

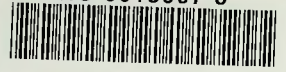
DESIGN CO-ORDINATION

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' DESIGN CO-ORDINATION '

- Design Co-ordination within the Corporate Structure

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1. INTRODUCTION

When things were produced one at a time by craft methods, design in general was not separate from the rest of the skills of the Craftsman. It became important as a distinct activity with the growth of quantity production by machine methods. The product was then no longer under the control of one craftsman and had to be planned and visualized in advance by the designer.

A new situation is arising with the rapid growth of the corporation as a source of power and centre of control. The dominance of the market is being dictated by the corporate producing organization. Just as the growth of industry necessitated industrial design as a separate activity, so now the growth of the corporation necessitates corporate design, that is to say design in the context of a specific corporation. The scope of design is therefore enlarged to take in a higher level of activity: co-ordinating the results of design at the former level.

A corporation controls a wide range of things of which the appearance is, or could be, affected by design. Industrial design, in the ordinary sense can ensure that each of these in isolation has a good appearance. But further effort is needed to co-ordinate the many separate items all belonging to the one corporation, to achieve coherent and controlled results over a long period. This is what we understand as design co-ordination.

What I shall be looking at in this dissertation will be a number of examples of companies with strong design policies; their intentions when starting, how this affected their design philosophy and how this philosophy has been maintained or discontinued throughout the company's life, with reference to the designed products themselves.

2. THE BEGINNINGS OF DESIGN CO-ORDINATION.

PETER BEHRENS & THE AEG. 1883 -1912.

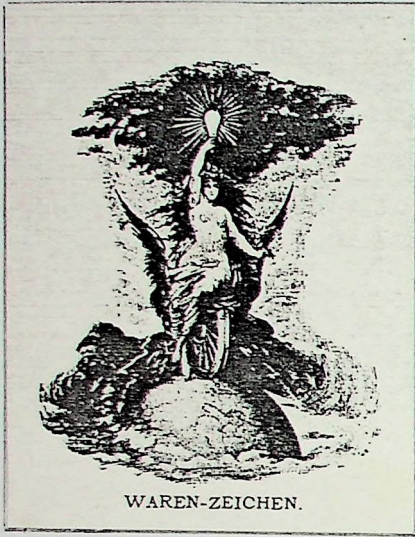
Originally established by Emil Rathenau in 1883 as the Deutsch Edison Gesellschaft, the company changed its name in 1887 to AEG and expanded at an unprecedented rate over the following quarter century. By the time Behrens took appointment in 1907, the AEG had a capital value exceeding 100 million marks and employed some 70,000 people. Its sales listed hundreds of different products, ranging from light switches to giant turbines, manufactured in factories located in and around Berlin.

After January 1894 AEG used the so-called "Goddess of Light" as its trademark

"With flowing tresses she sits sideways on a winged wheel. Her right foot rests on a globe, which emerges through the clouds in a profusion of lightning flashes. With her right hand she raises a glowing light bulb into the night sky. Compared with the bulb, the stars and the narrow crescent of the moon give out only a meagre glimmer of light" (Industriekultur, 1984)

In adopting the "Goddess of Light" Emil Rathenau followed the widespread tendency of industrialists to proclaim aims, technological advancements and dynamic power in mythological terms. Further examples of this use of naturalistic symbolism can be found in the Carlsberg Brewery's attempt to link its beer with Ceres, the goddess of grain and the Berliner Elektrizitätswerk which decorated a company publication in 1897 with a drawing of a dynamo inhabited by a female figure wrapped in a coil of wire. According to mythology, steam power was created in Hades by giants with long beards; electric power, by innocent maidens.

Avant Garde Jugendstil defined industry's second attempt to portray its own image; naturalistic symbolism was abandoned. By commissioning Otto Eckmann, a leading Jugendstil artist, to design its contributions to the Paris World Exhibition, AEG acknowledged a direct relationship between its own work and the work of the Avant Garde. Among Eckmann's



4. "THE GODDESS OF LIGHT" TRADEMARK USED BY THE AEG AFTER 1894.



5. LUDWIG SUTTERLIN, "DYNAMO" 1897.

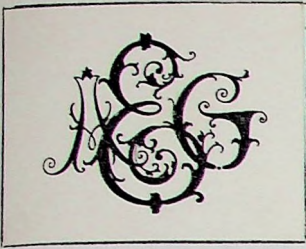
designs for the AEG was a new trademark which first appeared in gold mosaic on the portal on the Brunnenstrasse. Eckmann designed his own typeface 'Eckmannschriff' - one of the first modern typefaces of the 20th century - he used the three new initials in the design of the AEG logo. The characteristic Jugendstil curves he uses in his typeface are of a more personalised nature and bear no relationship with technology. However, this close co-operation between AEG and the Avant Garde opened the way for a more compatible partner in Peter Behrens.

Paul Jordan (Company Director) initiated Behrens appointment: "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". On an expanding basis, Behrens was commissioned to redesign the company's buildings, products and publicity material, from the celebrated Turbine Hall right down to tiny publicity seals.

"The AEG factories... stand for the apollonian element in Nietzsche's writings, representing the heroic, solemn and serious longing to transcend human limitations through art. In this particular instance, human frailty had expressed itself in the confusion and inhumanity of industrial production. Behren's AEG factories represent the first and perhaps most successful attempt to ennoble the industrial process via the means at an artist's disposal, such as scale, sequence, proportion, rhythm, light, shade and the play of materials"

(Tilman Buddensieg Industriekultur)

By employing Behren's talents to create a corporate image AEG introduced the visual arts as a constructive tool in the industrial process. Behrens designed the factories not only to increase production directly through careful layout and in sympathy with the tasks to be undertaken within, but to minimise discontent among the company's employees. Similarly, the design of workers housing was a means of ensuring a productive and loyal workforce. With well designed products being manufactured at maximum output in modern factories by content employees, the company would be in a stronger commercial position.



1. AEG LOGOTYPE BEFORE OTTO ECKMANN'S DESIGN OF 1899.
2. OTTO ECKMANN, PUBLICITY CARD FOR AEG LIGHT BULBS, 1899 - 1900,
DEMONSTRATING THE 'ECKMANNSSCHRIF'.



3. PETER BEHRENS, AEG LOGOTYPE, 1908.

By combining design expertise and technical know-how in exploiting home and foreign markets AEG put into practise one of the founding tenets of the Deutscher Werkbund : "Art is not only an aesthetic but also a moral force, the two together ultimately lead to the most important power of all - economic power." In many ways, the design policy pursued by AEG under the guidance of Behrens was a practical demonstration of the Werkbund Programme as it was developed between 1907 and 1914.

In describing the 'Industriekunst' of the future, Behrens proclaimed the end of traditional ornament, materials and craftsmanship. Instead of forcing new, mechanical appliances to conform to the formal and decorative motifs of their handbuilt predecessors, Behrens sought to give them a form appropriate to their function and means of production.

According to Joseph August Lux of "Die neue Zeit" (magazine of German Social Democratic Party) :

"Works of art cannot be manufactured and duplicated en masse. The task of industry is not to produce art, ... but rather to promote good taste... practical considerations demand that the artist who works for industry should produce unadorned, correct designs that achieve their effect simply through good proportions and an enhanced sense of function".

By designing these appliances simple and undecorated, Behrens freed them from the social-status connotations of exclusiveness. Using colour and form as his aesthetic means, he opened the way for domestic use and mass consumption of electric machines, tools, switches, fans and kitchen equipment.

On entering AEG Behrens identified his task in the redesign of AEG's products.

- There must be no copying of handcraftsmanship, historical styles or other materials.
- Mechanized production methods should not be denied, but rather stressed and implemented exactly.
- The clear construction of rational forms in the appropriate materials was not an end in itself, but an artistic affirmation of technical

- The firm should aim to portray itself visually in the formal expression of the standardization of all its products.
- A fundamental equivalence should be established between the design process appropriate to technical products and architectural design.
- If a product showed "clear construction, appropriate materials, and graceful beauty", then it would transcend mere functional value and would radiate the appeal of all perfectly fashioned objects.

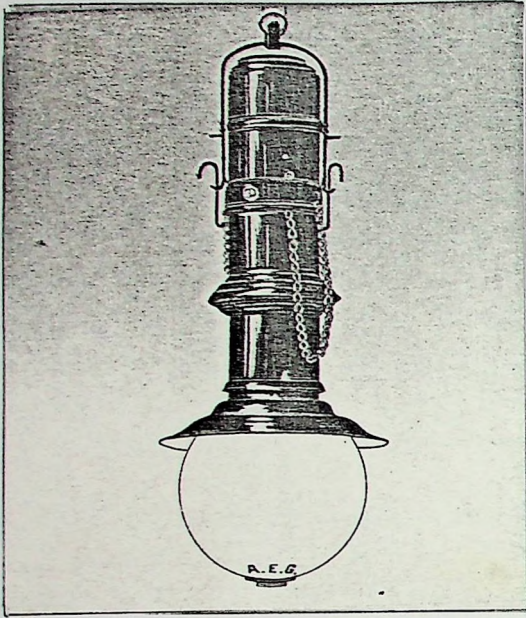
Before 1907 the exterior housings of AEG products had been left to the taste of the different Werkmeister (foremen) in charge of each section of the factory. By now, due to increased competition companies were asking themselves what influence the appearance of products by a particular company had on sales, especially when the competing products were of equal technical quality.

AEG produced three categories of products:

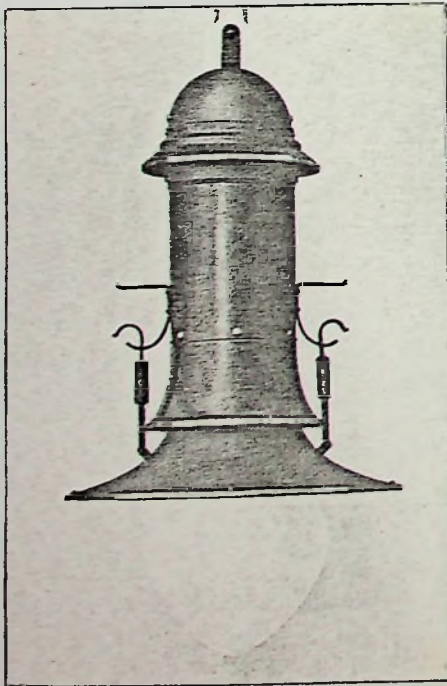
- 1 Indispensables for the functioning of other machines.(motors, transformers, gauges)
- 2 Essential public facilities. (street lighting, public transport)
- 3 Home and Business convenience appliances.(electric fans, household appliances, lamps, tools)

In the third category, the problem of motivating the buyer had a considerable influence on the volume of sales. The importance of advertising, packaging and design were becoming all important in swaying customers' opinions and strengthening their perception of a company.

