivided into 4 flats. The remarkable aspect of this building is that Behrens canvassed the views of the mining community concerning their future homes. He described the role of the architect in this case, as a co-ordinator, implementing the wishes of the builder and the users. The two outstanding requests he received were for an absence of steps and stairs within the houses and for the entrance to be through a garden which could be seen from the windows.

This settlement was further developed into a design Behrens called the 'Terrassenhaus'. The Terrassenhaus was a four-storey apartment block with each level providing a roof garden for the apartment above it. The ground floor has an ordinary garden and the top floor shares a roof garden with an area of 144m². Though never carried out, this revolutionary design exercised a radical influence on subsequent housing developments.

BEHRENS THE EXPRESSIONIST 1920-26

Behrens' design ideas changed. Accordingly he gave up his Classicism and his preoccupation with symbolizing the authority of industrial power. His renewed search for an art of building which would express the true spirit of the German people led back to medieval origin and association. However, his faith in the redeeming power of Reigl's 'will to form' remained unshaken.

Alan Windsor wrote of Behrens at this stage:

"One thing is very striking about the immediate post-war years: Behrens temporarily threw over the sachlichkeit (common-sense objectivity) which, combined with Neo-Classicism had been characteristic of 'Behrens-Stil'.

As already mentioned, it is debatable whether Behrens was a follower of sachlichkeit. It seems that his housing schemes at Silesia and the Terrassenhauser were near to sachlichkeit, though.

At this time, 1920, Behrens was 54 years old and still extremely active. He was no longer in the rank of the Avant Garde which made him sensitive to the aggressive mood of the Post-war period and yet inclined to accept the contributions of the new trends. Expressionist painters such as those in the 'Novembergruppe' were very active at this time, and were strong influences on architects of the time.

HOECHST DYEWORKS, HEADOFFICES 1920-24

The Hoechst brief called for administration offices, drawing offices, laboratories, archives, a lecture theatre and an exhibition hall, on a long narrow site across the road from the existing office building. The two buildings were linked by a bridge. The building is free of symmetrical relationships, with a cathedral-like main hall. The dominant theme is the parabolic arch. This is used in the bridge and the upper range of windows, on the tower, the block beside it and the offices. This parabolic arch seems popular with Expressionist architects in general and Poelzig used it in 1906 in his Watermill

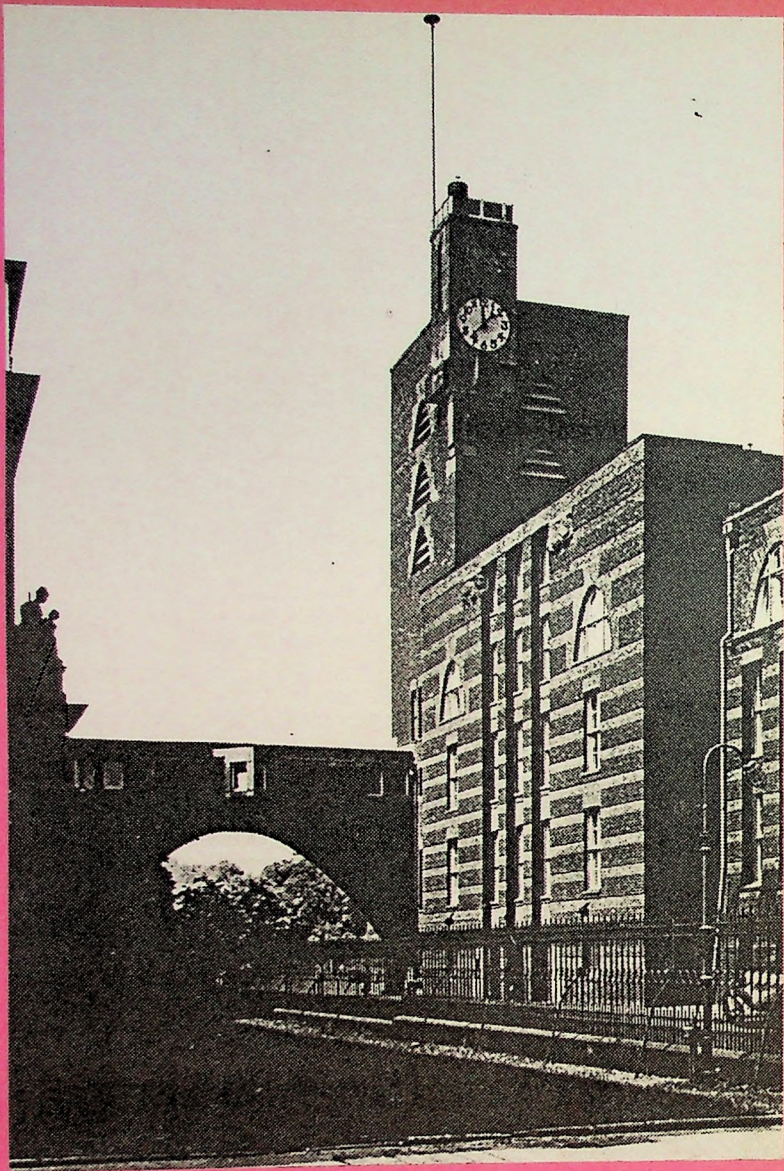
Project in Breslau. The whole building is executed in bricks of two contrasting textures. The arches and expressive brickwork are reminiscent of the contemporary architecture of the Amsterdam School. The supporting structure of the building is in reinforced concrete and the roofs are nearly flat, hidden behind a low parapet. (fig.45a)

The hall is the most striking aspect of this project. It runs the full height of the building, about 15m (50ft) and is lit at the top by three enormous star-like sky lights. The eight pillars holding up the balcony are stepped triangles in section and increase in section as they go upwards again in a stepped manner. This seems to make the hall very oppressive - as though it were bearing down on top of you if you were standing under the skylight.

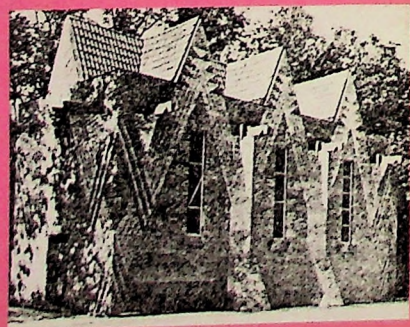
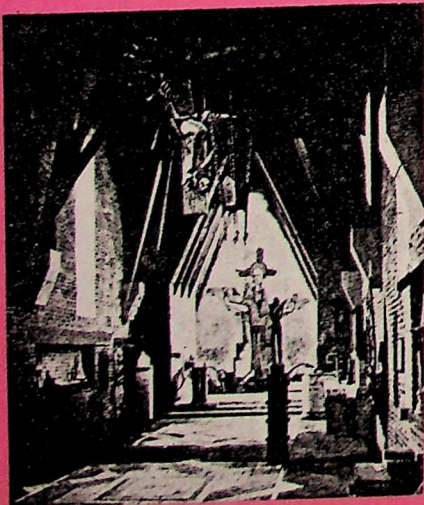
Again, Behrens uses the effect of coloured bricks to advantage. He places yellow bricks (the colour of joy, the closest to white light, as Goethe wrote in his theory of colours) at the top next to the crystalline skylights. The colours then deepen and descend in order of the spectrum until the ground floor columns were coloured from green to blue at either side. Behrens also introduced wholly abstract wall paintings inside.

THE DOMBAUHUTTE, MUNICH 1922

This was a small exhibition building made from brick for the Munich Exhibition of Applied Arts (fig.45b). It was designed to display church furnishings in a chapel-like atmosphere. The wooden beams of the roof structure protrude through the walls to the exterior. The exterior is treated with a decorative patterning of brickwork which may have been specifically based on the programme of Expressionist imagery with the clear suggestions of crystalline forms. Jugendstil had been based on the world of plants with supple forms and smooth transitions. Expressionism on the other hand, went back to the crystal. In Expressionism architecture it was the beam and angle rather than the curve and loop. Both the Dombauhutte and the Hochst



45 a



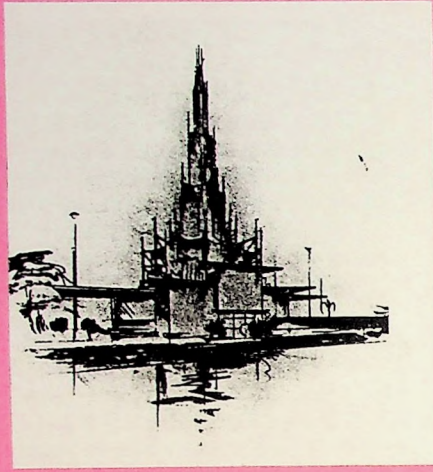
45 b

building show these characteristics. At the same time, though, the sense of scale, and the care and sobriety shown in the general silhouette are still there as in all Behrens' other works.

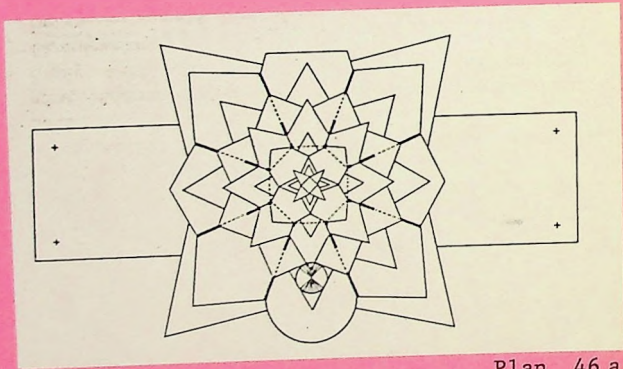
This Dombauhutte was controversial at the time, with serious repercussions on Behrens for the future. This was caused by a crucifix by Ludwig Gies, who was also employed by Behrens on the Hoechst buildings. Paul Joseph Cramers saw this crucifix as the 'symbol of a whole new direction in art'. However, following violent protests because it was considered blasphemous, the crucifix was removed and the 'Dombauhutte' closed. Behrens himself, as secretary of the exhibition directorate, was obliged to give written consent to the closure. This was seen as the first dispirited yielding to extremist political interference on the part of the Werkbund which organized the exhibition. This affair was dragged up in 1938 and used against Behrens as gathering and supporting 'degenerate' artists around him. Among the buildings at this exhibition, only Behrens' Dombauhutte won the critic, Theodor Heuss's approval as "an interesting example of current tendencies in art and architecture".

GERMAN MIRROR-GLASS MANUFACTURER'S PAVILION

This was built in 1925. Glass was not a special interest of Behrens but glass as a material had become very popular. It is based on an octagonal plan, with successive stories adding to the complexity of the figure (fig.46a). The elevation looks like one of Taut's more fantastic sketches. Mirror-glass wall planes were suspended and clipped on to a steel skeleton to produce a shimmering mirage of a spire. It is one of Behrens' most out-of character buildings and I think it is beautiful. It is very light, airy and graceful and hardly looks like a building at all. Compared to the monumentality and weight of the Turbine hall, it is very different. This building also shows the romantic side of Behrens.



46 a



Plan 46 a

This Expressionist period was short-lived with Behrens, but he seemed to always have a tendency towards it but it was never very obvious until then. The Turbine Hall would be an example. Many of the German architects, such as Gropius and Mendelsohn went through an Expressionist phase at this time- although Gropius' was limited to a monument. For Behrens, his love of brick, the medieval tradition and his former handling of surface decoration showed in his Expressionist buildings.

In 1910, Behrens had denounced all 'romantic day-dreaming' and in 1919, spoke out against a "retrogression from industrial mass-production to handicrafts". Then, according to T.Benton in his book 'Expressionism' "In 1922, he was promoting handicrafts and romanticism as the things that made life bearable"*. This seems quite strange as I have before me, an essay written by Behrens in 1922 from 'Stil?'**. In this essay he shows his enthusiasm for pure craft but he does not denounce mass-production in favour of craft:

"...They (present-day intellectuals) have a presentiment that our technological and materialistic civilization is reaching its peak, and that a return to spiritual and cultural values awaits us in the near future.....Both the engineer and the man of sensibility are opting out of a commitment to the totality of lived experience".

He then goes on to say that we are dependant on its greatest and cheapest facilities and

"Only through industry have we any hope of fulfilling our aims. It alone can save us from our economic misery".

* 'Kunst + Technik' op.cit., p555 in Protokoll der Vorstandssitzung des Deutschen Werkbundes 30.06.1919 and 'Die Neue Handwerk-Romantik', 1922

** 'Stil?' (Style?) in Die Form (Berlin), Jahrgang 1, 1922 pp18-184, translated from German by Roger and Agnes Cardinal.

Behrens ends in saying that art should help industry and industry help art. Benton also says that "The progressive aspect of the Expressionists was yoked to a pessimism about the future of civilization". This may be true in general terms. But it does not appear that Behrens was really labouring under this pessimism for long. Although it is true that Behrens work from the mid-twenties onwards seems to be adapted to the type of work that the younger architects were turning out. Despite this, he was well able to 'hold his own' and in fact some of these later buildings in the International style are very attractive and neat.

THE INTERNATIONAL STYLE ; 1921-31

THE GOOD HOPE COMPANY BUILDINGS 1921-25

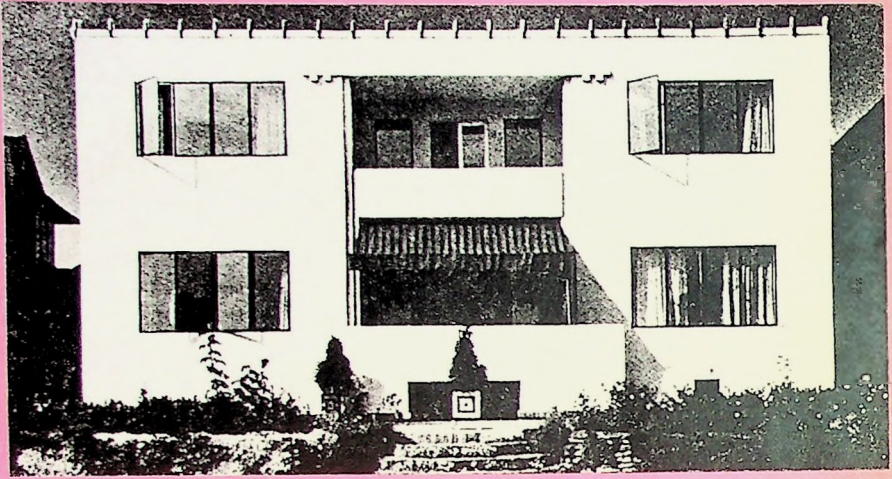
The general appearance of this group of buildings is Wrightian, with emphasis on the horizontals painted white against a dark background.