Behren's first product designs for AEG were a series of hanging arc lamps for indirect lighting in 1907. The inner workings of the lamp remained unaltered, the redesign consisting of a simplification in the form. The form of the earlier model consisted of numerous unnecessary mouldings and grooves which gave an unresolved appearance. In the redesign, Behrens successfully integrated the functional components, such as reflector, cover for the regulator and metal clamps for opening the lamp into a clear, harmonious form. The curves in the concave reflector are matched by the slight concave on the main lever, thereby integrating the two forms visually whilst the two components retain their distinct identities. The semi spherical "cap" in the redesign rounds off the form at the top, maintaining its separateness through the perforated band at the top of the cylindrical regulator housing.



6. PROSPECTUS FOR HIGH DENSITY ARC LAMP PRODUCED BY THE AEG, 1907.



7. PETER BEHRENS, HIGH DENSITY ARC LAMP, 1908.

Behrens believed that "in addition to the functional and material worth of an object, there existed another important value, namely the pleasure which it gives". By integrating the visual character of each component into a visual whole, in other words "styling", he strove after "rhythmic clarification, proportional purity, and a strengthening of the sculptural forms".

(Tilman Buddensieg "Industriekultur")

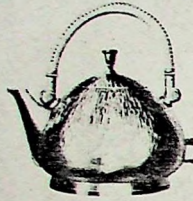
In his attempts to establish aesthetic standards within industrially produced products Behrens did not look to craftsmanship for inspiration, but to the logic of the series and the system. The electric kettles, designed by Behrens in 1909 are one of the first examples of integrating product types into a unified, planned system, allowing for numerous variations on the same theme for individual taste.

"Thirty variations were offered, although many more were theoretically possible. Dolivo-Dobronolsky's law of production, which stated that the variability of a series should stand in an inverse relation to the standardization of the component parts, was exactly adhered to, and a calculated balance was struck among the relative freedom of design, the formal autonomy of the kettles, and the limited number of identical elements used. (Tilman Buddensieg 'Industriekultur')

The existing kettle models produced by AEG which were similar to traditional kettles before electrification, were characterized by thin handles, no evident base for stability and a combination of spouts and bodies more identifiable with watering cans than a household appliance. In the redesign, semicircular or square shaped woven cane handles were fixed directly onto the sloping face of the kettle between the body and the lid so that no screws or rivets spoiled the streamlined appearance. The kettle was given a separate base plate for stability and the large spout ensured accurate pouring. This basic form became a model for electric kettle design for many years to come. The range came in three basic forms, round, oval and octagonal supplied in three materials (brass, nickel plated brass, and copper-plated brass), three finishes (smooth, hammered and grooved) and three sizes ($\frac{3}{4}$, $1\frac{1}{4}$ & $1\frac{3}{4}$ litres) suited to any individual's preference.

ELEKTRISCHE TEE- UND WASSERKESSEL

NACH ENTWORFEN VON PROF. PETER BEHRENS



Messing vernickelt, streifenartig gehämmert
runde Form

PL. Nr.	Inhalt ca. l	Gewicht ca. kg	Preis Mk.
3581	0,75	0,75	19,-
3591	1,25	1,0	22,-
3601	1,75	1,1	24,-

Kupfer streifenartig gehämmert
runde Form

PL. Nr.	Inhalt ca. l	Gewicht ca. kg	Preis Mk.
3584	0,75	0,75	20,-
3594	1,25	1,0	24,-
3604	1,75	1,1	26,-

Messing streifenartig gehämmert
runde Form

PL. Nr.	Inhalt ca. l	Gewicht ca. kg	Preis Mk.
3582	0,75	0,75	19,-
3592	1,25	1,0	24,-
3602	1,75	1,1	25,-

ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT

ABT. HEIZAPPARATE

ELEKTRISCHE TEE- UND WASSERKESSEL

NACH ENTWORFEN VON PROF. PETER BEHRENS



Messing glatt, matt
achteckige Form

PL. Nr.	Inhalt ca. l	Gewicht ca. kg	Preis Mk.
3588	0,75	1,75	20,-
3598	1,25	1,0	22,-
3608	1,75	1,1	24,-

Kupfer flockig gehämmert
achteckige Form

PL. Nr.	Inhalt ca. l	Gewicht ca. kg	Preis Mk.
3589	0,75	0,75	22,-
3599	1,25	1,0	24,-
3609	1,75	1,1	26,-

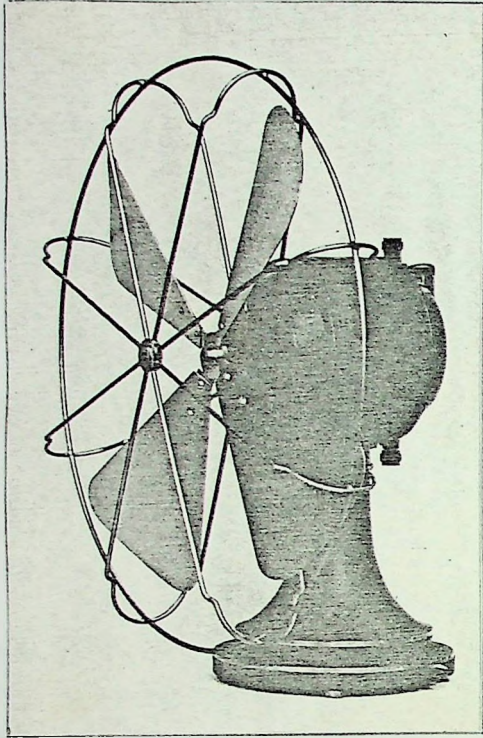
Messing vernickelt, glatt
achteckige Form

PL. Nr.	Inhalt ca. l	Gewicht ca. kg	Preis Mk.
3587	0,75	0,75	19,-
3597	1,25	1,0	22,-
3607	1,75	1,1	23,-

ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT

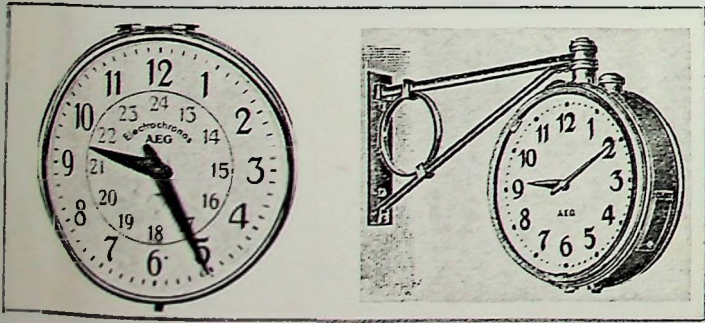
ABT. HEIZAPPARATE

Behrens went on to design many other notable products for AEG including slave clocks in 1910 with a modern typeface, an electric fire in 1909 which was very expressive of the heat source and numerous electric fans of refined quality, with strict adherence to the principles laid down by the company's design policy. The example shown by Behrens at the AEG in realising the co-ordinated design policy of the AEG paved the way for the implementation by other manufacturing companies of structured design policies of their own.

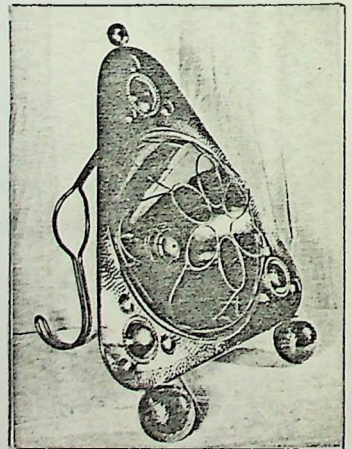


9. ELECTRIC TABLE FAN PRODUCED BY THE AEG BEFORE BEHRENS ARRIVAL
IN 1908.

10. ELECTRIC TABLE FAN, PETER BEHRENS, 1909.



11. SYNCHRON CLOCK & OUTDOOR CLOCK, PETER BEHRENS, 1910.



12. ELECTRIC FIRE, PETER BEHRENS, 1909.

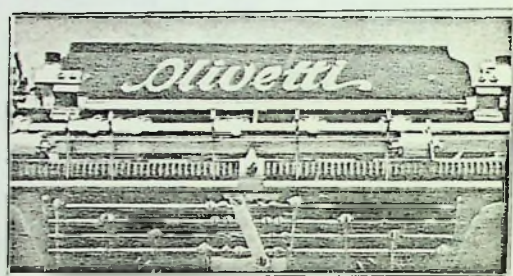
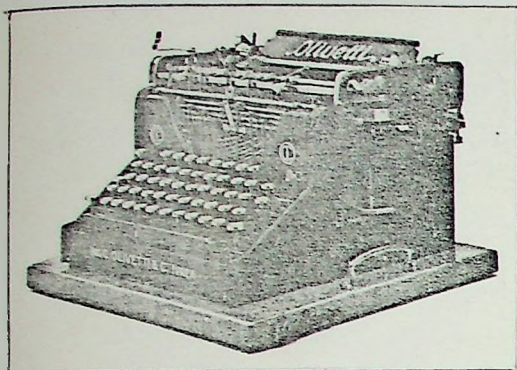
3. THE ENVIRONMENTAL APPROACH

OLIVETTI 1908 - 1988

When Camillo Olivetti created the Olivetti company in 1908 it was in a background of an agricultural based Italian economy, with none of the tradition of mechanical industry that had transformed Great Britain and Germany in the 19th century. As distinct from other companies discussed in this essay which were founded in industrially advanced nations it did not have the advantages of proximity to raw materials, market and an industrial based workforce common to its competitors in America, Great Britain and Germany. On the other hand, it had avoided the social problems and 'fast buck' philosophy common to more industrially advanced nations since the Industrial Revolution. There was thus a chance to create a new culture in industry with an inbuilt moral obligation to its consumers.

Camillo Olivetti was primarily an entrepreneur and a planner, who combined a belief in capitalism with a strict social responsibility to the community. Trained as an engineer, he visited a number of factories in the US in 1908 in order to formulate his ideas for a typewriter factory in his native town of Ivrea, north of Turin. Through his letters from this period he shows his enthusiasm for the elegance of form shown in american typewriters of the time. In his first model, the M1, which he himself designed, he created a machine of similar visual appearance to current american models, yet combined with an attempt to simplify the components into a more coherent form. At this time typewriter technology was still in its infancy and the mechanisms in view are still numerous and more juxtaposed than coordinated. Commenting on the M1 design, Camillo noted the following: "A typewriter should not be a geegaw (gaudy trifle) for the drawing room, ornate or in questionable taste, it should have an appearance that is serious and elegant at the same time"

Here, Camillo clearly outlines his distaste for the cladding of technical instruments with the ornamentation devoid of any meaning to the function of the instrument other than as a piece of furniture.