NEW WAYS, NORTHAMPTON, ENGLAND 1923-25

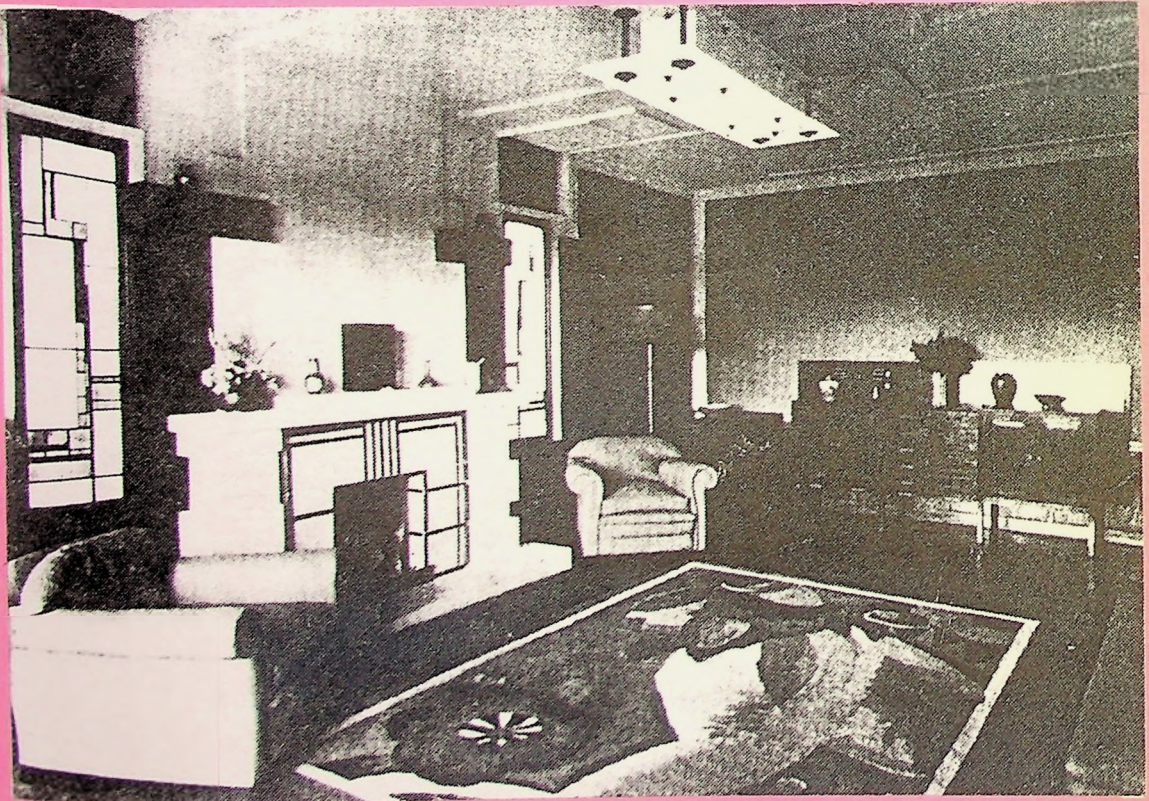
This house is of interest for the history of British architecture. It is probably the first manifestation in England of a home designed in a manner which has much of the modern progressive spirit of the twenties, which was to grow freer and more expressive during the 1930s when the ideas of LeCorbusier became better known.

The architectural distinction of the house depends, as it does in most of his work, on the excellence of proportion, on the well calculated relation of horizontals and verticals and on decorated and plain surfaces. I don't think the garden complements the house at all and could not have helped when the house was new and controversial. (fig.49)

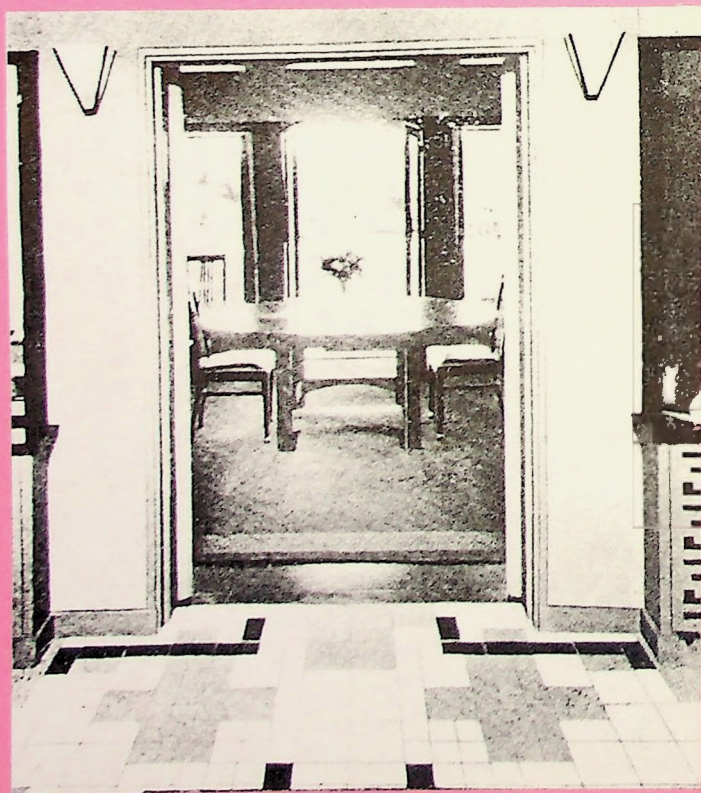
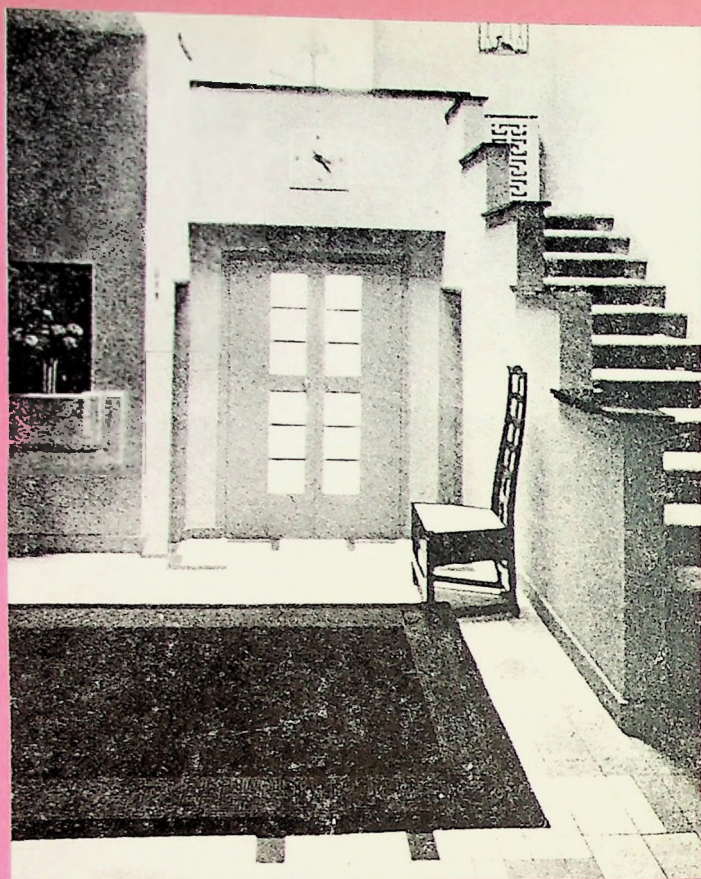
The major entertaining rooms (fig.49) were designed by Behrens. The house was centrally heated, but a coal fire was introduced on account of its sentimental value and human appeal. These rooms are typical of Behrens in that, no matter how stark or harsh the exterior, he designed the interiors for living in. Although according to the Architectural Review in October 1926, with the expression of some doubts and many little jokes at the expense of its modernity. Bernard Shaw, who was a guest there once, was asked if he had slept well, and is reported to have replied, "Yes, thank you. I always sleep with my eyes shut"!



49 a



49 b



Hall + Diningroom of New Ways

WEISSENHOFFSIEDLUNG, STUTTGART 1926-7

This was a group of houses and apartment blocks by artists invited by Ludwig Mies Van der Rohe. Behrens was invited to participate even though (along with Hans Poelzig) he was much older than all the other architects taking part. This was a serious attempt to present the public with the reality of modern architecture. In spite of the recent attitude of most of the architects, there was no expressionism to be seen. There seemed no doubt that social progress was synonymous with rationalism.

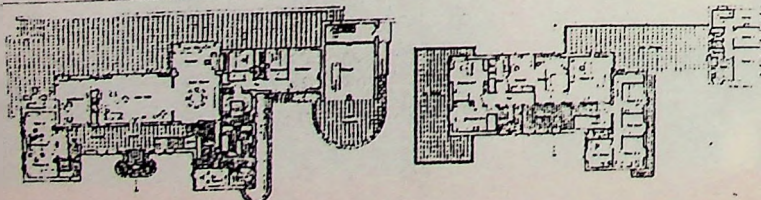
The building Behrens contributed was a development of his Terrassenhaus idea. (fig.50a) The walls were built of hollow blocks, stuccoed, and the floors were of reinforced concrete. The apartments had hot water central heating and compared extremely well for economy with those, for example, of LeCorbusier in the same scheme. In fact only Mies's and Behrens' big apartment blocks came near to solving the housing problem of the masses in the big towns.

1928 EXHIBITION

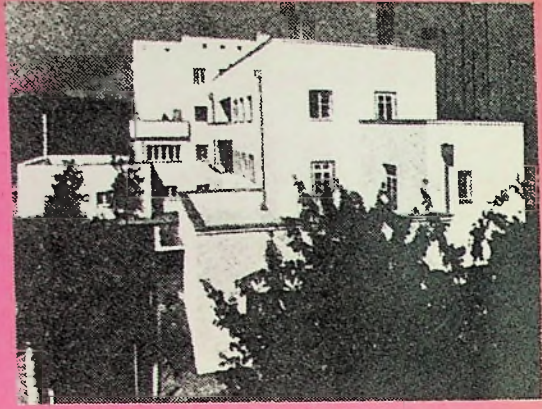
In 1928, to celebrate Behrens's sixtieth birthday, a major retrospective exhibition of his work was held in Berlin and Paul-Joseph Cramers published his monograph reviewing the work of Behrens up to the time of writing.

VILLA IN THE TAUNIS MOUNTAINS 1931

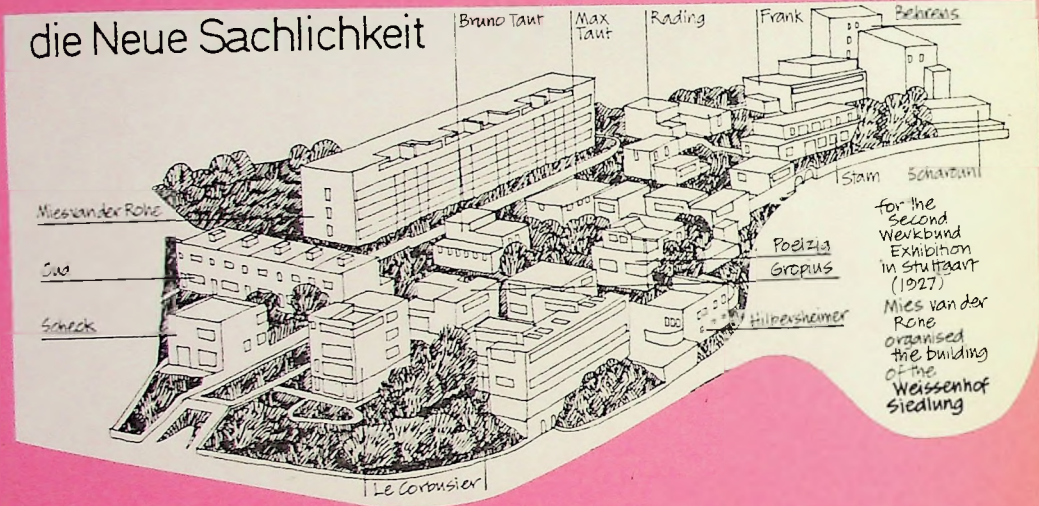
This is a large, luxurious villa built in the true 'International Style' It is built on a hillside as a composition of interlocking cubes with terraces and a terraced garden. (fig.50b) The interior was very luxuriously decorated and the villa itself was in the same league as those by van der Rohe and LeCorbusier.



Plan



50 a



50 b

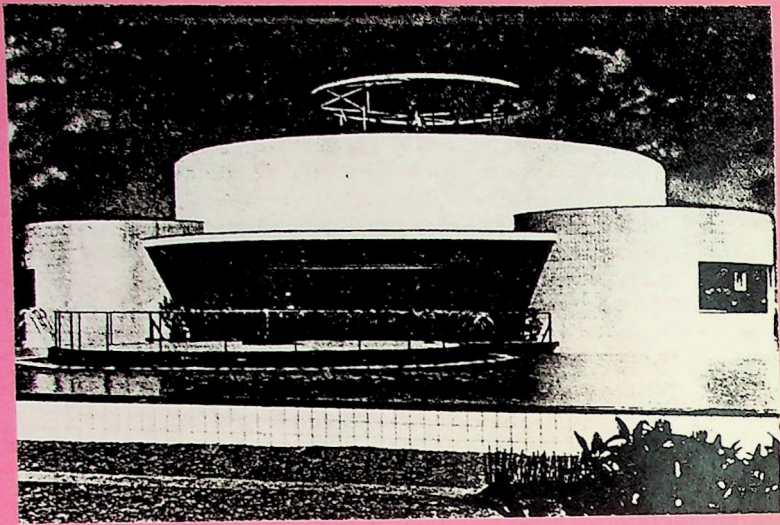
THE RING DER FRAUEN PAVILION 1931

This pavilion was for the German Building Exhibition of 1931 for the Women's Circle. This is a circular building around which three smaller circular rooms are grouped - one of which was the entrance hall. The floors of the two smaller circular rooms were higher than that of the main hall, and as they were side open to it, they might serve, Behrens wrote, for theatrical performances or for music. The exterior is tiled in white and has wide curved horizontal windows and a flat roof. (fig.51a)

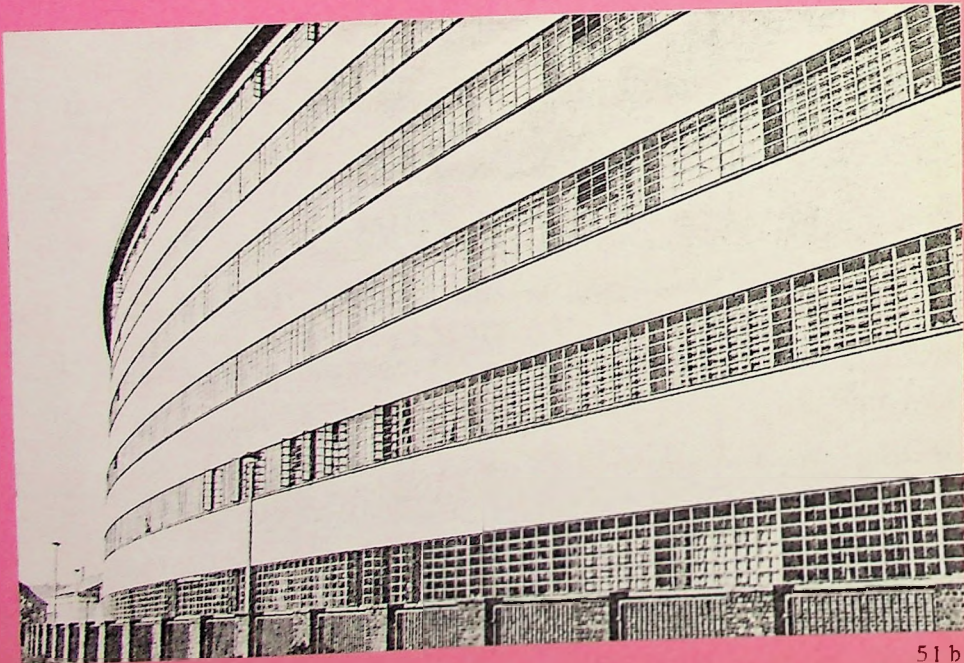
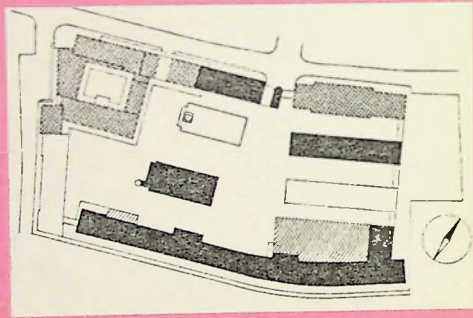
Although this building still shows Behrens' love of pure geometrical shape, it is in the International style and does not refer to any previous styles even in atmosphere. Most historians disregard this later period of Behrens' career because he was no longer an innovator but a follower. Even if he was following the style of the younger generation in their 'International style', he was well able to interpret the style. This pavilion is a particularly attractive building. It was possibly a source of inspiration for Charles Holden's 'Arnos Grove Underground Station' in London the following year.

TABACCO FACTORY AT LINZ AUSTRIA 1932-4

This was Behrens' last great industrial building. It was designed in collaboration with Alexander Popp. The building was the administration building for the tobacco factory and was less mechanistic than the industrial work done for the AEG, yet nonetheless impressive for its consistency of treatment and human scale. Behrens used steel and glass with a feeling for their structural potentialities and lightness almost unsurpassed at the time. The general effect is reminiscent of Mehdelsohn.



51 a



51 b

VIENNA 1922-36

In 1922, Behrens became Professor of the Master School for Architecture at the Vienna Academy, following Otto Wagner, who had recently died. While in Vienna, Behrens retained his Berlin home, office and architectural practice. In the Vienna Academy Behrens stressed the overall importance of town-planning; of sympathetic co-operation with engineers; of the duty of architects to devise good housing for the masses; of the necessity of an interest in handicraft, and the integration of painting and sculpture with architecture. The 'free arts' he wrote, "have been going their own ways in the past decades, and it must be acknowledged that they have resulted in a release of the rythmical and psychic tensions of our time". The statement as a whole, is a testament of an international modern standpoint, and suggests Behrens' attitude during the late 20s and early '30s were in accord with those of his younger colleagues who were to emigrate following the rise of Nazism

Hugo Häring, (the Berlin architect and secretary of the association of architects know as the 'Ring') was very impressed by the Viennese Master School, when reviewing an exhibition of its activities, held in March 1926;

"In Germany there is no Academy, and no Technical college, which can match the spirit of this Viennese School. Young people vibrate with excited longing to shape the future. And in their first fantasies about the future, young people project solely that which elevates their lives. What is clever, and precisely what Behrens does in order to bring this about, is to bring building projects much closer to the young, to inspire contemporary dreams that will bear fruit in the future. We openly admit that Behrens astonishes us and Germany.

In 1932, the Austrian Werkbund mounted an exhibition which led to a split in the party. In 1924, a new Werkbund was established in Austria with Clemens Holzmeister as President and with Behrens and Josef Hoffmann as vice-presidents. Jews and socialists were excluded from membership, in line with the German parent association. This seems strange as William Muschenheim, then his pupil, remembers him as

"Clearly not in agreement with what was occurring in Germany and Austria in regard to a rising Nazism". Behrens was also on friendly terms with Count Coudenhore-Kalergi, the anti-anti Semite and advocate of the 'Pan-Europe' movement.

In 1933, a regime rose to power in Germany with doctrinaire objections to the latest phase of modern architecture, ironically castigated as 'Kultur-Bolschewismus' immediately after the Bolsheviks had rejected it as being unacceptably bourgeois! As a result, the leaders of the younger generation almost all emigrated. Most German production in the Nazi period is all but indistinguishable from what was often considered advanced before the first World War. There is little doubt, however, that Behrens made some attempts however belated and tentative, to ingratiate himself with the new powers in Germany.

In 1933, Behrens published an appreciative article entitled 'Die Baugesinnung Des Faschismus' (The Fascist Approach to Architecture) in the magazine 'Die Neue Linie'. This was a review of architectural activity under the Fascist regime in Italy.

Opposition to Behrens' continued activity as an architect began to grow, and from sources dangerously close to home. Werner Fechner, a former assistant in his Berlin office and Karl Mittel, a longstanding and important assistant to Behrens. They scoured "Professor Behrens' apparent desire to be reconciliated to the Nationalist Socialist Regime" with documents to prove Behrens true attitude to National Socialism.

HEADQUARTERS FOR THE AEG, BERLIN 1937-9

In 1936, Behrens returned to Berlin to take an academic post as head of the Master School of Architecture at the 'Academie der Kunst'. Behrens was still trying to conform; his letters of the period are signed with the salutation encouraged by the Nazis; 'Mit Deutschem Gruss. Heil Hitler!' So were those of his wife, Lili.

The current general manager of the AEG wished to have Behrens as the architect for their building in Berlin. Again, violent attacks were made on Behrens. Konrad Noun made desperate attempts to prevent the possibility;

"Behrens is widely known in architectural circles as a Bolshevist. If Peter Behrens can actually attach himself close to the Führer, we will be the laughing stock among the cultural bolshevists... I believe it to be of burning importance for the Führer to be informed of what is stacked up against him..."

However, Hitler knew of the St.Petersburg Embassy and liked it. This was enough to silence the opposition. This AEG building, though, was never built. It appears that Behrens at this time was unwell and unhappy with the design.

Behrens had suffered heart trouble for many years, from as early as 1905. He died of a heart attack on 27 February 1940 aged 72 years. His death was hardly remarked upon in the newspapers. His death-mask was taken by his friend, the sculptor, Richard Scheibe. He was cremated at Wilmersdorf on March 5th, and Amersdorffer, President of the Berlin 'Academie der Kunst' read an address.

INDUSTRIAL DESIGN

CERAMICS

When Behrens designed his house in Darmstadt, he designed the furniture, the carpets, wall panels, ceilings, doors, light fittings, cutlery, glass, china and linen. The crockery Behrens designed (fig.55a) in 1901, is very striking, the form is very strong and geometric. The crockery's angular plan is offset by repeating the curvilinear motif in the decoration. These along with other crockery produced by Behrens at Darmstadt, are printed in pure primary colours on white. Not only are the pure colours far removed from the 'lingerie subtlety' of many Art Nouveau ceramics, but the actual forms are harder and more geometric than most Art Nouveau designs. Van de Velde at times, ventured into this sort of pattern, partly under the influence of Behrens' work.

GLASS

The illustrations at fig.55b show bottles designed by Behrens in 1898 and glasses he designed sometime around this date. Both show Behrens' understanding of the material he was working with. This is particularly clear in the glasses where the form is allowed to curve gently and almost 'naturally'. When designing anything, Behrens was always concerned with proportion, this is reflected in these glasses.

FURNITURE

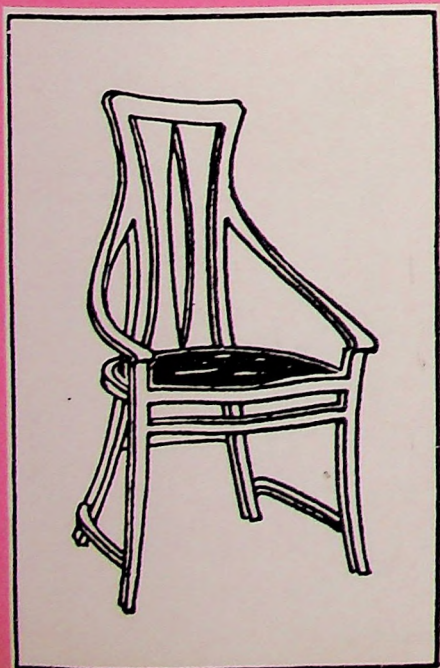
The furniture in the dining room of his house in Darmstadt still retained an art nouveau feeling of flowing lines, this is quite evident in his chairs. These chairs are rather like Van de Velde's Bloemenwerf chairs of 1895. The furniture in this room (fig.11a) is all painted white, has a light atmosphere and very much in keeping with the sort of work being produced in Vienna. However, the furniture and furnishings of the other rooms are much heavier, more sombre and solid. A special feature of Behrens' chairs of this time was the



55 a



55 b



Chair designed in 1901

chair back which tapers towards the top. The decoration is two-dimensional, firmly placed and clearly limited. It is as a rule an abstract play of bent parts, straight lines, and slight curves. (fig.14b) shows such a chair for an exhibition dining-room. The light-fitting in this room is very striking and is not unlike light-fittings by Reitveld or Gropius in the early '20s. This Behrens light fitting has a deStijl feeling about it which is very rare for this time (1902)

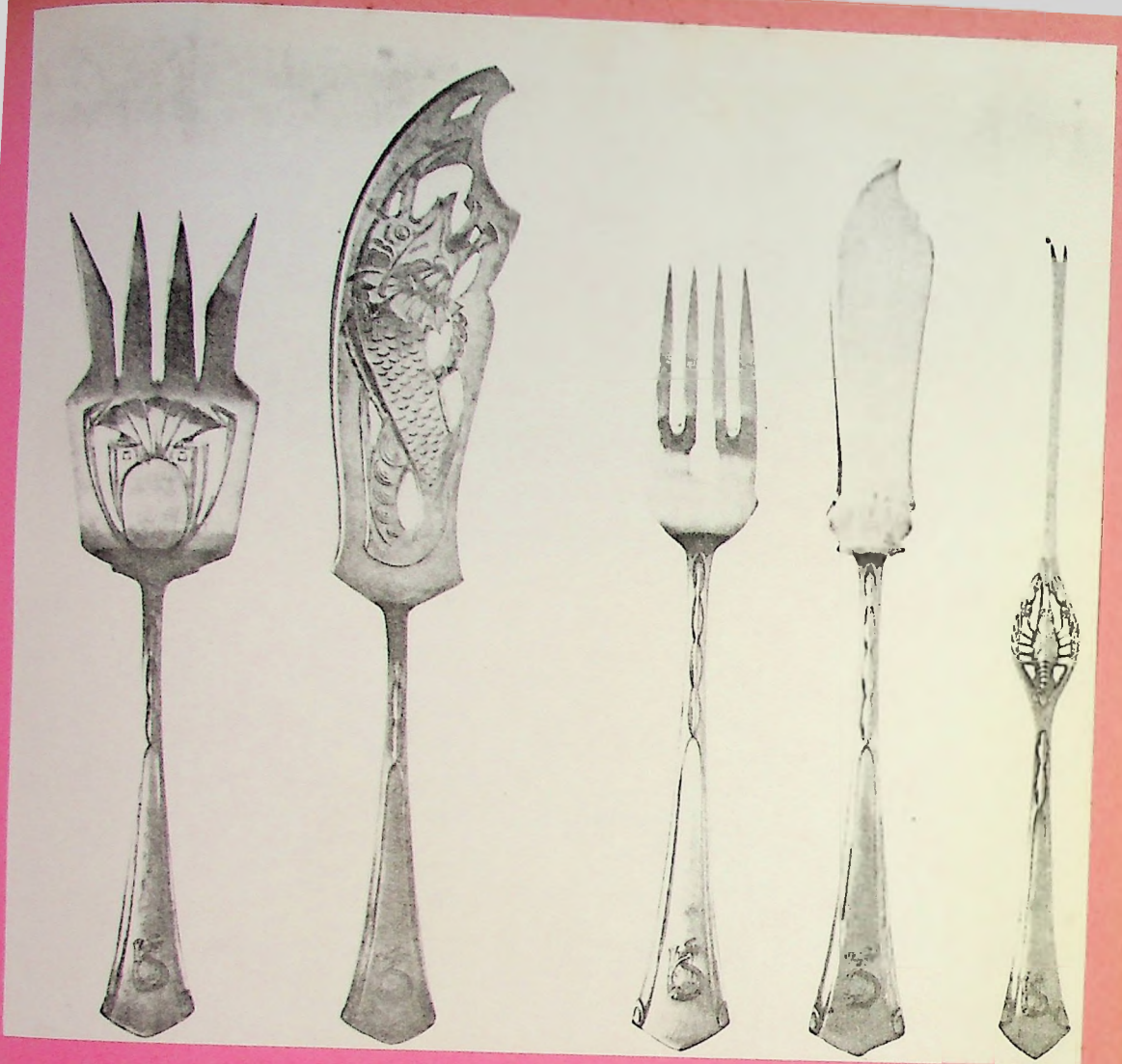
Behrens feeling for pure geometry is seen in his tables (fig.11c) and (fig.17c) which are starkly circular. This is even reflected in his chairs in the living room at a house at Wetter in the Ruhr (1904).