14. M1 TYPEWRITER, DESIGNED & MANUFACTURED BY ADRIANO OLIVETTI, 1909.



15. M20 TYPEWRITER, ADRIANO OLIVETTI, 1920.

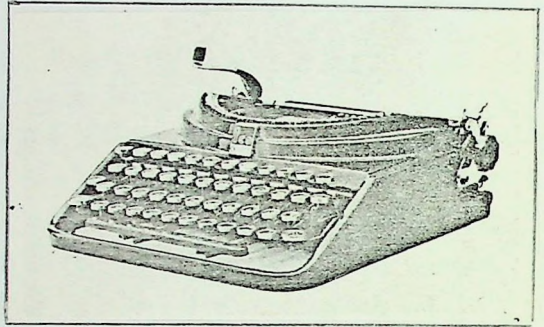
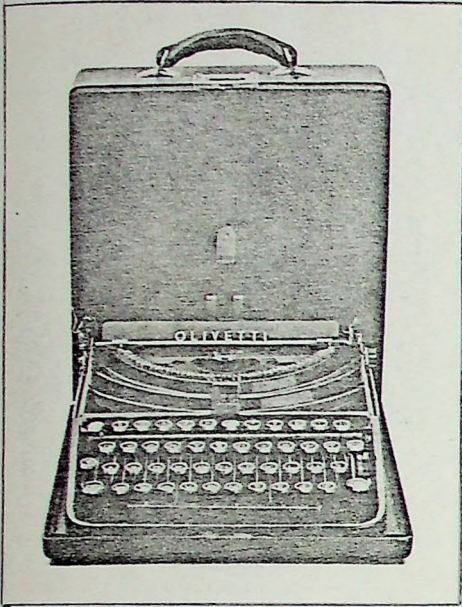
16. M40 TYPEWRITER, DESIGNED BY ADRIANO OLIVETTI, IN COLLABORATION
WITH DOMENICO BURZIO & GINO MARTINOLI, 1930.

He combines this opinion with a realisation that the aesthetic sensibilities and convenience needs of the consumers should be acknowledged in the design of each product. This policy of combining user convenience with visual simplification of forms as technology allows can be seen to have been borne out in reality in the development of the M1, through the M20 in 1920 to the M40 produced in 1930.

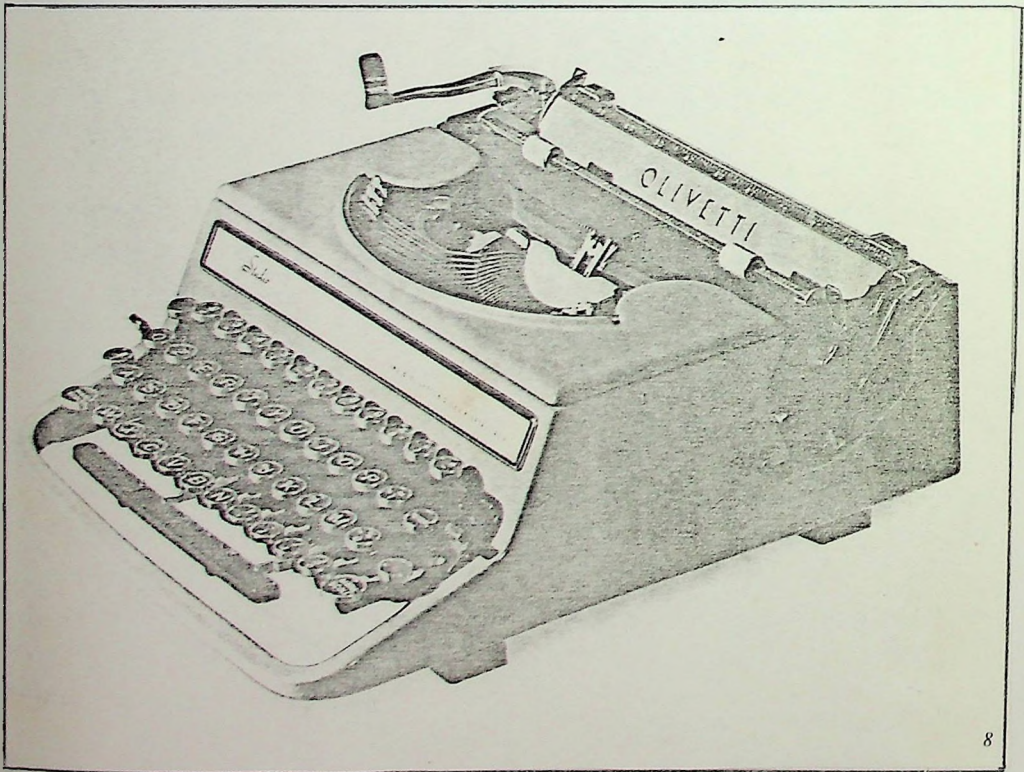
In the M20 the congested mechanisms in full view in the M1 have been encased in the now perforated flanks of the upper back portion of the machine which gives the model a more evident geometric form. Technical renovation of the mechanisms in the M40 has allowed the auto margin stop mechanism to be moved further back in the carriage allowing a continuous curved line to run from one end of the machine to the other along the 'basket' of the typebars. The height and width of the front frame has been minimised and the entire machine tilted forward to allow for more ergonomic use of the machine. The carriage control lever has also been extended and formed in a more user oriented fashion. For more expert advice, Camillo employed designers Domenico Burzio and Gino Martinoli in order to visualize his dreams of the ideal typewriter.

In 1932 Olivetti produced its first portable typewriter, the MP1. Designed by Aldo Magnelli, its sleek, compact appearance and body acting as a cloak over the inner mechanisms allowing for a flatter, more horizontal appearance, it marked a major turning point in typewriter design. Further development on this horizontal theme led to the Studio 42 in 1935 designed by the painter Schawinsky and the architects Figini & Pollini. Due to the setting in of the platen and the typebars a flat horizontal top is achieved allowing the mechanisms to be housed in a confined, simplified form of the rectangle.

Camillo Olivetti's son, Adriano succeeded him as president of the company in 1934. Adriano, like his father had studied engineering and was strongly influenced by the modern movement which espoused the need for a marriage between man and machine. In 1936 he commissioned Italy's Regional Planning Scheme, part of an overall plan to integrate industrial development with cultural needs.



17. MP1 PORTABLE TYPEWRITER, DESIGNED BY ALDO MAGNELLI, 1932.



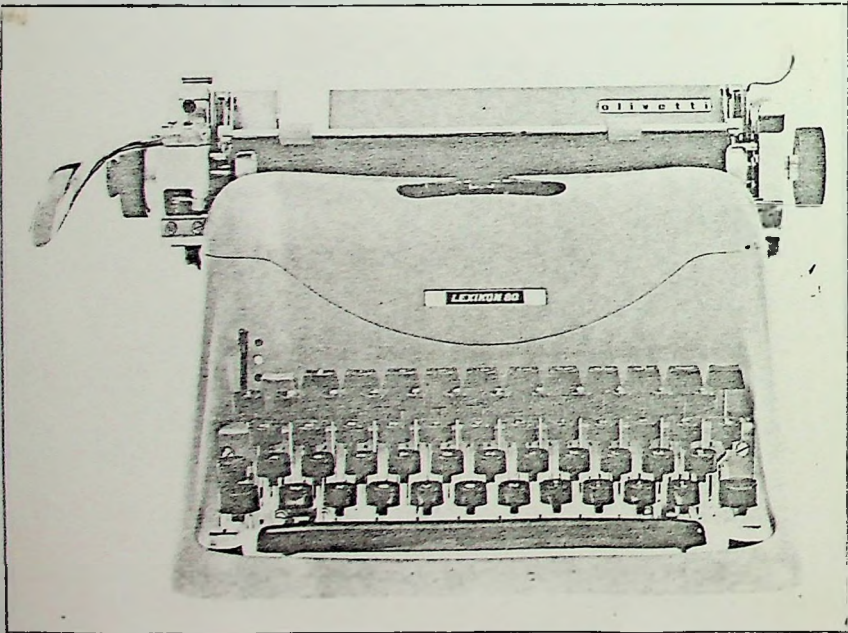
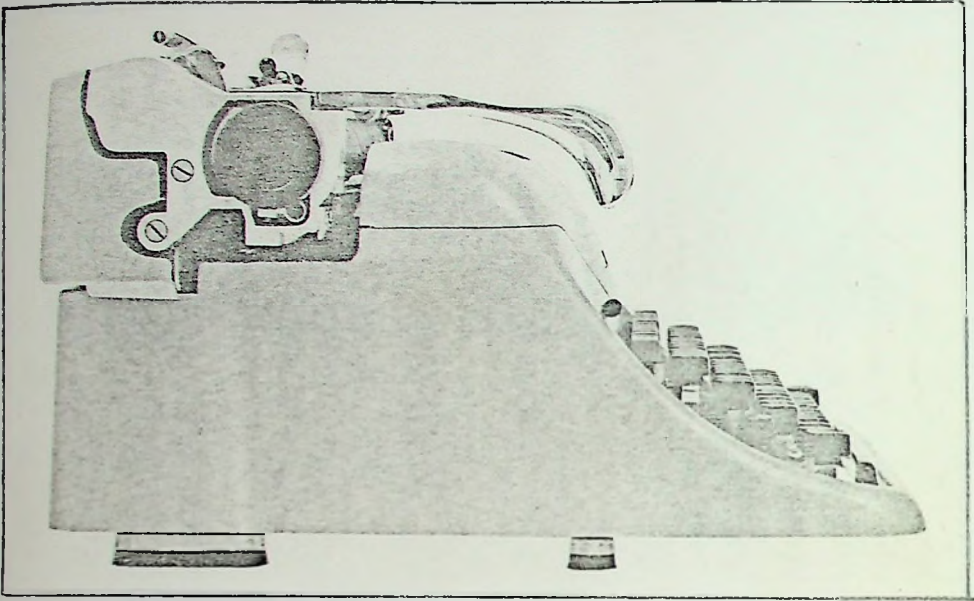
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18. 'STUDIO 42' TYPEWRITER, DESIGNED BY THE PAINTER SCHAWINSKY & THE ARCHITECTS FIGINI & POLLINI, 1935.

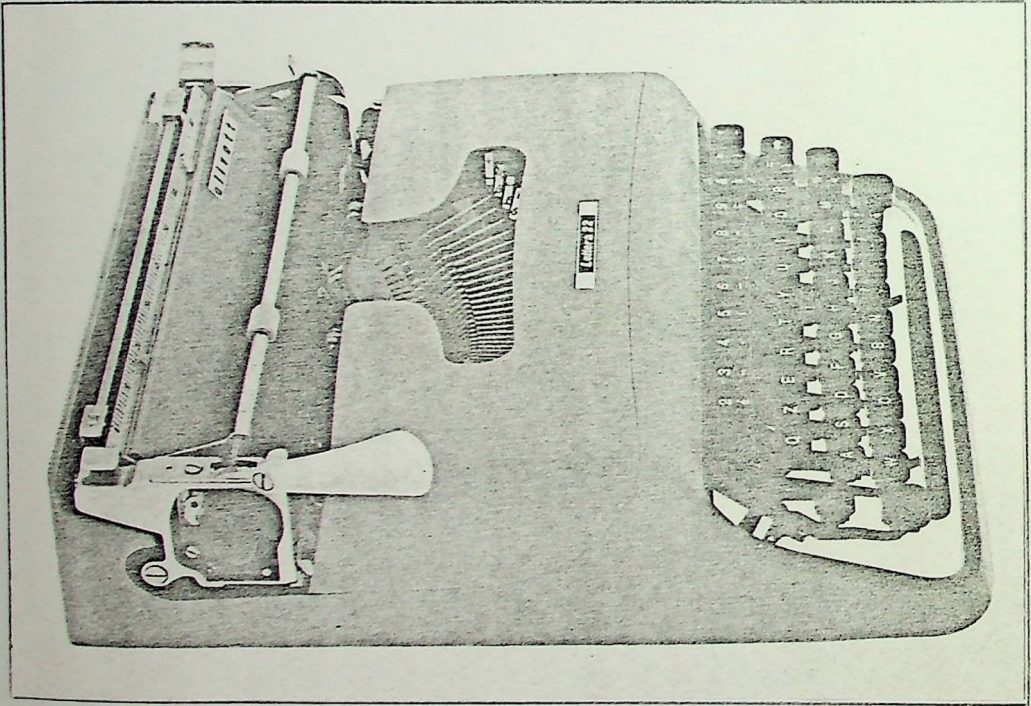
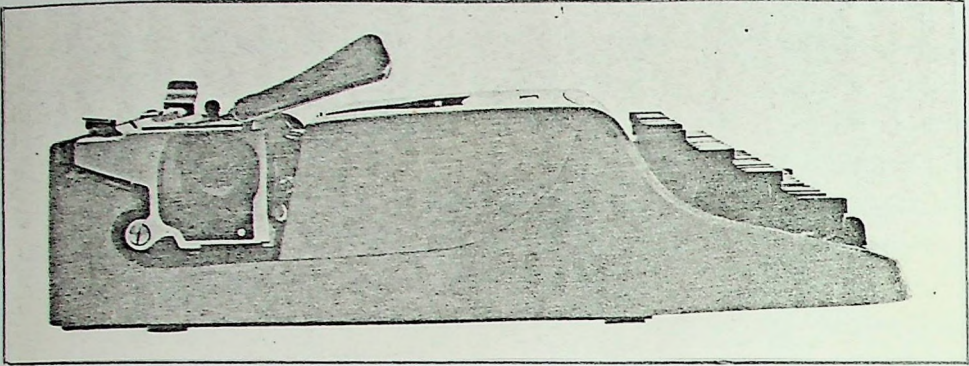
"The 'human measurement' of a community is determined and limited by the possibilities for social contacts open to each person. A social organism is harmonious and efficient only when the men appointed to given tasks can fulfill them through direct contacts"(Olivetti,1952) This concern for the social implications of advancing industrialization initiated a company policy for promoting and employing the best Italian designers, and architects of the day in order to design their products, graphics and buildings.

Through the work of Marcello Nizzoli, Olivetti's commitment to industrial design came to world prominence. Through close collaboration with both Adriano and Olivetti engineers, such beautiful designs as the Lexikon 80,1948 and the Lettera 22 in 1950 received widespread recognition. In Le Corbusier's words "The products seem almost illuminated by their exact proportions and the love with which one does his duty, the love for one's own work". With the Lexikon 80, Nizzoli began a new post war era in product design. The so-called 'sculptural look'. In this model the mechanisms have been completely encased in four metal envelopes. It gives the impression of an elastic membrane wrapped around the mechanical components. This use of soft curves, elegant lines and beige colour combine to create a placid, calm background allowing the user greater visibility of the keys and reduce retinal fatigue during use.

Another of Nizzoli's major successes was the Lettera 22 typewriter which was awarded the prestigious Compasso D'oro in 1954. With reference to its predecessor the Studio 42, the simplification of form and concentration on the user-machine interface of the Lettera is most marked. In order to integrate the two main housing plates visually, the typebar cover has been allowed to encompass both sides of the main carriage. In sharing the space occupied by both components a more coherent rectangular and compact looking shape is achieved. The use of generous radii and subtle split lines have combined to give a more user responsive effect. The keys have been given a more rectangular form in keeping with the main shell and have been modelled with soft indentations more inviting to both the eye and to the finger.



19. 'LEXIKON 80' TYPEWRITER, DESIGNED BY MARCELLO NIZZOLI, 1948.



20. 'LETTERA 22' TYPEWRITER. DESIGNED BY MARCELLO NIZZOLI, 1950.

With the electronic boom in the 1960's came an increased sophistication in the design of office equipment. Shorter product life cycles and expanding product capabilities and ranges introduced challenging problems for the designer. Miniturization and ease of housing of electronic components over mechanical structures opened up greater possibilities in formal aspects of design.

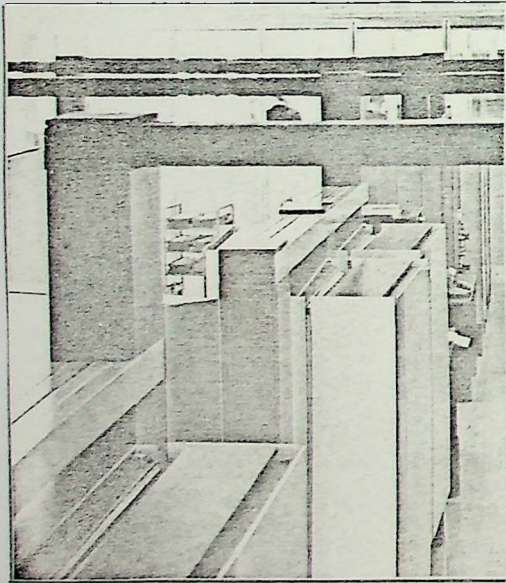
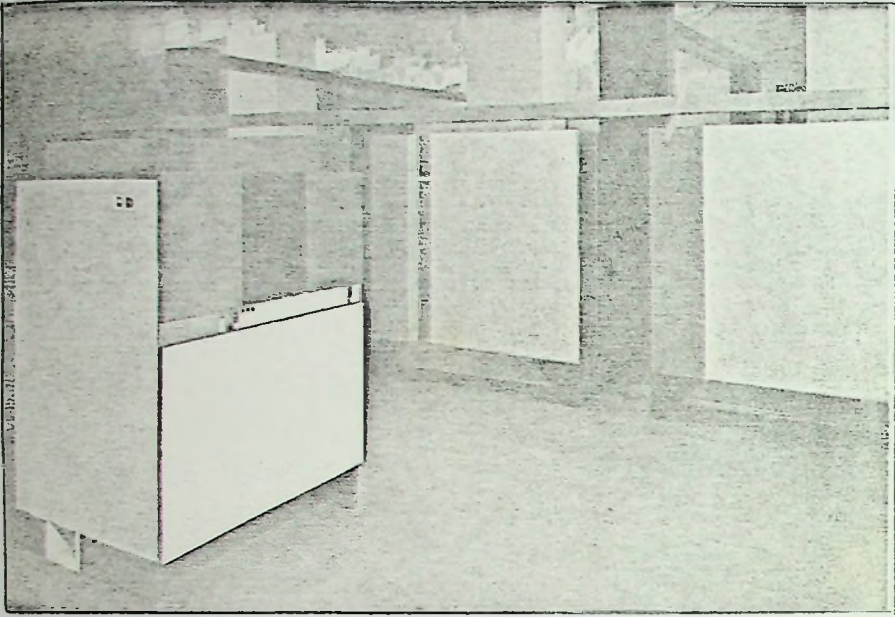
"To-day the function of a machine is no longer limited to the machine itself. It does not end in or complete itself in the machine, but is part of - as a complementary function- a higher functionality that is provided by whole organisms of highly complex machines in which the individual machine is merely an intermediate cog The problem is rather that of designing complexes of machines, that is to create 'landscapes' with their own significance as landscapes; or - if you like - atmospheres." (Sottsass, E. 'Automatizzazione & Design. Stile Industria).

These 'organisms' represent standardised components of a given machine which could be interchangeable with other machines and allow for extra components to be added to this system without a break in the continuity of functional or aesthetic aspects (ie shape, colour, texture, line, space.)

Just as Camillo Olivetti had recognised the importance of a machine blending in with and complementing its surroundings, Olivetti designers fifty years later stressed the importance of a machine in context with its environment.

The first Olivetti electronic computer range, named "Elza" after a famous ancient school of philosophy, marked the beginning of this systemised, environmental approach outlined by Sottsass. The modularity and adaptability of the system to further developments in information storage laid the foundation for more experimental work in space arrangements undertaken by Sottsass for the museum of modern art exhibition, 1971 : "Italy:the now domestic landscape".

In the execution of Camillo Olivetti's first design and in the co-ordination of his design policy in subsequent designs he maintained strict coherence to his original objectives - user convenience combined with aesthetic sensibility ie the marriage between functional and aesthetic attributes of a product, between man and machine.



21. 'ELEA' ELECTRONIC COMPUTING SYSTEM, DESIGNED BY ETTORE SOTTASS, 1959

Through this electronic age, these objectives have been maintained through the works of E. Sottsass and Mario Bellini. User convenience has been researched and analysed through ergonomic, anthropometric and operational sequence studies, producing innovative features such as slim, adjustable keyboards and antiglare screens on retractable arms. Dedication to aesthetic sensibility has produced designs of incredible visual detailing in keeping with the context of the machine in the office environment. In order to maintain a constant input of new ideas both Sottsass and Bellini work for Olivetti in 6 months cycles.