CUTLERY

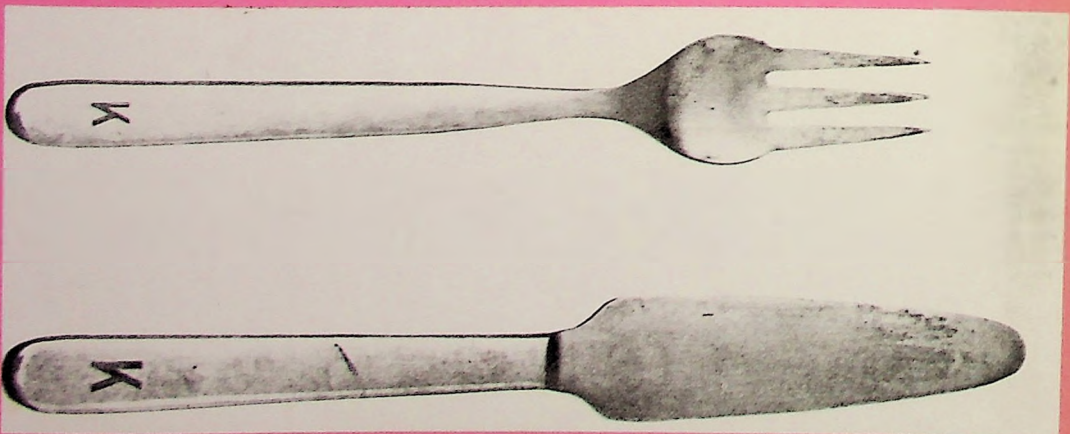
In 1904, Behrens designed two sets of cutlery which are illustrated on (fig.56a). The fishset is rather ornate and spindly with Jugendstil influence. The second set; a design with crossed-over tendrils was for the exhibition Ein Dokument Deutscher Kunst in 1901. This set also has Jugendstil influence but is far more solid and appears to be very comfortable to hold, in fact it almost invites one to pick up the knife and feel its shape and weight. Although these have an Art Nouveau style, they are not as ornate as much of the other cutlery around at the time.

Four years earlier, Behrens designed a set of cutlery which is remarkably 'modern'. Here there is no Jugendstil, in fact it is nearer Art Deco to Jugendstil. The proportions of the knife have not changed today. (fig.56b)

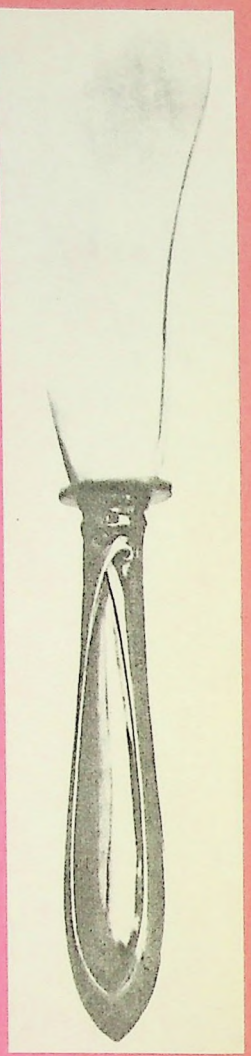
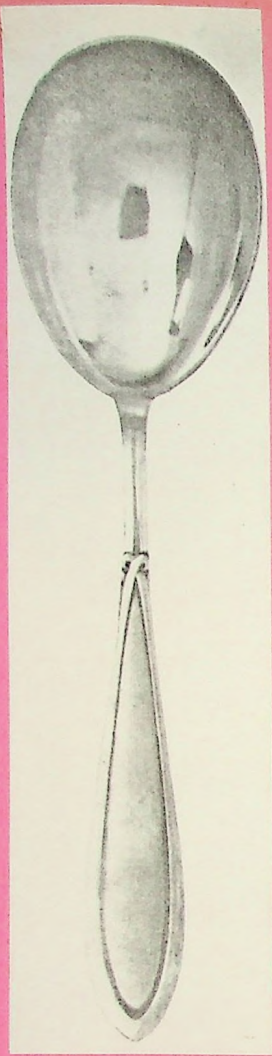
In 1930, Behrens designed another place setting of cutlery. This is very simple with no applied decoration whatsoever. The aesthetics are carried by the form alone. Ergonomically, these pieces do not look comfortable. Here the harshness of straight parallel lines favoured by Behrens does not work. This is unusual for Behrens as he usually considered the user and designed for the 'user'. (fig.56c)



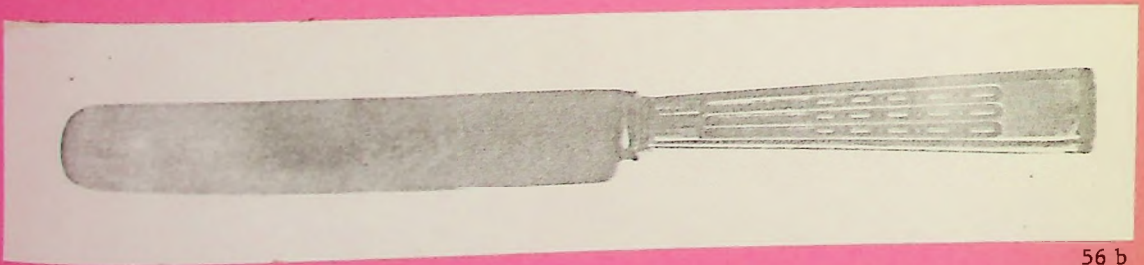
56 a



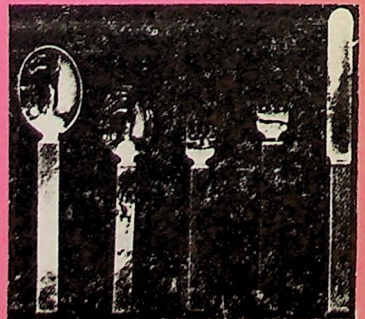
Set designed by Van de Velde in 1912



56 a



56 b



56 c

INDUSTRIAL DESIGN FOR THE AEG ooooooooooooooooooooooooooooooooooooo

When Behrens began designing for the AEG in 1907, there still existed a deeply rooted prejudice that condemned mass-produced goods as 'cheap and nasty' and as junk. But

"This unfounded préjudice against the machine was being replaced by the realization that the machine alone can work faultlessly, consistantly, safely, thoroughly and cheaply. Our strength lies at all times in this realization and this principle makes us invincible"

(Walter Rathenau of the AEG, 1912)

Through the alliance of art and technology, with Behrens' appointment to the AEG, it appeared that the social isolation of the artist had been done away with and that the industrial mass-production of trash would be replaced by the large-scale manufacture of well-designed goods. The aim of Behrens' appointment was to bring together the apparently irreconcilable areas of art and design, technology and commerce, machine production and economic viability to their individual and mutual advantage and for the public good.

After the turn of the century, the importance of advertising packaging and design began to be discovered. Jordan of the AEG said "Don't believe that even an engineer takes an engine apart for inspection before buying it. Even as an expert, he also buys according to the external impression. A motor must look like a birthday present". This was basically why Jordan urged the appointment of Behrens.

So Behrens was also responsible for the design of material for the AEG. T.Buddensieg describes the way Behrens treated the AEG products and their publicity material:

"Behrens treated the products for graphic purposes removed from their useful value and functional context. The form of the product appeared to have been constructed out of the easthetic fiction of its own purity. Behrens took a light bulb from the production line, gave it a geometrical frame and a name, and using line and colour, reconstructed

its technical form into an artistic form (fig.58a) Unlike the 'fine art' of painting, however, Behrens' graphic design was not 'abstract' but concrete art. Behrens succeeded in creating a formal procedure that seemed to be analogous to the methods of technical production. This technique of using AEG products in their publicity material could only work when these illustrations in the firm's redesigned brochures, catalogues and calendars did not conflict with the actual design of the products themselves. So the products had to be redesigned."

The last sentence seems rather strange. This is a new way of looking at Behrens task of redesigning the AEG products, and perhaps sounds as though Behrens task was purely aesthetic with no thoughts of function.

Generally, Behrens' redesigning of AEG products consisted of simplifying the product, both visually and for manufacture and improving the proportions of the product. Although, according to Behrens, the same principles were to be applied to product design as to the design of the firm's factories, it was particularly important that these smaller products, as they came into direct contact with a wide public, clearly differentiate themselves from rival products. By making his products simple and undecorated, Behrens freed these appliances from the social status connotations of expensive exclusivity and from the ornamentation appropriate to these connotations. This is quite clear in his publicity material; in the AEG's advertisements for electrical appliances there were no users, no pictures of superior households with maids in pinafores. Through their 'free' aesthetic appeal, the expensive new devices lost their luxury character and became consumer goods for everyone.

ARC LAMPS

The first product designs for the AEG were a series of special arc lamps for indirect lighting. As already mentioned, it may be seen from the drawing published in an advertising brochure (fig.58a) how Behrens designed the lamps as 'compositions'. The sequence of single parts which was determined by technical considerations can be read as a composition of semi-circles, half spheres, cylinders, convex

and concave curves and segments of circles.

When Behrens designed his arc lamps, a critic, Heinrich Pudor, declared that the lamps were not as functional as was generally supposed. He called them pure art. Had Behrens, he said, based the design on function, he would have arrived at forms that would have been entirely different. This is true, but Behrens himself said that these lamps were not based purely on function:

"The lantern of an arc lamp has the technical function of protecting the conductors from dust and moisture a simple, weatherproof sheet-metal tube would suffice for this purpose. But the lantern also has an aesthetic function: It should hide the naked rods from the eyes of the viewer and cover them with the most agreeable possible form. From an aesthetic point of view, the sight of a plain tube was hardly an improvement".

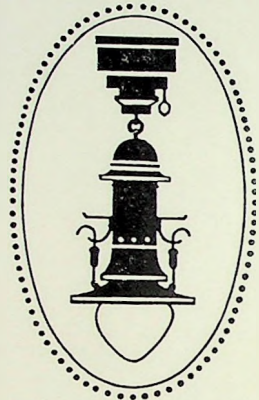
(p.49 T.Buddensieg 'Industriekultur'.)

Nevertheless, electric and gas lamps had been produced for the past twenty years by anonymous designers for several firms, including the AEG, which looked quite similar to Behrens'. But the detail, colour and proportions of Behrens' designs make them stand out. Some of his lamps are really beautiful and their shape would not be out of place today (fig.59a,b,c). These lamps were being promoted as good 'artistic design'. The design of these lamps was not intended to offend the traditional taste of the purchasers but sought to acquire for the industrial mass-product, the prestige that had, until then, been granted only to the work of art, to bourgeois ideals and to free art. Behrens related to the consciousness of the consumers, the users, to whom it was explained that mass industrial products had to be considered good and beautiful like the best product that had been made by craft methods.

AEG

BOGENLAMPEN-AUFZUG

Rasche und bequeme Bedienung der Lampe ohne Winde, Gegengewicht oder Leiter



Eingebaute Kontaktkupplung, also keine herabhängenden Leitungen! Lampe bei Bedienung stromlos