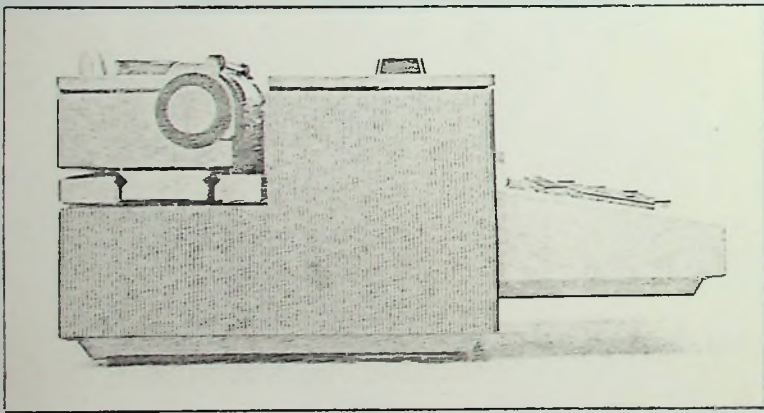
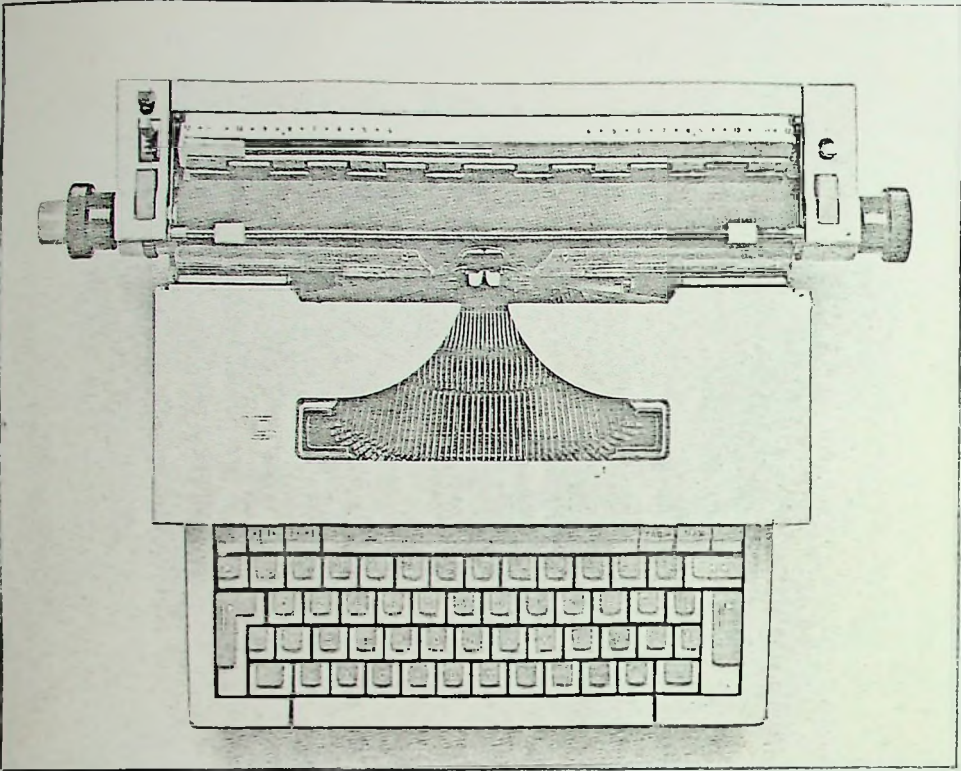
In order to illustrate their adherence to the company's design philosophy a number of examples of each designer's work over the past thirty odd years has been analysed here for clarification.

The striking visual simplicity of the Praxis 48 designed by Sottsass in 1964 owes much to the designer's ability to reorganize the basic machine components with a creative use of the practicalities involved in its construction. Placing the carriage on the same level as the main body creates the basic 'box format'. Compacting the mechanisms under the keyboard relieves the basic form of blandness creating a 'mantlepiece' effect. The concentrated series of parallel line and wide split line cover up moulding imperfections whilst adding visual interest. The playful use of bright colours for function details adds to lighten the overall mood and produce a stylish overall effect.

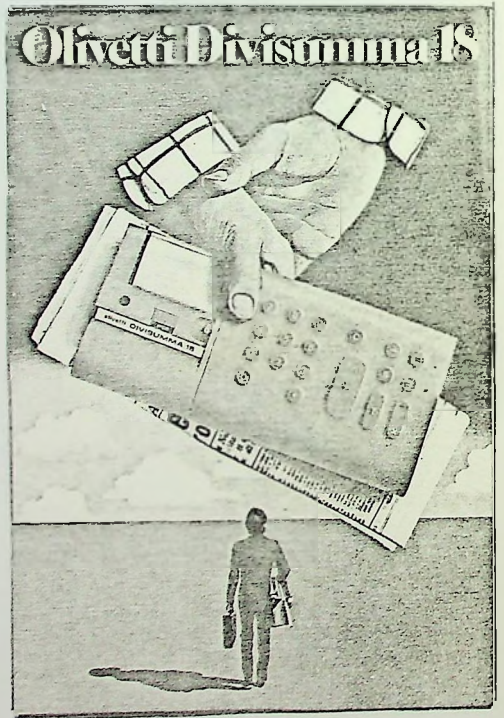
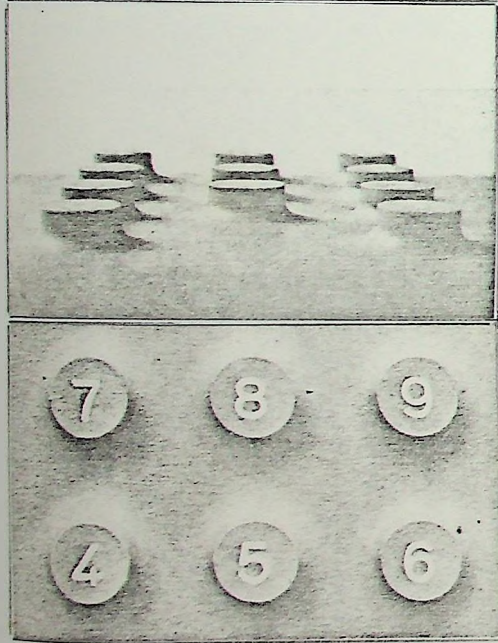
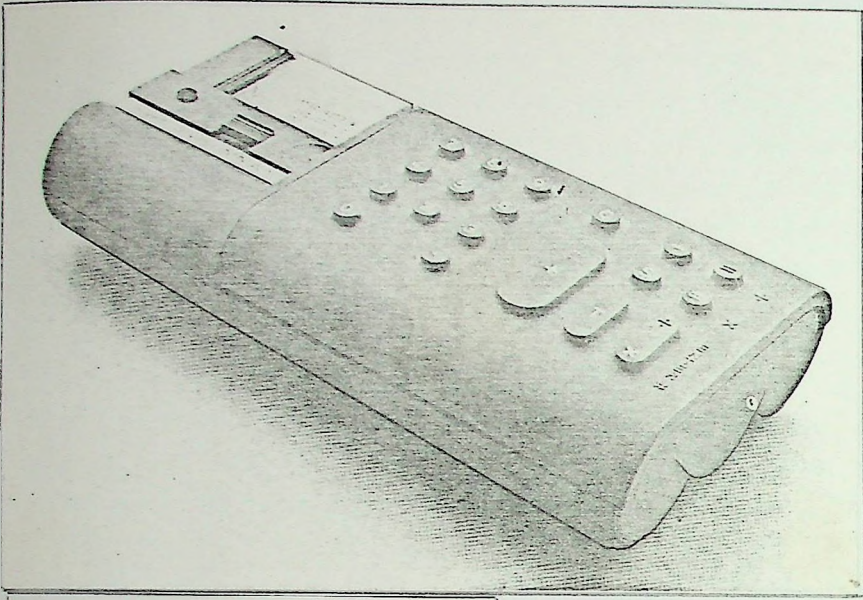
In the Divisumma 18 electronic calculator of 1973, Bellini attempts to de-mystify the electronic machine. He aimed to give the machine a meaning in sympathy with the user's sense of fun and pleasure beyond its functional and mechanical purposes. Attention to visual and moulding detail has become of paramount importance in producing the overall effect. In explaining his design Bellini noted :

"An odd object, even when it is not calculating it stands there like a re-assuring little totem. An odd object that creates a current of good feeling, since by now everyone knows how to calculate"

(Mario Bellini, Lineastruttura. Naples, 1976)



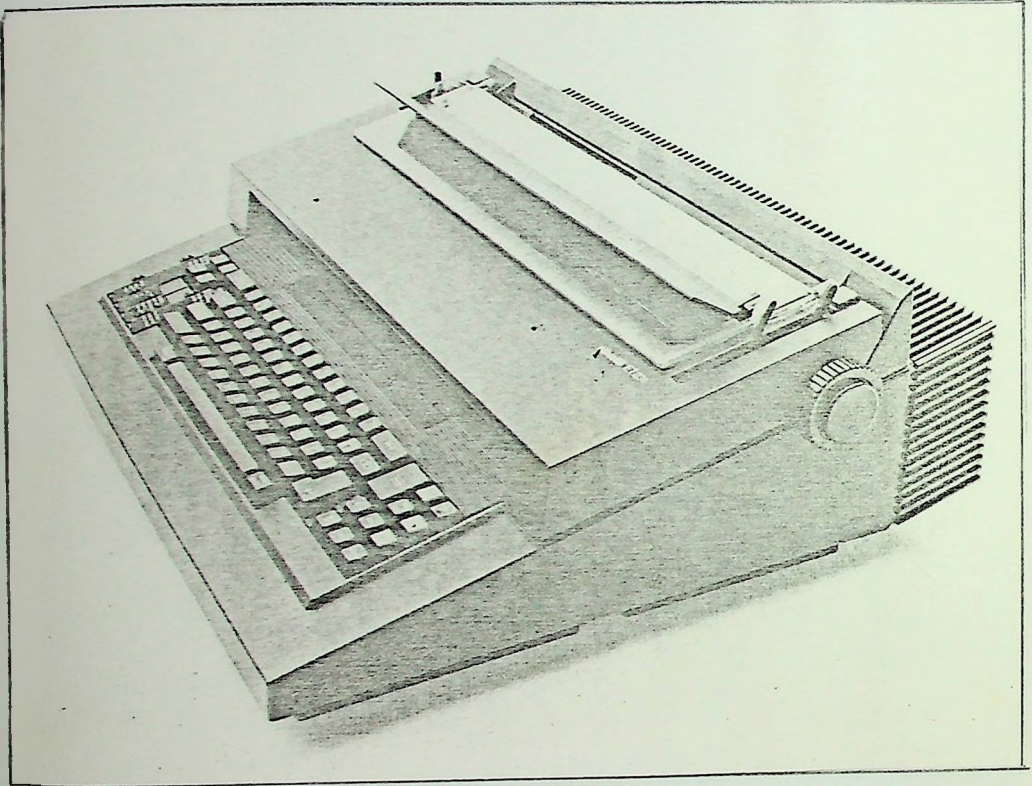
22. 'PRAXIS 48' TYPEWRITER, DESIGNED BY ETTORE SOTTASS, 1964.



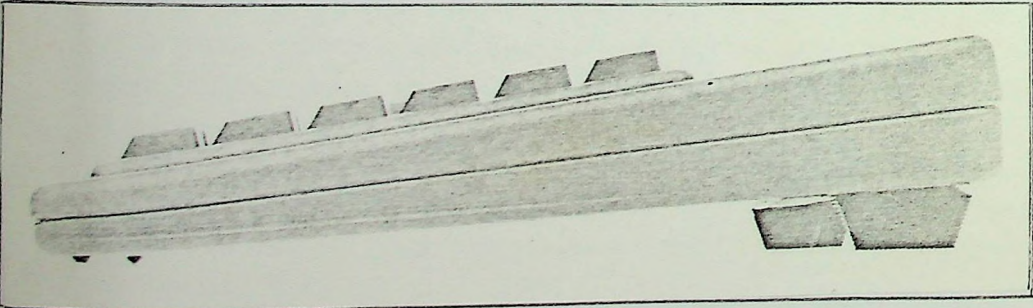
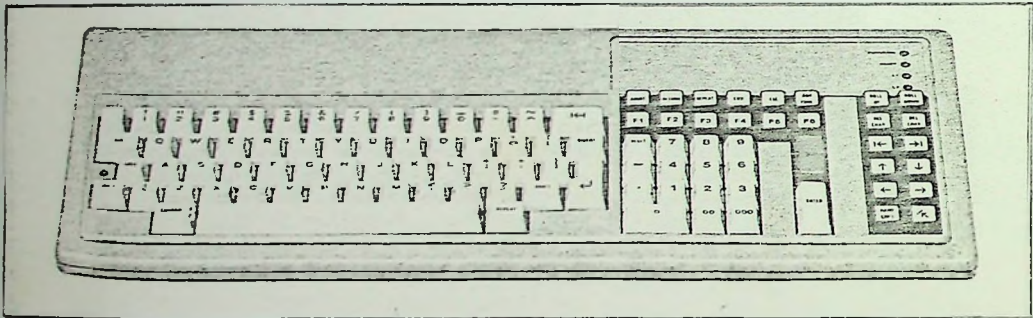
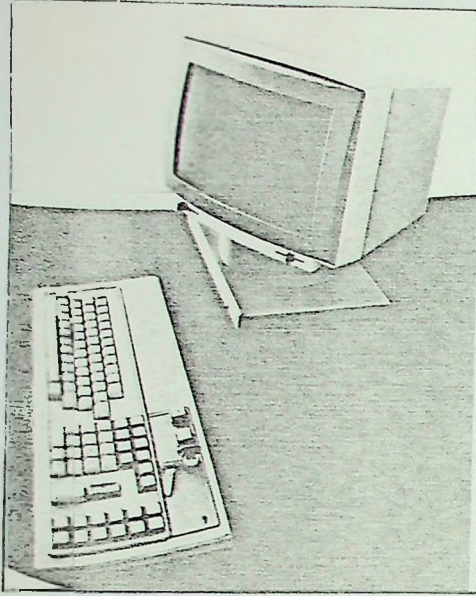
23. 'DIVISUMMA 18' ELECTRONIC CALCULATOR, DESIGNED BY MARIO BELLINI, 1973.

The first electronic typewriter was produced by the Olivetti company in 1979, designed by Mario Bellini. The two main considerations in this design were the application of the latest innovations in electronics and the tradition of the typewriter with its long history in working experience. The approach had to be systemised in order to allow for further developments in the range combined with a new image suited to its functional advantages. The wedge shaped appearance with channelled detailing at the rear of the ET series successfully suggests readiness, speed and ease of operation.

Within the rapidly expanding sphere of business computing Olivetti have maintained their quest for more user responsive design solutions. Sobriety of form and colour options is required to maintain the user's concentration. However, in the L1 detachable keyboard, designed jointly by Sottsass and George Sowden, strict attention to ergonomic considerations and compact design have ensured a successful product, its variable height option creating new ergonomic standards.



24. ET 231 ELECTRONIC TYPEWRITER, DESIGNED BY MARIO BELLINI, 1978.



25. M40 COMPUTING SYSTEM WITH LI KEYBOARD, DESIGNED JOINTLY BY
ETTORE SOTTASS & GEORGE SOWDEN, 1980.

4. A FUNCTIONAL APPROACH.

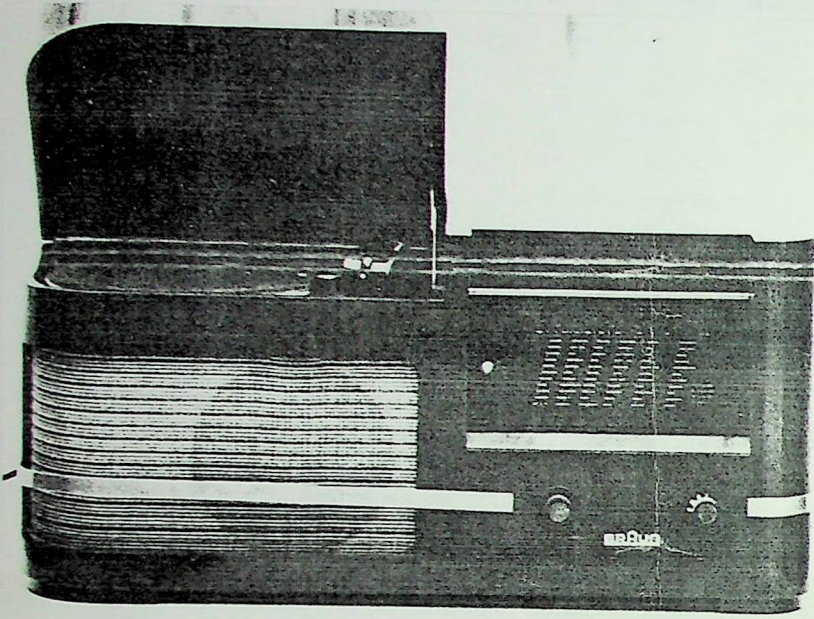
BRAUN AG 1921 - 1988

Max Braun, a mechanic and engineer from East Prussia created Braun AG in 1921, its first product being a transmission belt connector. In developing the first battery operated portable radio in 1935 and the foil type electric razor in 1938 Braun's marketing emphasis had to shift from technical machinery to household appliances. The products they manufactured until 1950 were similar in appearance to their competitors on the market. The Braun radio-record player of 1950, designed and manufactured by Max Braun is a typical example of the products produced during this period. The wood veneer housing and banded ornamental wrap-around hark back to an age of craft produced products.

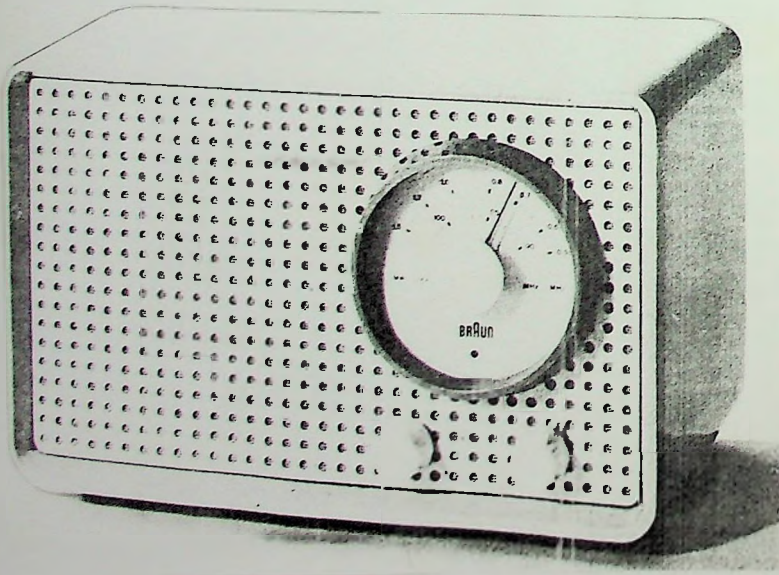
The point of entry into a co-ordinated design policy by any company may be a new housemark, print, product design, or even the architecture of the factories or offices. In the case of Braun, the point of entry was a fundamental review of product design and from there progressed in strengthening its policy through graphics, photography and promotion. Erwin Braun and Fritz Eichler were the board members who initiated and followed up the design policy. In explaining his reasons why a definite design philosophy should be followed and what this philosophy should be, Dr. Eichler stated:

"We started with a programme comprising three groups of products - radio sets, electric shavers and photographic accessories. There was no outward difference between these appliances and those of any other manufacturer....we found the appearance belied the interior of the equipment.."

"We visualized these people(users) as being likeable, intelligent and natural, with a feeling for authenticity and quality. People whose homes were not a mere theatrical setting for unfulfilled daydream but simple, tasteful, practical and above all, comfortable. Our appliances had to conform to this impression, both in nature and appearance"



26. RADIO-RECORD PLAYER, DESIGNED & MANUFACTURED BY MAX BRAUN, 1930.



27. MODEL SK2 RADIO, DESIGNED BY DR. EICHLER & MAX BRAUN, 1955.

Erwin Braun expressed his wishes for the design policy:

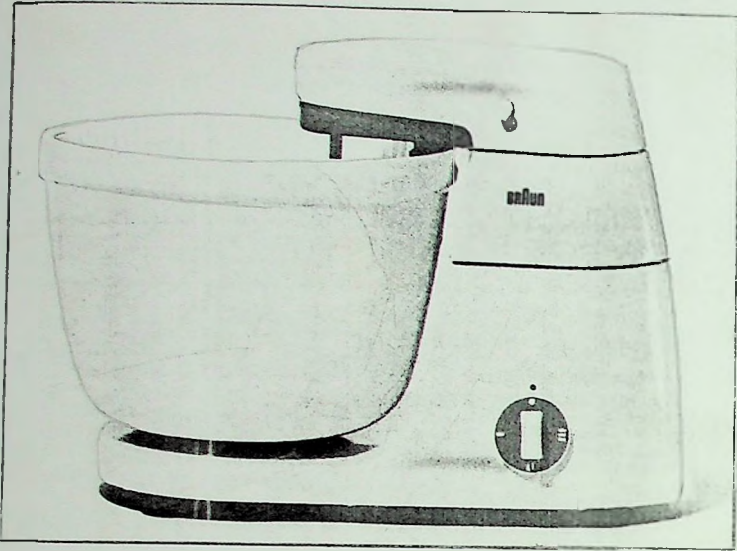
"Our electrical appliances should be quiet, unobtrusive helpers and servants. Like a good servant in days of old they should come and go silently, there when wanted but unnoticed."