P.-L. No. 68922

Preis Mk. 30,—

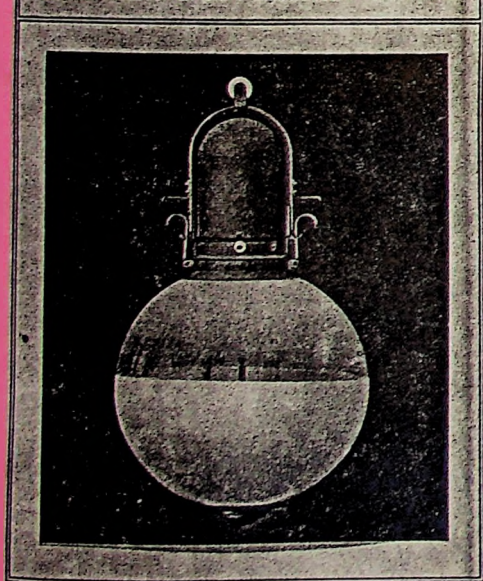
58 a



AEG
INTENSIV-
FLAMMEN-BOGENLAMPE
VERMAGUNG ELEKTROTECHNISCHES GESELLSCHAFT

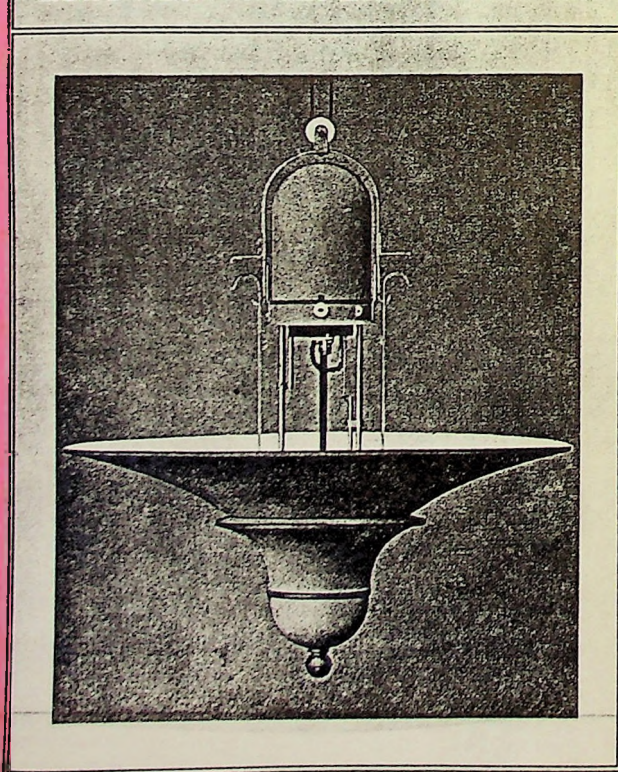
The old model
replaced by
59 c

LAMPE P.L.Nr. 67213 MIT LATERNE P.L.Nr. 68212



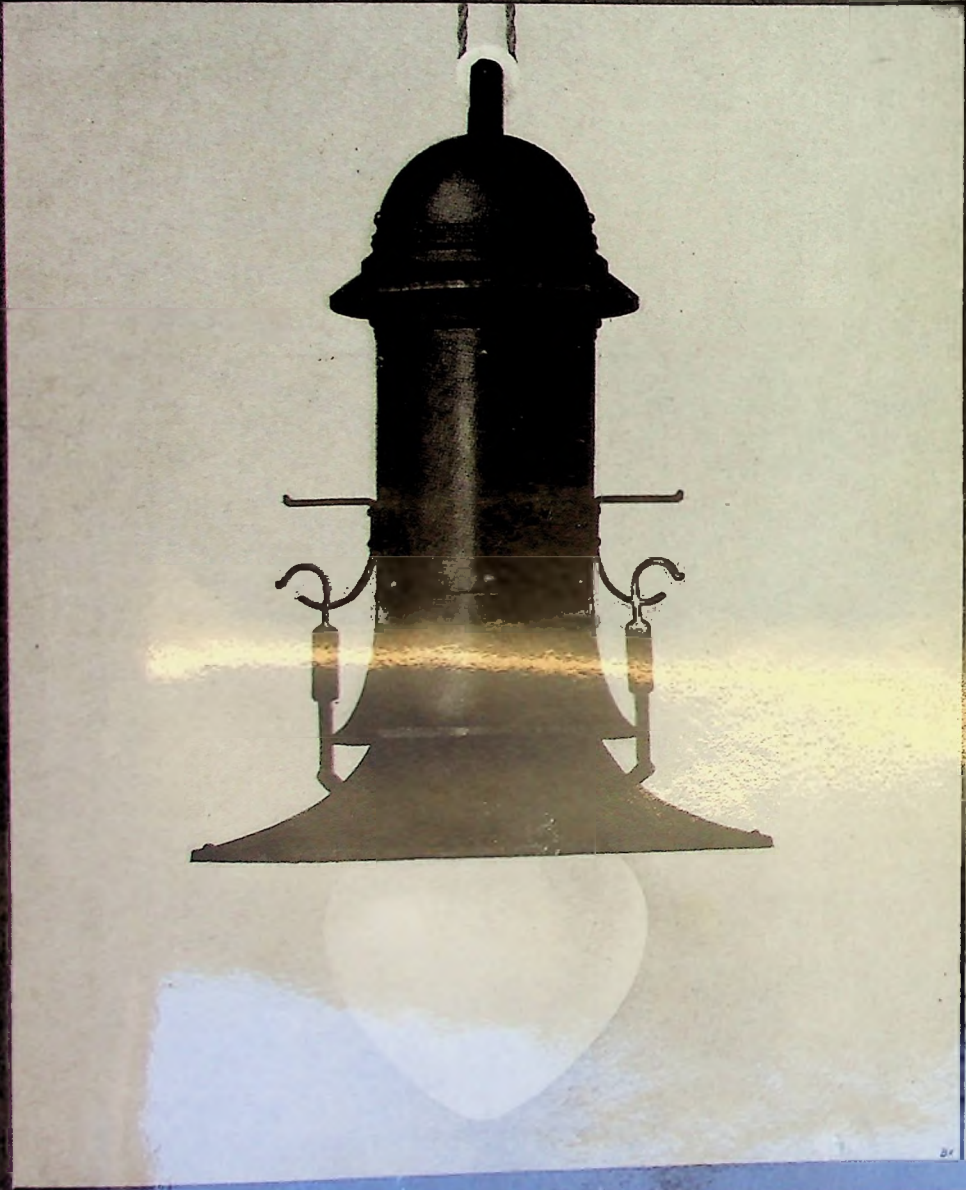
59 a

LAMPE P.L.Nr. 67216 MIT LATERNE P.L.Nr. 68216



59 b

SPARBOGENLAMPE



ELECTRIC KETTLES

Behrens redesigned his range of kettles from existing AEG products. (fig.60a). But not all of Behrens' electric kettles were of the simple, smooth kind. As can be seen from fig.60b, the Arts and Crafts ideals were far from dead. Some of the kettles immitate hand craftsmanship, using mechanical means of production. The 'hammered' finish on the kettles is one example. But generally the kettles were transformed into smooth rivet-free streamlined forms. In the early 1900s, the newly prosperous middle-class aspired to the luxuries which had once distinguished the aristocratic lifestyle. So they bought products which were designed to look as if time and effort had been spent on them - even when this was not the case. So, despite the fact that through the publicity material, Behrens was trying to remove the snobbish value associated with his products, he still had to pander to the taste of his market, and the 'education process' was a slow one.

Behrens' kettle designs were not so important for their aesthetic value (although compared to the kettles on fig.60a, are an improvement) Behrens successfully introduced standardization through his kettles to domestic products. Paul Jordan had already initiated the standardization of components for machine parts. This range of kettles was made up of three kettle forms, two of handle forms, lids and plinths. Three materials (brass, nickel-plate and copper plate) each having three possible surface finishes (smooth, hammered and waved) and a choice of three sizes. This allowed for over 80 variations but only 30 were offered to the market.

The Behrens' designed kettles of 1908 were still being made in Nurenberg by the Bing-Werke, a subsidiary of the AEG, from 1922 until late in the 1920s.

Tee- und Wasserkessel

Anführung: Mit leicht auswechselbaren Patronenheizkörpern, Rohrenbohrsystem, Gefäß, Anschlusskabel, 2 m Schere und Steckkontakt Nr. 725



2432 I



2433 I

P.N.	Wasser- menge in Lit.	Gewicht in kg.	Abmessung in mm.	Abmessung gekennzeichnet	Ge- wicht in kg.	Preis in M.
2433	0,75	275	10		0,45	18,—
2434	1,25	550	14	Abmessung gekennzeichnet	0,80	22,—
2436	1,75	550	18		0,85	26,—
2436a	0,75	275	10	Messing vernickelt gekennzeichnet	0,45	18,—
2437	1,25	550	14		0,80	22,—
2438	1,75	550	18		0,85	26,—
2439	0,25	275	10	Messing poliert	0,50	18,—
2444	1,25	550	14		0,85	22,—
2441	0,75	275	10	Messing vernickelt	0,50	18,—
2442	1,25	550	14		0,85	22,—
2443	0,75	275	10	Messing vernickelt gekennzeichnet	0,50	17,—
2444	1,25	550	14		0,85	24,—
2445	0,75	275	10	Messing gekennzeichnet	0,50	17,—
2446	1,75	550	18		0,85	24,—



2439-2441



2442-2443



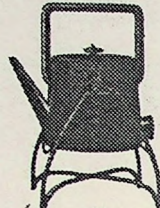
Elektrisch beheizte Tee- und Wasserkessel, Kaffeemaschinen

Schwer versilberte elektroplattierte Tee- u. Wasserkessel · Kaffeemaschinen

Die Apparate sind vermittelt auswechselbarer Patrone elektrisch beheizt



50a
Kessel mit Kapselheizung
1,1 l Inhalt
M. 54,—



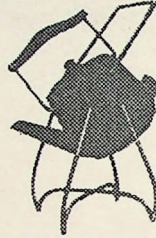
60b
Kessel gekennzeichnet mit Dampf
1,9 l Inhalt
M. 70,—



80a
Kesselformer mit Kapselformer
1,1 l Inhalt
M. 41,—



20
Kessel mit Kapselheizung
2,7 l Inhalt
M. 90,—



80b
Anführung wie 70b
Wasser System
P.N. Nr. 80a 2,7 l Inhalt M. 100,—
P.N. Nr. 81a 1,1 l Inhalt M. 108,—

60 a



60 b



Two other kettles designed by Behrens

ELECTRIC FANS

It was considered that Behrens' most important designs in terms of the future were those which 'allowed a machine to make its own statement' even in a domestic environment. His electric fans of 1908 for the AEG are an example of this (fig.61a). Here there is little attempt to make the fan conform to its presumed surroundings unlike fig.61b. However, fig.61c is another early model of a fan, designed before Behrens joined the AEG, this fan is not too unlike Behrens'. The base of Behrens' model is easily recognisable as Behrens' when compared to his arc lamps, see fig.59c. It could be argued that the wire guard is more functional, cheaper and easier to make on the earlier model than that on Behrens' model. However, Behrens was always concerned with the 'wholeness' of a product, building or graphic work. And so, Behrens' guard has been redesigned to conform to the rest of the fan and complete the unity of the product.

Behrens' low-speed ceiling fans (fig.61d) are more stripped of ornament and Behrens' preference for pure shapes is seen clearly here. These fans (by their nature) are more graceful than the table fans.

HUMIDIFIERS

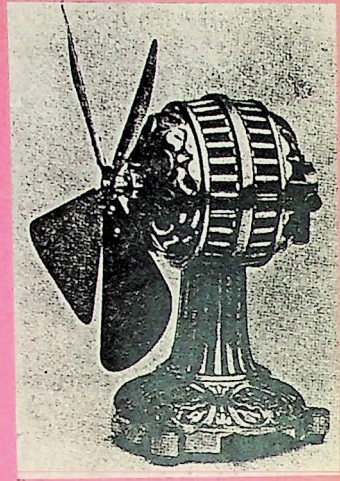
Behrens' inclination for classical forms is seen here. Behrens built up a good collection of Greek vases and it appears that he consulted these for inspiration. Despite their classical influence, today they are quite 'dated'.

CLOCKS

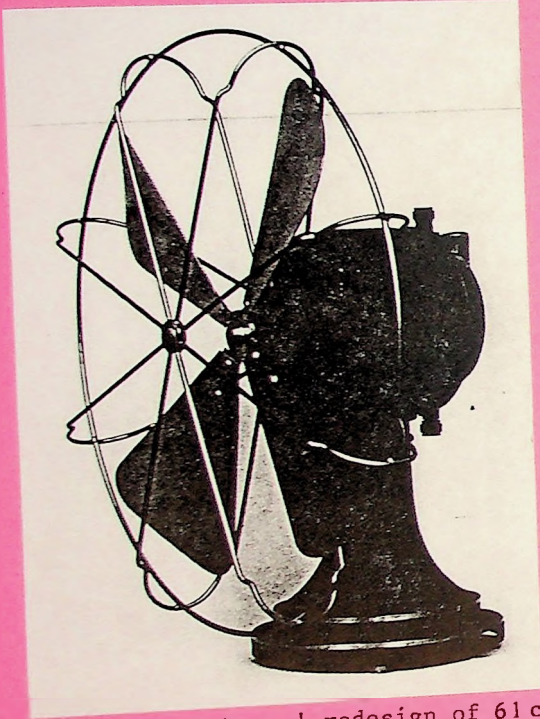
Behrens designed a large number of clocks. His most interesting clock is the one designed for the main control block of Klingenberg power station (fig.61e). It is in the shape of a cube hung from the ceiling by four long chains. This is a twenty-four hour clock with two circles of figures, one inside the other. Behrens designed other twenty-four hour clocks which was unusual for that time. The Klingenberg clock was



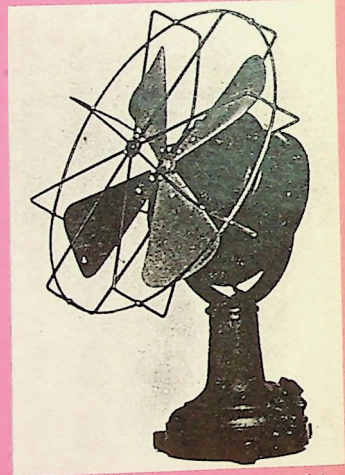
61 a



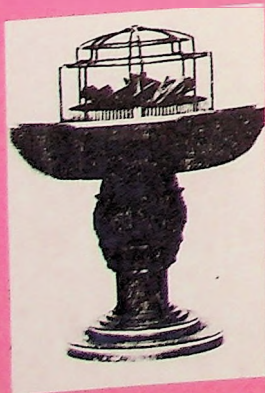
61 b



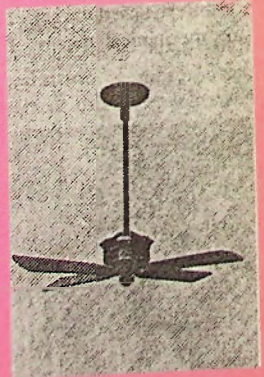
Behrens' redesign of 61c



61 c



Humidifier



61 d

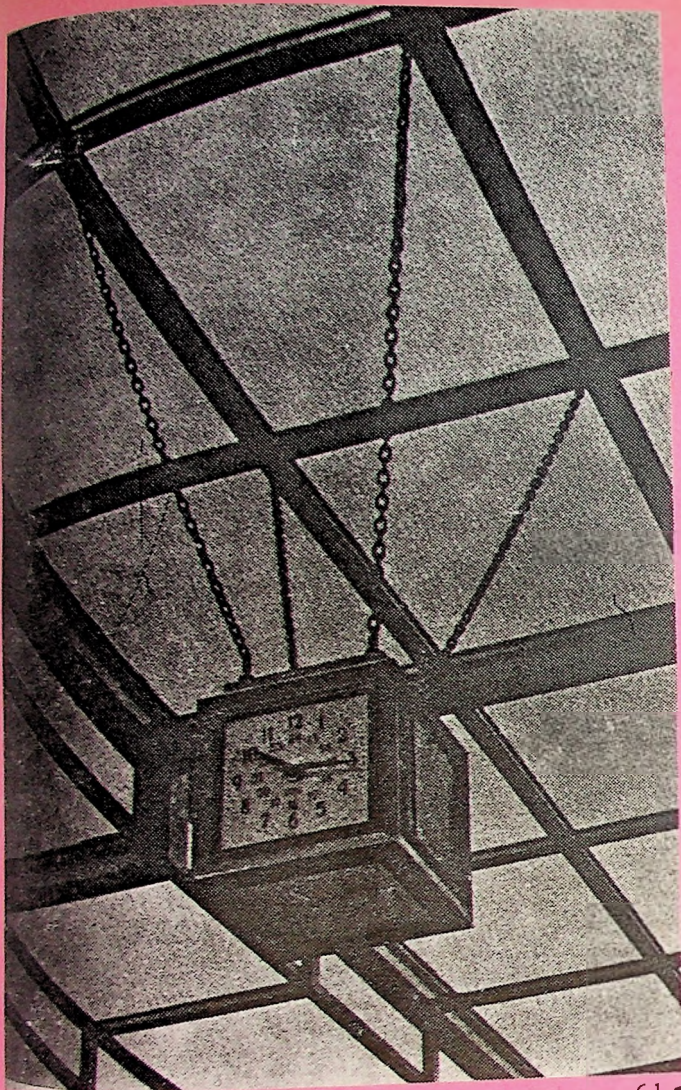
Was designed around 1925. A much earlier clock by Behrens, designed in 1910, was his pendulum clock (fig.62a) This was an electric master clock with a secondary pendulum. The housing and clock-face has been stripped of all ornamentation and Behrens removed the customary arrow-head pointers on the hands. The form of this clock is beautifully crisp and clean and looks good even today. Some of his other clocks of 1910 have an elegant, almost Art Deco feel about them

CONVECTOR HEATERS 1909

These designs were intended for a more expensive price range, being made from pinchbeck (zinc and copper alloy). These are ornamented but with geometric forms. The handles look as though they were hand-beaten. This also shows how the Arts and Crafts movement encouraged the love of apparent hand-finish still deeper in the general middle-class attitude. The following extract from a lecture by Behrens in 1910 explains this attitude :

"In the manufacture of simple appliances of less intrinsic importance, such as the components of an electrical installation, all obtrusive ornament should be avoided. Here, the intention should merely be to design them in such a way that their presence is neither disturbing nor offensive. However, objects that are installed in our direct surroundings, in rooms in which we live, may perhaps be permitted a rather more rich decoration. This is especially true when expensive materials are used, for the materials justify a discreet application of ornament. ... The ornament, therefore should always have a rather impersonal quality. Simple, geometric ornament comes nearest to this requirement."