(Design Co-ordination & Corporate Image)

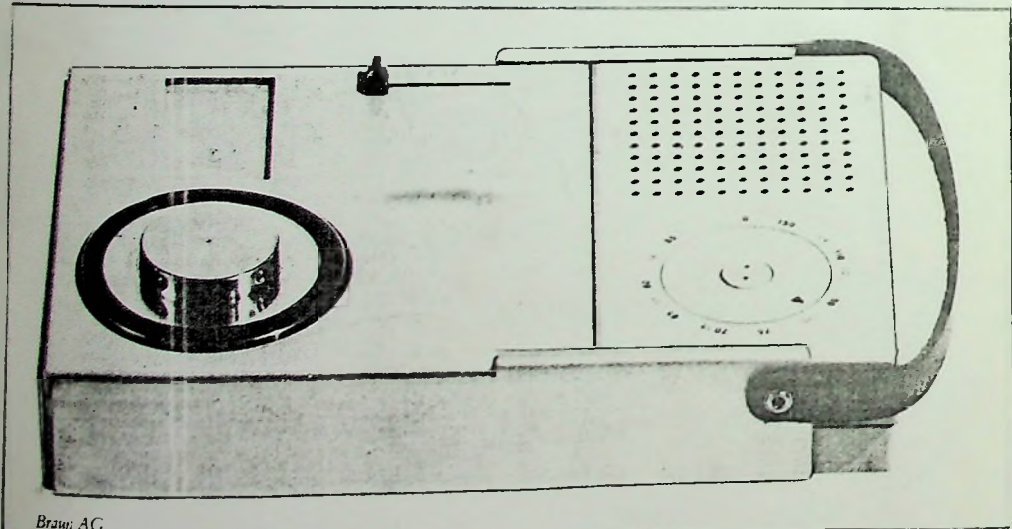
In order to realise their plans for the reorganization of the design of their products, Erwin Braun and Dr. Eichler employed two graduates from the newly formed Hochschule für Gestaltung in Ulm : Hans Gugelot for product design, Otl Aicher for information design. The Ulm school was formed in 1951 headed by the sculptor Max Bill, and took on the brief of carrying on where the Bauhaus had left off. It proposed a highly rationalistic, systematic definition of design and first under Bill and then under Thomas MacDonado, established the basis for the emergence of a 'new functionalism' in post war Germany.

The coincidence of ideals expressed by the Braun company in the reorganization of its products with the training received by graduates at the Ulm school paved the way for a unified 'functional renaissance' as exemplified in Braun products through the 50's and 60's. Dieter Rams, a graduate from the Ulm school, where he studied Architecture and Interior design, joined Braun in 1954. It was the beginning of a working relationship which still exists today, with Rams as head of product design in the company since 1962.

In 1955 Max Braun AG produced its first product of its newly formed, highly self-conscious design policy under the direction of Dr. Fritz Eichler. Its simple construction and uncluttered appearance provided the direction other products in the company's range were soon to follow. In Dieter Rams' first design for the company he demonstrates the functional simplicity achieved through co-ordinating the various components of the food mixer into one visual unity. "The great triumph of the Mixer is the sense of unity between all the components and all the attachments, marking them as the work of a single hand or the team of hands" (Design Magazine, 1959). The image projected by the use of smooth lines and clinical white surfaces coincided



28. MODEL KM321 FOOD MIXER, DESIGNED BY DIETER RAMS, 1958



Braun AG

29. PORTABLE RADIO-RECORD PLAYER DESIGNED BY DIETER RAMS, 1959

with the 50's kitchen images which attempted to glamorise, yet simplify kitchen work.

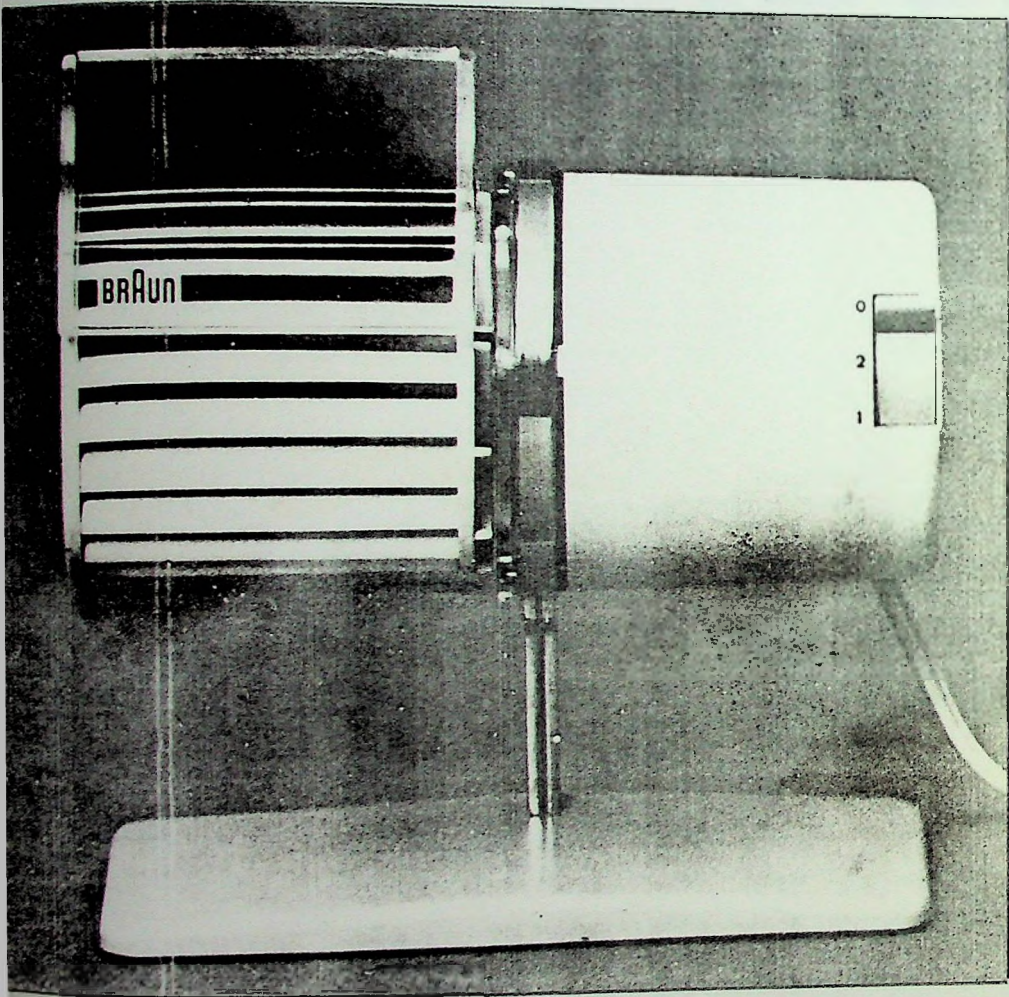
In the audio equipment field new technological advances allowed for miniturisation and standardisation of functional components. The combination of functions became more apparent in various products. In the portable radio-record player, designed by Rams in 1959, the geometric grid system which became known as schneewittchens sarg (snow white's coffin - clinical simplicity) devised by Braun AG is most apparent. By using this grid, functional components were split up into modular, interchangeable units which allowed for standardisation of each function. The rectangular 'box' shaped format with uncompromising rigidity to the size of the components housed within, marked the beginning of this new 'functionalism' which Japanese and other companies were soon to emulate. Control detailing has been kept to a bare minimum with no superfluous ornamentation.

Dieter Rams defines his role as an industrial designer:

"The underlying concern, for me at any rate, is rather a question of how a designer accomplishes what specifically is the designer's task, namely to shape an appliance in such a way that it will fulfill its purpose. After all, radios and toasters, lamps and razors, TV sets and ball point pens are meant to be used. They are instruments, not works of art. They fulfill a function, and design must serve that function." (Design since 1945, 1983)

A typical example of how Rams has attempted to express the functional purpose of a product can be seen in the electric desk fan of 1961. Together with the fan, the cylindrical barrel is intended to suggest the circular movement of the fan blades. Again the simplicity of form and tasteful covering of mechanical and electrical parts adds to the clarity of the expression.

Two points worth mentioning at this stage are the moulding processes employed by Braun and the quality of product graphics. The manufacturing of moulds employed by German companies in general involves the shaping of a solid block of steel into the desired shape.

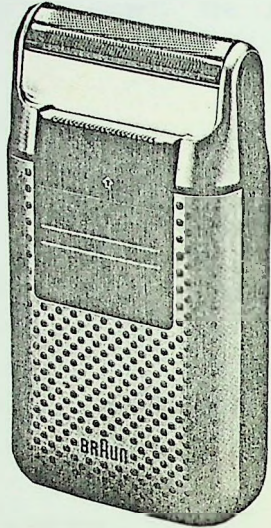
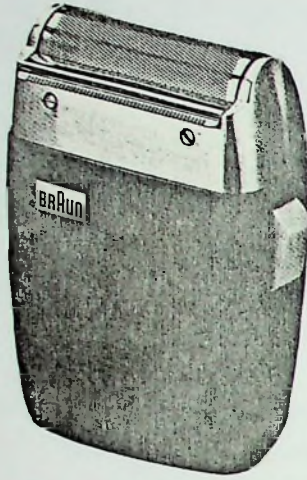
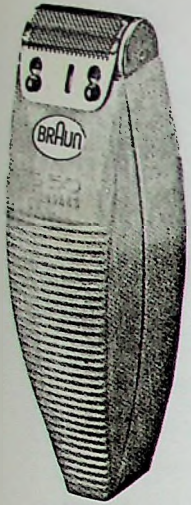


30. ELECTRIC DESK FAN, DESIGNED BY DIETER RAMS, 1961

This allows for a very good surface finish, ensuring a clean gloss or matt finish typical of Braun products. Japanese and other western companies have a tendency to use another method of mould manufacture which involves the building up of a number of steel plates to the desired shape. This allows for greater adaptability and modularity of moulds but also produces surface defects in the moulded components which must be hidden by surface detailing. This accounts for the more complex surface channelling and ribbing found in products produced by this method. The product graphics designed by Otl Aicher were of superb quality. Their quality of expression and simplicity in nature complement the basic shapes in order to achieve the reserved yet informative desired impression.

The basic ideology maintained by Rams, through his designs was based on the modern movements philosophy that "form follows function". This 'absolute' idea would seem to suggest that the ultimate design at a given technological stage of development would result in a timeless design solution. Taking the case of the electric razors illustrated here it becomes apparent that user preferences have influenced their development. The technology involved in making the product function as a razor has not changed, yet the outward appearance has been modified to allow for ease of use and more acceptable styling for the modern market. The first razor shown here was the first pre-war model S50 designed by Max Braun before the introduction of the new design policy in 1951. Manufacturing processes available at the time have determined the appearance of the filament but its curved split line and grip detailing can be seen as styling practises. Hans Gugelot's "sixtant" of 1962 became a stereotype shape for electric razors in the 60's and 70's. It evoked an age of classic design of solid reliance on functional requirements of the product.