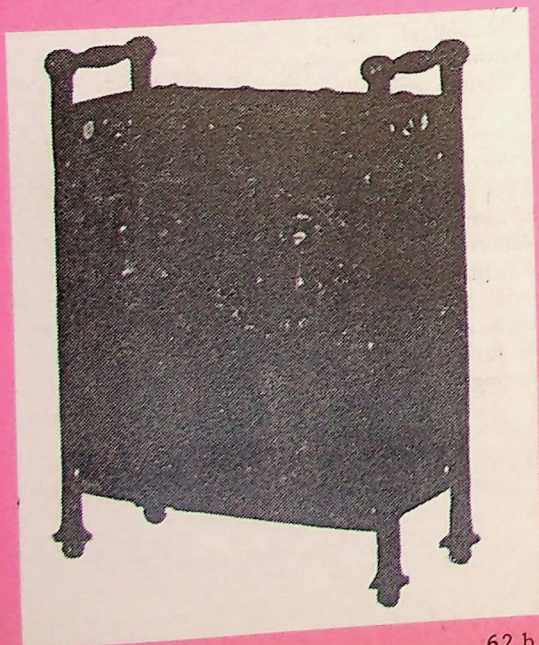
The reason for this type of design seems to lie in the fact that electricity was rare and very expensive at this time and Behrens' task was to design these products so that they would sell. People were less likely to be attracted by something totally without ornament especially when it was expensive and they were unused to using such simple forms and accepting them as they were. Behrens may have had a responsibility in 'educating the public' but he was also responsible for designing products which would sell. (fig.62b)



61 e



62 a

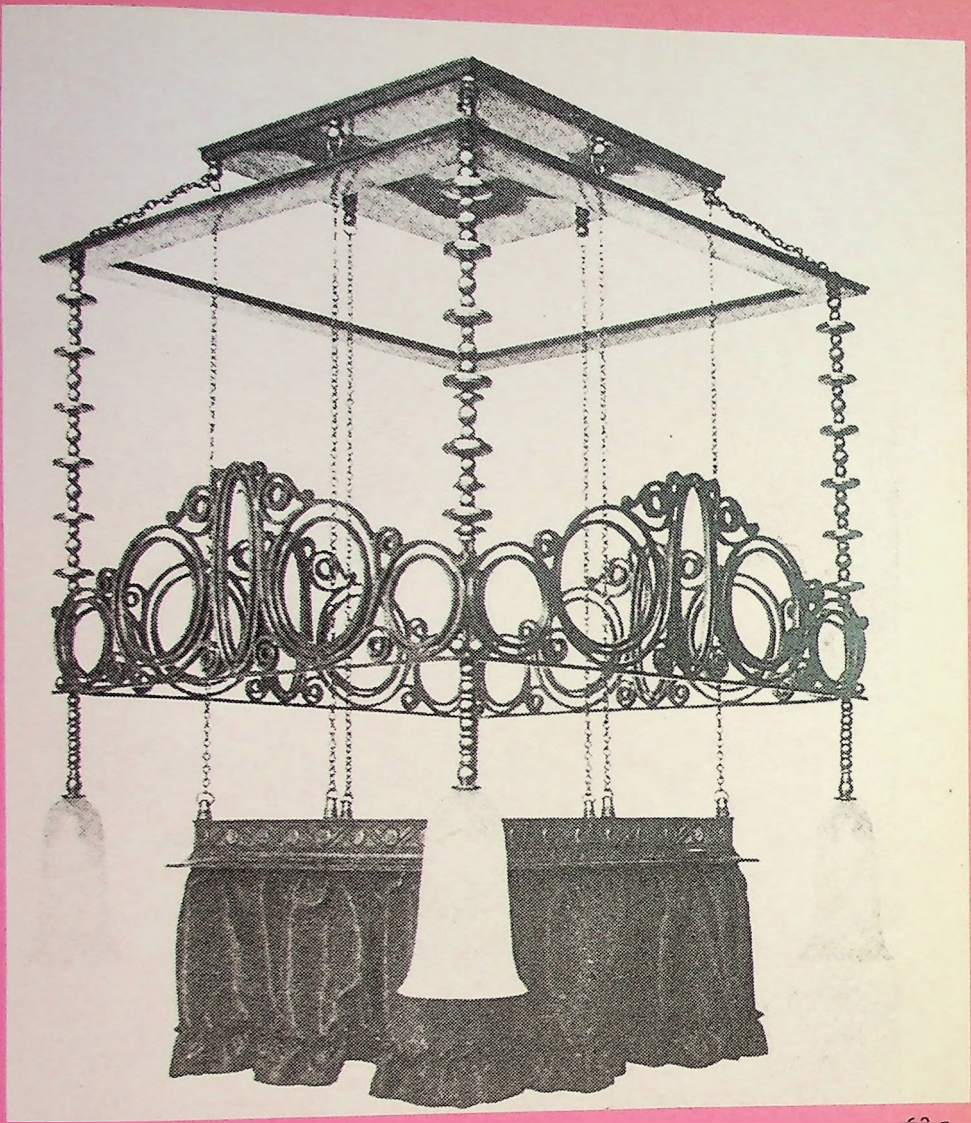


62 b

According to Burkhardt; "Under the veil of functionalism, Behrens tended to use the medium of beauty to overcome what they referred to as 'commercialism'." He then goes on to give an example of Behrens sometimes finding it difficult to distinguish between essence and decoration. This is shown by the light fitting (fig.63a) designed by Behrens at about the same time he designed the AEG arc lamps. It seems that this decorative art also remained a constant danger to other Werkbund members. When in 1914, Muthesius spoke in favour of standardisation, wishing to persuade the Werkbund to accept it as the 'Work of the Werkbund for the future' - this being the title of his lecture, and urged the movement towards industrial design, the protagonists within the Werkbund very strongly rejected his proposals.

The surprising aspect of this lamp by Behrens is that it appears to have been designed for his own home. It did not have to be decorated so that it may sell. This would almost point to the question of Behrens' own conviction towards designing for mass-production of products for domestic use. It is clear that he does accept it for industrial application products. Behrens' machine parts, switch panels and all control panels are purely functional and very well adapted for standardization and were very clear and easily read. Behrens' dental drill of 1908 (fig.63b) also very strong, clear and functional yet its form is good and proportions very pleasing.

Basically, the AEG products could be divided into three categories: (i) products that were indispensable for the functioning of other machines (meters, gauges, transformers, motors) (ii) products that had become essential to public life (street lighting, public transport, power plants) and (iii) products that brought convenience, ease and economy to the home and business (electric fans, household appliances, tools and lamps). Those included in (i) were purely functional and designed above all for the standardisation of as many parts as possible, and so that they may be as clear as possible. Those in (ii) also conformed to the above, but more attention was given to the aesthetics. Those in (iii) were given far more emphases on aesthetics and conforming with the decor of the house which was more ornate than the interior and surrounds that the products in (i) had to conform to.



When discussing design in 1909, Behrens stated that the "stabilization of the form by means of cladding was necessary where a sufficiently simple, calm appearance could not be achieved through the construction alone or where the construction was ugly". This statement has been seen as the foundation of all modern design. Behrens was citing a celebrated professor of engineering named Reidler when he recommended that "When a suitably simple and calm appearance cannot be achieved with the construction alone, then cladding should be used to give the simplest possible effect".

PFAFF SEWING MACHINE 1910

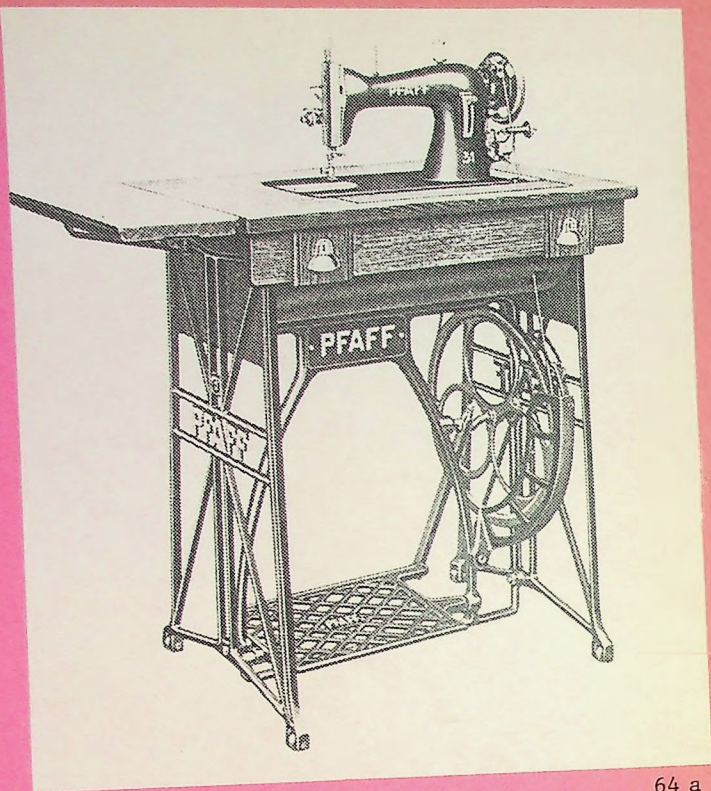
Behrens was also designing products for companies other than the AEG such as this sewing machine (fig.64a)

DIESEL-ELECTRIC LOCOMOTIVE

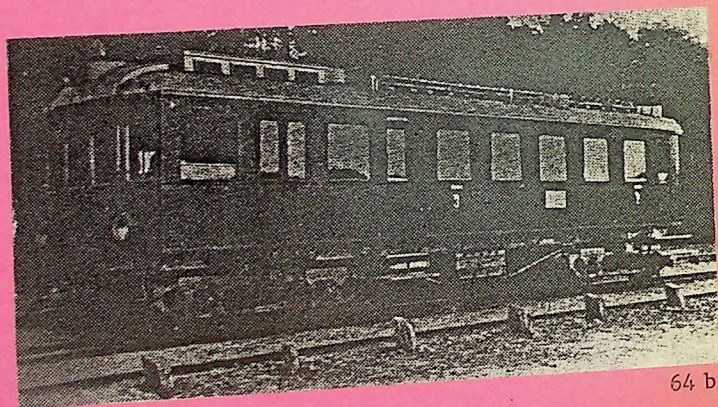
In 1914-15, the AEG developed a 90 horsepower diesel-electric locomotive (fig.64b) Behrens was responsible for the interior of the carriage. His carriages may be recognised by the rounded upper corners of the windows. The subdivision of the third-class compartments by panels was quite striking (fig.64c). These ran to half the height of the cars and made a marked contrast to the customary method of separating the compartments by roof-high partitions. In the absence of these partitions, a new place had to be found for the luggage racks. Behrens set them along the side walls above the windows. This helped to achieve an even stronger impression of spaciousness.

AEG HAIRDRIER

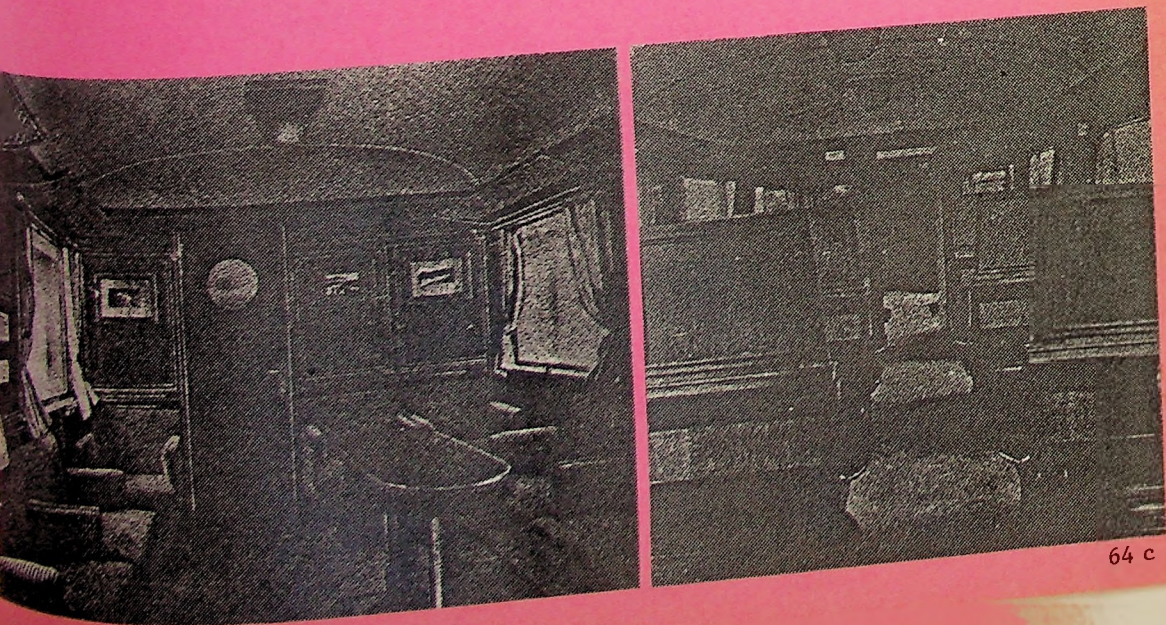
This hairdrier (fig.64d) was designed by Behrens in 1927. This is a very sophisticated looking product, only the handle gives away its possible age. It is very simple, elegant and expressive of its internal workings. It is clear that at this stage, Behrens had accepted the stripping of all ornament for domestic appliances. Here Behrens does not even attempt to conceal the screwheads.



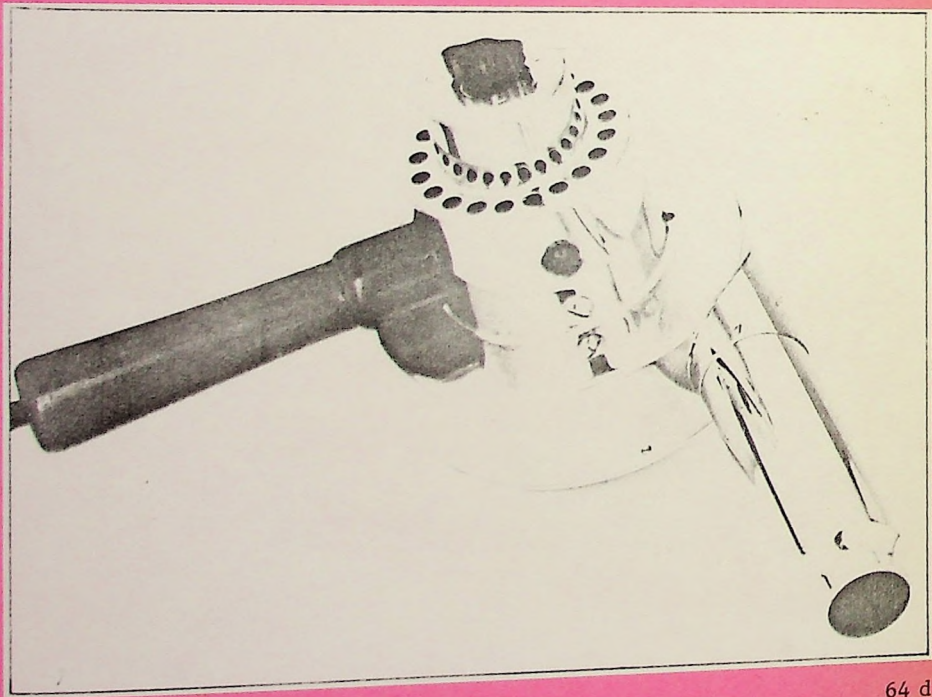
64 a



64 b



64 c



64 d

The following extracts from Behrens were written in 1910 and illustrate Behrens understanding and concern with the mutual isolation of art and technology:

"A certain modern school of aesthetic thought has promoted this misconception by wishing to derive artistic form from utilitarian function and technology. This view of art stems from the theories of Gottfried Semper, who defined the concept of style by demanding that the work of art should be the product first of its function and second of its materials and the tools and procedures involved. This theory comes from the middle of the last century, and should, like many others from this period, be seen as one of the dogmas of Positivism"

(P.Behrens 26.05.10)

But Behrens goes on to explain that in Semper's time products were badly manufactured in cheap materials and so were covered up by rich decoration.

"But these times are past, - Praise the Lord! and our industry is today capable of manufacturing technically perfect products. But even now, the standard of design can satisfy discriminating taste in only a few cases. I am convinced that this shortcoming cannot be overcome by instructing the manufacturers to keep only to the most functional forms. On the contrary, it seems to me much more important to try to understand the essential nature of art."

C O N C L U S I O N

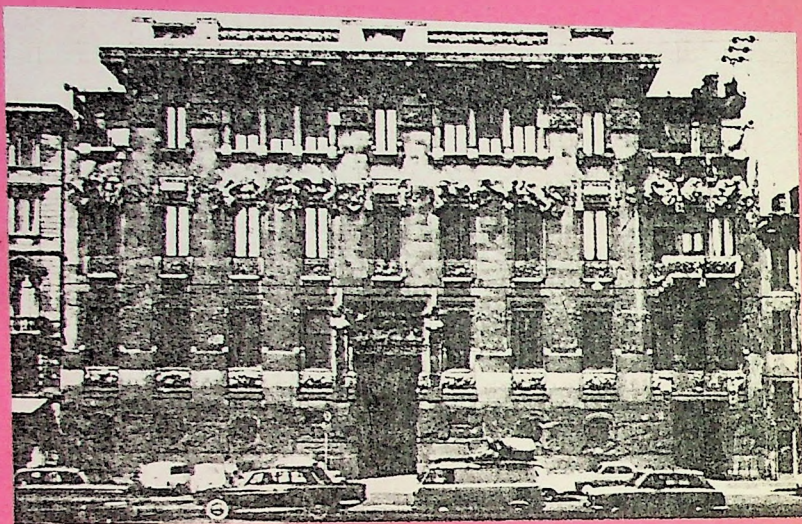
BEHRENS' EARLY WORK

At the turn of the century, Behrens' Jugendstil designs were well respected and his style of Art Nouveau was sometimes classified as 'Behrenstil'. Behrens was a disciple of Mackintosh, Voysey, Sullivan and Hoffmann and as time went on, he modernized what he had learned from them and adapted it to suit German taste. This is illustrated in 1902, when Behrens took part in the Turin Exhibition and in 1904, in the Dusseldorf exhibition. The most sophisticated cultural groups in the major cities were very sensitive to German influence. Behrens' work had a great reputation in Italy. The Italians were fascinated by his strict formality. All the Case de Fascio until the forties, with their red plaster walls and white travertine bands imitated Behrens' designs for the first decade of the century. His simplicity also affected Italy's three most important buildings of that period: Giuseppe Sommaruga's Palazzo Castiglioni (1903) (fig.66a), Ernesto Basile's addition to the Palazzo Montecitorio (1904-11) and Gaetano Moretti's Hydro electric power station. But Behrens, in turn, always respected and was influenced by the Italians' early, classical work.

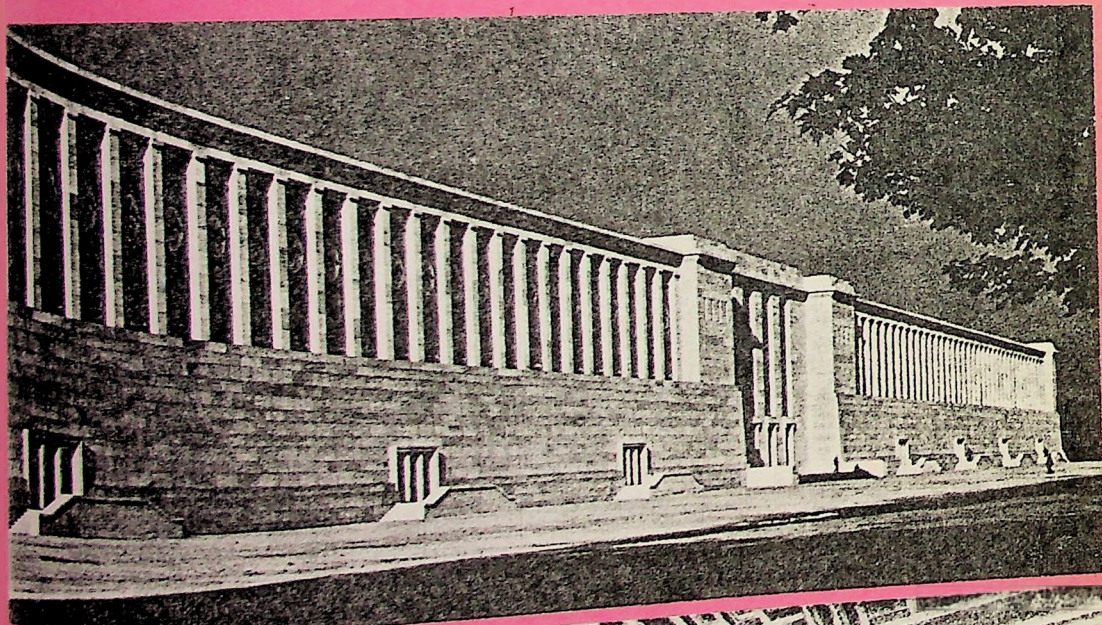
Centralized ground plans were part of the convention of exhibition pavilions in Germany. They were used above all by Behrens, to whom Bruno Taut was indebted in his early exercises in these buildings.

NEO-CLASSICISM

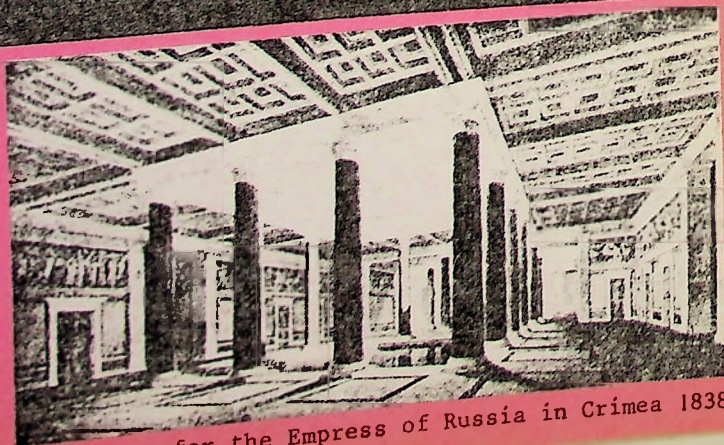
Karl Friederich Schinkel's shorn classicism had considerable influence over Behrens. Even more so than the other architects also influenced by Schinkel, those whose ideas appealed to the architecture of reason for their precedent and (Hoffman, Muthesius, Mies Van der Rohe and Wagner) to the age of taste. Ornament was considered abstract. To Behrens, as to Hoffman, ornament was a means to accentuate the play of light over the surface, a garnish for the essential geometrics.



66 a



Schinkel; Zeppelinfeld



Schinkel; Palace for the Empress of Russia in Crimea 1838

During the 1890s, Adolf Messel and Hoffmann dominated the architectural scene in Berlin. Parallel to Messel's and Hoffmann's usual preference for conventional 16th or 18th century models was Behrens' dependence on the Romantic Classicism of Schinkel. Behrens is considered 'Well to the artistic "left" of Messel and Hoffmann'. One of Messel's best known buildings; the Wertheim department store in Berlin (1904) is illustrated at (fig.29b). Messel was an eclectic in the sense that he continued to use and mix Gothic, Baroque and Neo Classical, but cleverly and sensitively adapted each style to the problem on hand. The biographers of Messel have described the part he played in the formulation of the Berlin Neo-Classical style but have also put forth the hypothesis (Karl Scheffler and Walter Behrendt 1911) that the contribution by Behrens was far greater than Messel himself. Behrens formulated the German Neo classical style in the sense that he made it into an artistic current of international dimensions and even perhaps a movement of the avant-garde.

In noting the similarities between Messel's Wertheim store and Behrens' small motors factory and turbine factory, G. Peschken and T.Heinisch (in 'The German Werkbund') write:

"By their proud and important solution, these two architects have found the appropriate form through which to express the great period of the German bourgeois high society. I think it was right that the great captains of industry took the power of the state. If they had not, then there would not be such a convincing form of building that could represent their own power."

This sounds more like the key to Facist architecture. Behrens' overbearing German Embassy in St.Petersburg was a favourite building of Adolf Hitler and provided Speer with a model for the colossal structures planned to celebrate the achievements of the third reich. When Hitler came to power, he promised that a "Larger Germany than anyone has ever seen will be built". This explains his preference for weighty Neo-classical, monumental architecture and Behrens' architecture.

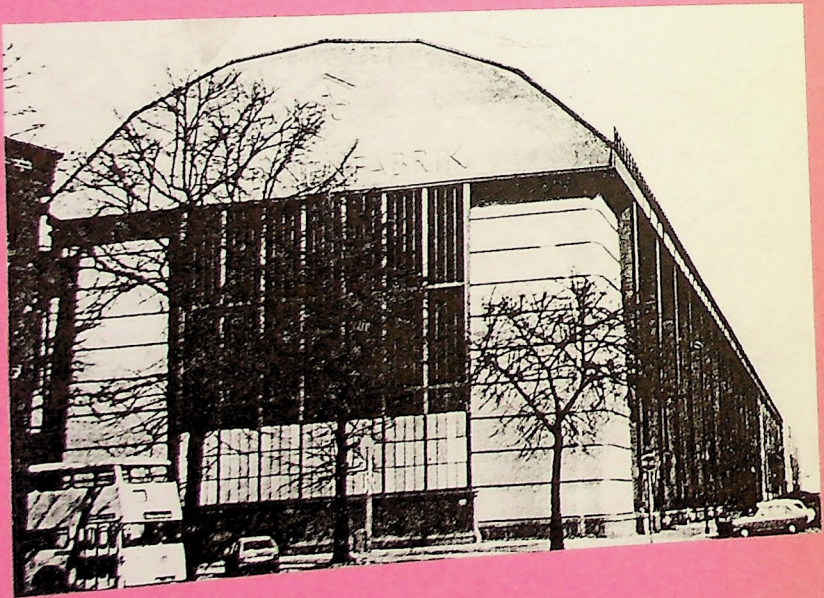
THE NEW' ARCHITECTURE

The most important developments leading to the New architecture consisted of an increasing appropriateness of form to function, the abandon of ornament derived from past styles, the use of materials with greater structural potentialities proved by modern industry, and the closer study of economic and social needs in relation to building. In some cases, the advance that their work shows was only a new consciousness of the architect's freedom to design than to imitate, or a new appreciation of simplicity and geometric form. This architecture was at last being applied to other than domestic buildings; to factories, hospitals and schools.

The influence of Behrens' factories of around 1910, was crucial to the next generation, and several of the later leaders actually worked in his office at the relevant periods (Gropius, Mies Van der Rohe and Le Corbusier). The turbine factory was an example of closed, smooth planes in recent metal construction as apposed to the old fashioned lattice-type of structure. This preference for such 'smooth, closed planes' was not only typical of the designs produced at the Bauhaus in the 1920s but remains a strong characteristic of the German approach to design today. It has been pointed out, by Alan Windsor, that the German Berlin busses which pass the Turbine factory "Possess an obvious family resemblance to Behrens' factory Building" (p.88) The long term significance of Behrens' Pre-war industrial architecture does not lie altogether in the buildings themselves. Behrens may be compared to Auguste Perret who brought a new material - concrete- within the accepted canons of architectural thought. Just as Behrens bought a new set of functional programmes within the accepted formal diciplines and of this, the turbine factory was the most illustrative demonstration.

DESIGN + CULTURE

Rayner Banham, in 'Design by Choice' believes that the Pioneer Masters of the Modern Movement were "Nowhere near an acceptance of machines, on their own terms or for their own sakes. They had committed



themselves to a Machine Aesthetic of some sort but still hung on to architecture as they understood it". He goes on to say that "Behrens' pre 1914 factories show this. They are a long step towards a mechanistic architecture, but remain, for all that, neo-classic temples in form and silhouette".

This is a rather harsh view of the Turbine hall. It is perhaps justified for some of Behrens' buildings, but not of the Turbine hall. In a sense, Riemerschmid and Behrens, were men willing to adapt to the realities of a world in which mass production and the machine posed a challenge to the designer. They could more justly claim to be progressive than artists like Gropius who supported a pseudomedieval cult of the crafts.

In contrast to Banham, C.Benton and D.Sharp, write:

"Simply by basing its designs on the elementary principles of techtonics, the AEG has set up buildings which are monuments of sovereign strength, commanding their surroundings with truly classical grandeur and which no-one can pass without being emotionally involved. This was an event which set an example for industry as a whole and others lost no time in following suit".

These factory buildings "Convey the impression of coherent architecture which has at last discovered the right dress for the life-style of the times and firmly rejects the romantic residue of past styles as cowardly and unreal".

(from 'Form + Function' p.54)

This last sentence is not entirely true; many of these architects had a very slight classical feeling to their work - even if only in the proportions.

One can not help feeling that Behrens never lost his Romantic values. One of the keys to Behrens' work is in the romantic attitude found on his essay on the theatre written in 1900. The passion for building theatres dates back to the years well before the first World War. For Behrens, the theatre was the "Highest symbol of civilization". In 1896, there were 302 permanent theatre buildings in Europe and by 1926, there

were 2499! Behrens essay was titled 'The Stage: a Festival of Life'. It was a description of an ideal festival theatre and a rhetorical statement of his vision of life as a kind of artistic ritual. His theatre was never realized but Behrens never let go completely of his romantic ideals. Because Behrens was on the 'Rationalist Side' of the Werkbund, he has been classified with the Neue Sachlichkeit, but Behrens never really belonged to the Neue Sachlichkeit. Even in designing products - his lamps and humidifiers are of classical proportions although stripped of all ornamentation. ('Romantic' does not necessarily refer to recalling of past styles). Yet his switches and dials and parts of machines were very functional. Behrens did not try to impose 'Romanticism' on these objects. AEG factory machinery and parts were purely functional and so were treated as such, but convector heaters had to be made to look as though they ought to be in the room and not just a box of no value, so they were decorated - with restrained geometric reliefs.

But Behrens did not ignore function. His first office block - the Mannesmann, was designed around the required room and movement of the office workers; he practiced ergonomics. When designing the workers housing in Silesia at Neusalz, he canvassed the opinions of the prospective inhabitants. For Behrens, both form and function went hand in hand. About the seriousness of the product or building dictated which would be uppermost. For instance, Behrens had great freedom in designing his exhibition buildings, here the function allowed an unlimited variation in the form and Behrens treated them so. He made the most of the forms and often turned them into exercises in geometry and proportion.

According to P. Morton Shand, "His ultimate is that just as nature is nothing without culture, or culture without nature, so architecture remains a negation unless it achieves a fusion of culture and construction. Behrens himself said: "Only problems interest me. I leave obvious solutions to others". Here, Behrens inspiration by 19th century engineers is illustrated.

EXPRESSIONIST 'HICCUP'

In 1907, Behrens' original intention had been to free the individual from the formless, anarchic materialism of manufacturing industry by creating an atmosphere in which good taste and design would flourish. But what seemed to happen was that, with the spread of standardization and anonymity in the world of technology and industry, the means were developed for a new bondage of the individual. As early as April 1914, Max Brod commented that:

"The application of rational and seemingly rational measures has been so terribly overrated that we want now in our bad conscience to sate our spirits with a gluttenous glory of irrationalism."

In 1919, at the Werkbund conference at Stuttgart, the bourgeoisie artists shouted to go "Back to art as craftsmanship!" In 1920, Behrens was forced to acknowledge 'the collapse of a technically and economically advanced civilization'. So when, in 1922, Behrens designed the Hoechst building and the Dombauhutte Chapel, he was showing his refusal to admit that the romantic element in architecture had suffered a final eclipse.

The special manner of architecture based on industrial building is perhaps primarily of Behrens' creation. But to this manner also belong not only Poelzig, but many others such as Fahrenkamp, Albinmuller, Salvisberg and Kreis. The Expressionists in general and such a younger man as Erich Mendelsohn, were very influenced by Behrens, especially in their best work.

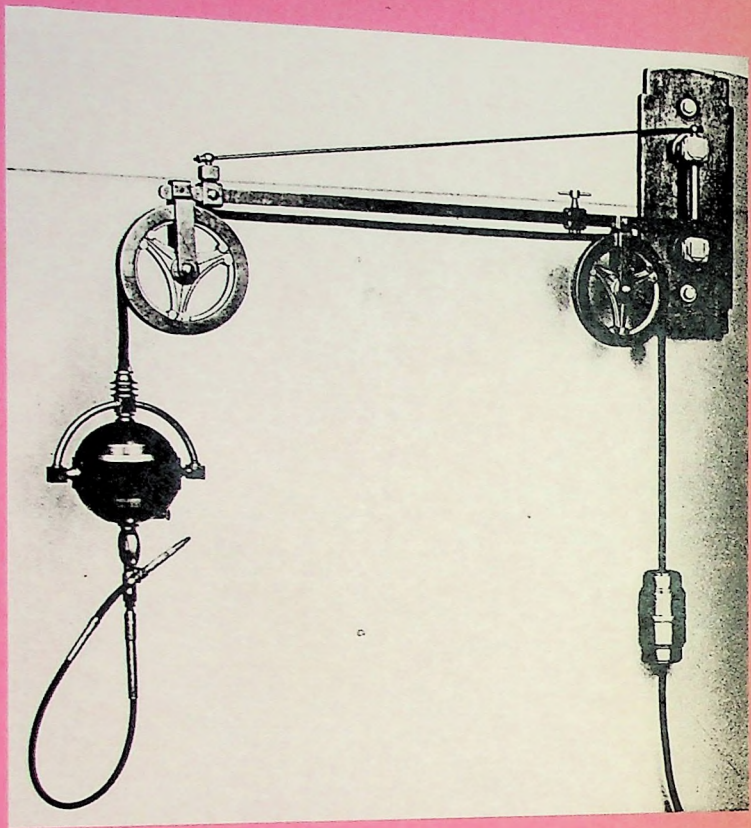
After Behrens' Expressionist phase, his work was near to the Art Deco style, whereas the future of the Werkbund was to be nearer to the Neue Sachlichkeit movement.

COLOUR

An interesting point about Behrens' work which is rarely mentioned was his use of colour. He used colour to the advantage of the building or product. The most memorable use was in the Frankfurt Gasworks. Here Behrens colour-coded the buildings in order to draw a distinction between the domestic and industrial use of each one. The colouring was shown in the glazed brickwork of the buildings. When Behrens was re-designing the arc-lamps, he changed the colour to green with bronze details from the usual black. The Small Motors Factory of 1909 was built in a purplish-blue engineering brick. The metalwork at the windows is painted in a strong light blue. Behrens also used colour to emphasize the light coming through the crystalline skylight in the ceiling of the Hoechst Hall. The row of bricks at the top were coloured the lightest and brightest yellow; from there on, the colour deepened and descended in the order of the spectrum until the ground floor columns were coloured from green to blue at either side.

An important point about Behrens' work was that the general 'attitude' of the building or product was dictated by the seriousness of the object. This has already been mentioned with regard to his exhibition buildings in comparison to his offices. It also applies to his products; compare his dental drill (fig.72a) to his electric fires. The drill is purely functional, its form is dictated by its function and it is a serious piece of equipment. The fire, on the other hand, is only dictated by its function and it is a serious piece of equipment. The fire, on the other hand, is only dictated by the fact that it must act as a cover, it has holes in its case to let out the warm air, and more importantly, it was a luxury product. At that time, particularly, an electric fire was the height of luxury, therefore not a 'serious' object and so could be ornamented, Behrens also mentioned that the use of an expensive material could warrant the use of ornament.

Behrens was innovatory in many ways. His eagerness to use new materials. His use of ergonomics in areas not previously used was also important, particularly in his building, this is probably due to his being a self-taught architect. Behrens was also instrumental in giving three of the most renowned European architects of the early half of this

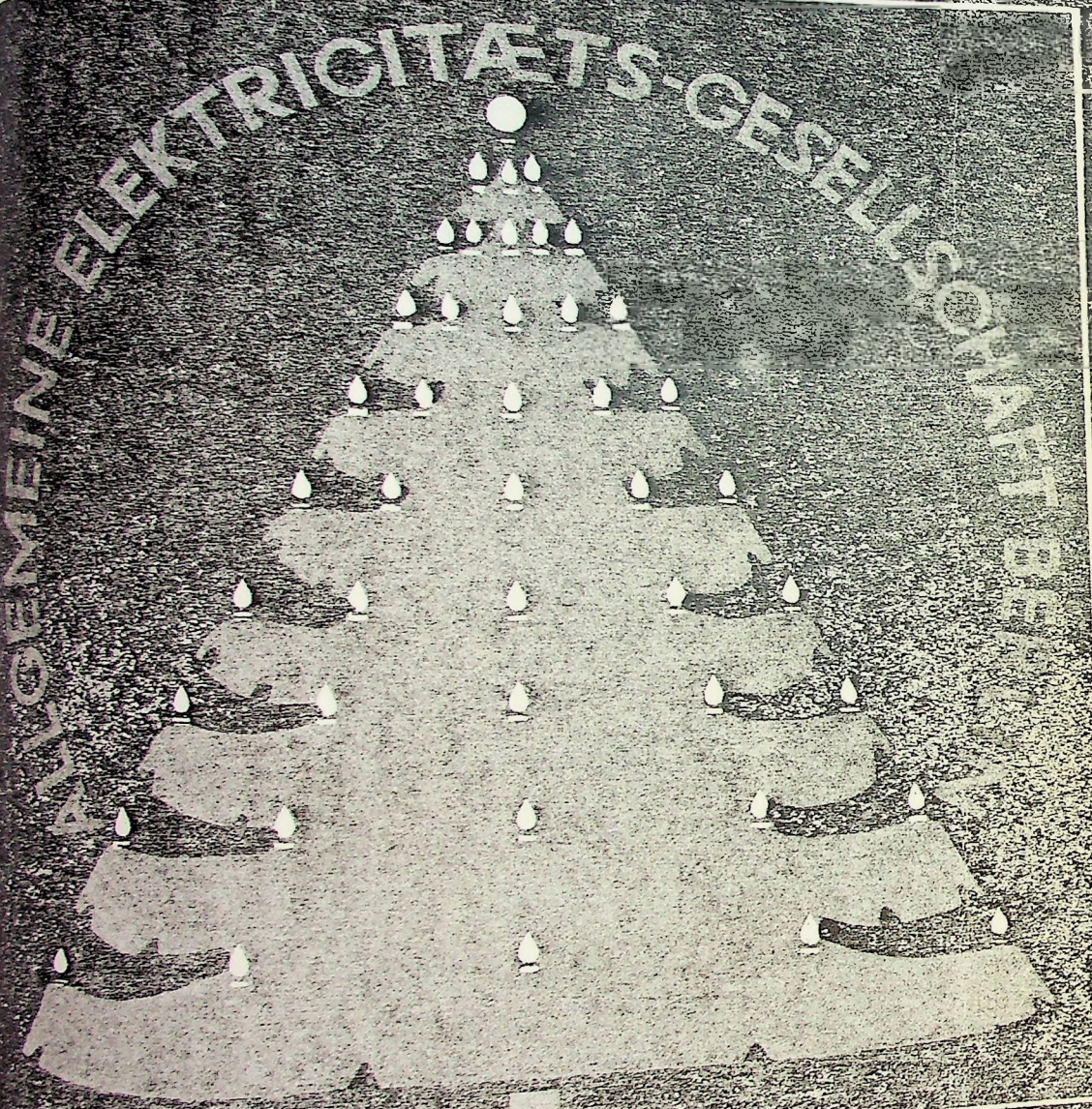


72 a

century a basic foundation to work from, and he certainly influenced their later work. Behrens was innovatory in the education field. He was teaching at Dusseldorf, Vienna and Berlin using many of the techniques that Gropius was later to use in the Bauhaus. Behrens was very much involved in the Bauhaus at its early stages and represented the Werkbund in many instances. He was also the director and co-ordinator of many exhibitions, besides designing pavilions, concert halls etc for them.

For somebody who began his career as an artist designed his first building, self-taught, at the age of 32, he led an admirably progressive and industrious life. He was involved in an influential level in many projects, movements, exhibitions, products, and in education. He designed posters, products, buildings, suspension bridges, train carriages, housing for 'the Masses', interiors, clothing, and letter-boxes for the German Post Office and influenced the type of architecture used during Hitler's time. Behrens could, in a sense, be considered to be one of the forerunners of design as we practice today. With his 'smooth closed planes' he influenced Gropius and the Bauhaus in the styles that we see all around us today. Many of Behrens' large number of works that have survived are still serving their original purpose today. This is true of the advertising graphics and, in spite of the war, the factories.

One can not help wondering how Behrens managed to tackle so much work, always trying new areas and doing them so well.



ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT
AG

Christbaumbeleuchtung
mit elektrischen Lampen
überzählige Lampen
Einfachmontage keine Gefahr

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