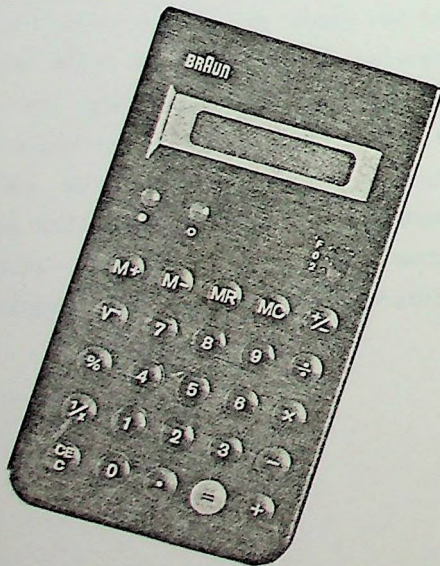
In Dieter Rams' design of 1984 however, the styling requirements of the product again come into play. The switch has been increased in size and placed in the centre of the body in order to create a styling feature and relieve the blandness of the front face. The tiny 'pin grip' perforations have been detailed for maximum visual interest. This range of shavers now come in a range of colours, grey, white and red as well as original black.



31. ELECTRIC SHAVER, DESIGNED BY MAX BRAUN, 1935.

32. 'SIXTANT' ELECTRIC SHAVER, DESIGNED BY HANS GUGELOT, 1962.

33. ELECTRIC SHAVER, DESIGNED BY DIETER RAMS, 1984.



34. 'CONTROL ET 44' CALCULATOR, DESIGNED BY DIETER RAMS, 1978.

The american journalist Richard Moss of Industrial Design Magazine described the 'Braun style' by comparing their various products. He wrote:

"One gains the impression that Braun products are designed in strict conformity with hard and fast rules - not like those contained in standard specifications, but the laws of design ethics. Every Braun design seems to obey three basic laws : the law of order, the law of harmony and the law of economy". (1960)

Over the period of Braun's development it has become apparent that their products have become more self-consciously stylistic than earlier designs and a major international visual language for technical consumer goods, providing a 'purist' alternative to the expressive image of the modern machine provided by numerous other companies. Rams maintains his commitment to the German functionalist ideal, disregarding the stylistic connotations evident in Braun's more recent products. His most famous quote is that in which he states that the most important role of the designer must be to "help to clear the clutter of chaos we are living in".

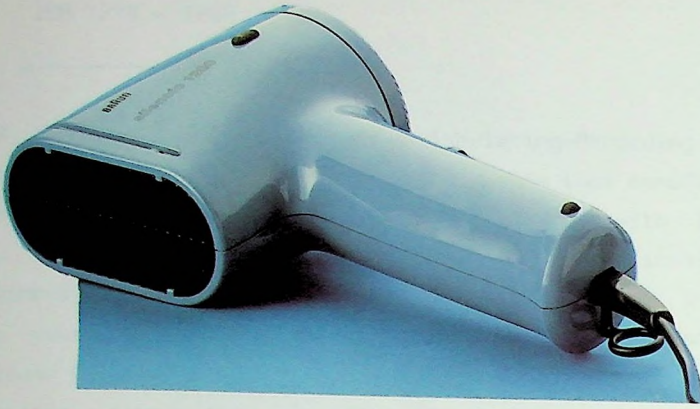
In the 'Control ET 44'(1978) calculator the functional aspects of the machine fade into the background. The variations in colour on the control knobs can be seen as a stylistic approach to the design of the machine. In this light the wide use of black and chrome common to most Braun products in previous years can be seen as classic examples of the functional style which was only applicable to a given era. Rams' blunt refusal to grant the wishes of the Braun marketing department for a multi coloured extension to the product range is well known. In an interview with Jeremy Myerson of Design Week in 1987 he admits that "Braun might sell more products in the short term if he deviated from matt black, grey or silver, but such a departure would offend his highly developed sense of social responsibility to give the customer good design".

In the past Braun has sold its products due to technical reliability and clarity of design (functional aesthetics). With the ever increasing pressure on companies to develop more meaningful products suited to various lifestyle markets the ability of the functional style to withstand increasing competition becomes doubtful.

In a recent brochure illustrating the various ranges of Braun haircare products, which consists of a colour range of white, red, blue, yellow and black the supplement begins with the sentence:

"with a Braun product, the emphasis is on style and styling - attractively designed products to help you dry, shape and curl your hair".

Its functional attributes have been reduced to a technical specification.



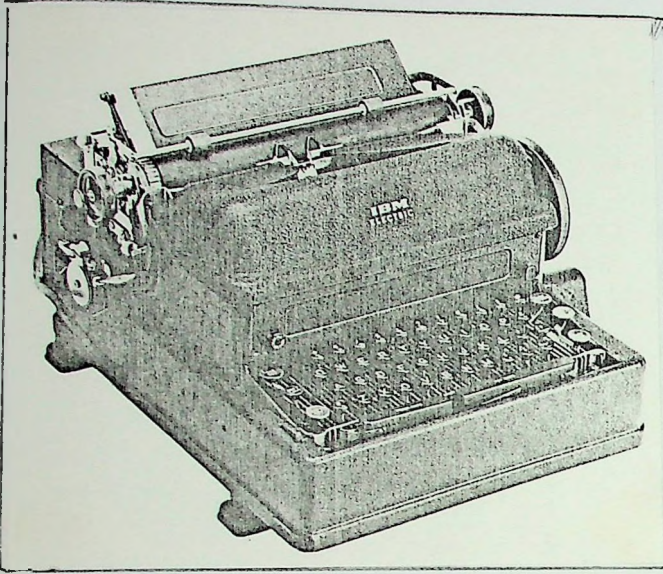
35. RANGE OF DOMESTIC HAIR DRYERS, PRODUCED BY BRAUN AG, 1987.

5. UNDERSTANDING TECHNOLOGY.

IBM 1914 - 1988

IBM began as the Computing-Tabulating-Recording Co. (C-T-R), a corporation composed of three companies that manufactured tabulating machines, scales and time recorders in 1914 with Thomas J. Watson Sr. as General Manager. Basically, it was involved in developing advanced machinery for the information processing industry. Between the years 1914 and 1930, increased technological advancements, which allowed full scale accounting operations to be carried out on their machines, paved the way for the dominant role this industry and the IBM corporation would play in the commercial services industry in the future. In 1933, as part of an expanding policy, IBM entered the electric typewriter business producing their first model in 1935. The typewriter industry had been in high profile since the 1900's. User interface and aesthetic considerations were seen as important criteria for commercially successful products. With the advent of the ASCC (Automatic Sequence Controlled Calculator) in 1944 and the introduction of the world's first large vacuum tube computer in 1952, both projects being developed by the IBM corporation, the importance of the man-machine interface became more apparent. The company was now looking for a co-ordinated design policy which could standardise the visual appearance of their range of machines and allow for more user orientated considerations. Norman Bel Geddes, a renowned industrial designer of the era designed their 'Model A' typewriter in 1948. Its visual incoherence failed to create a recognizable look for the corporation.

When Thomas J. Watson Sr. became president of the IBM Corp. in 1952 he reviewed the campaign to organize a corporate design policy. The story goes that Watson was driving through New York with his friend, the architect Eliot Noyes, when he saw the famous Olivetti showroom on Park Avenue. The former expressed his wish to Noyes that IBM's products would be readily identifiable as those of Olivetti's fame and reflect the quality of IBM's technical achievements in this field. The ensuing conversation concluded in Noyes being employed in the design of a corporate design policy for the corporation which has since become legendary.



36. IBM 'MODEL A' TYPEWRITER, DESIGNED BY NORMAN BEL GEDDES, 1948.



37. IBM 'EXECUTIVE' ELECTRIC TYPEWRITER, DESIGNED BY ELIOT NOYES, 1959.

Eliot Noyes studied architecture at Harvard where he came under the influence of Walter Gropius and Marcer Breuer, two famous exponents of the modern movement ideology. Later, as Director of the Industrial Design department at the Museum of Modern Art in New York, he showed his respect and enthusiasm for the rationalist European aesthetic in organizing permanent exhibitions of both Braun and Olivetti products in the Museum. His famous quote "one would prefer neatness" on accepting the IBM post on a consultancy basis, summarises his objectives in pursuing a corporate design policy for the organization. Noyes transformed the entire appearance of the huge corporation. In the words of the American journalist Ursula McHugh, Noyes "brought the Bauhaus to big business". He employed Paul Rand for information graphics and the architect Marcel Breuer for the corporations buildings, designing the products himself.

Noyes' first design for IBM was the executive electric typewriter of 1959. The careful layout of components and unification of form through an organic shell combined in producing a distinct visual identity reflecting the quality of technical mechanisms housed within. It stood as a model for later designs and strengthened the corporate design policy begun in 1955.

The replacement of typebars by an interchangeable 'golfball' typing head and stationary carriage in 1960 marked a major advancement in typewriter technology. In IBM's first machine using this technology the 'Selectric 1' of 1961, Noyes designed the machine with an entirely new shape in order to distinguish it from its predecessor. The fact that the carriage no longer moved meant that the housing could now incorporate the side flanks of this machine into one unified form. The elegant use of curved parting lines and 'sweeping' curved front portion, combined to produce a calm, restrained effect. The keyboard was designed on ergonomic principles, the angle of each row of keys being disposed at angles most suited to the ways the fingers struck the keys.

In commenting on the first generation of American designers, men like Raymond Loewy and Norman Bel Geddes, Noyes says that although they may have proved that appearance sells, they 'simply were not



38. 'SELECTRIC 1' TYPEWRITER WITH 'GOLFBALL' TYPING HEAD, DESIGNED BY ELIOT NOYES, 1961.



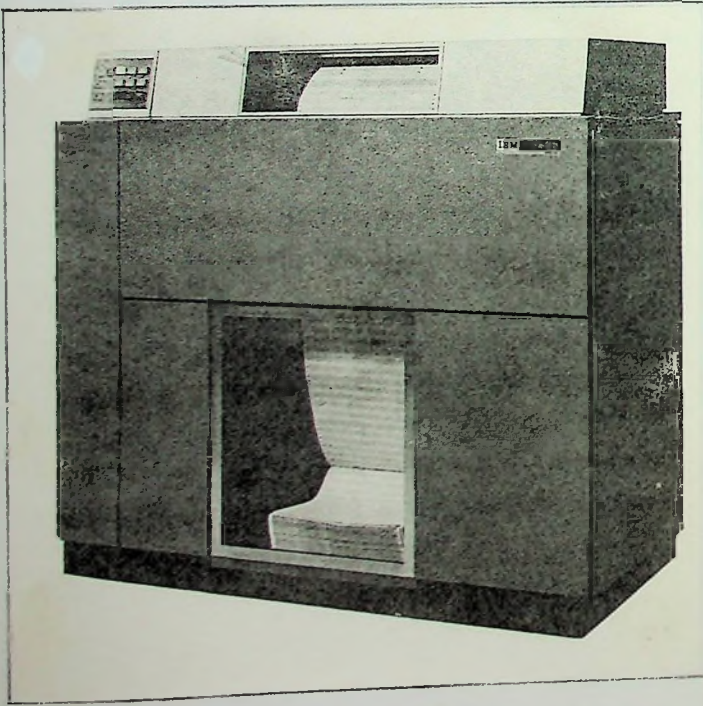
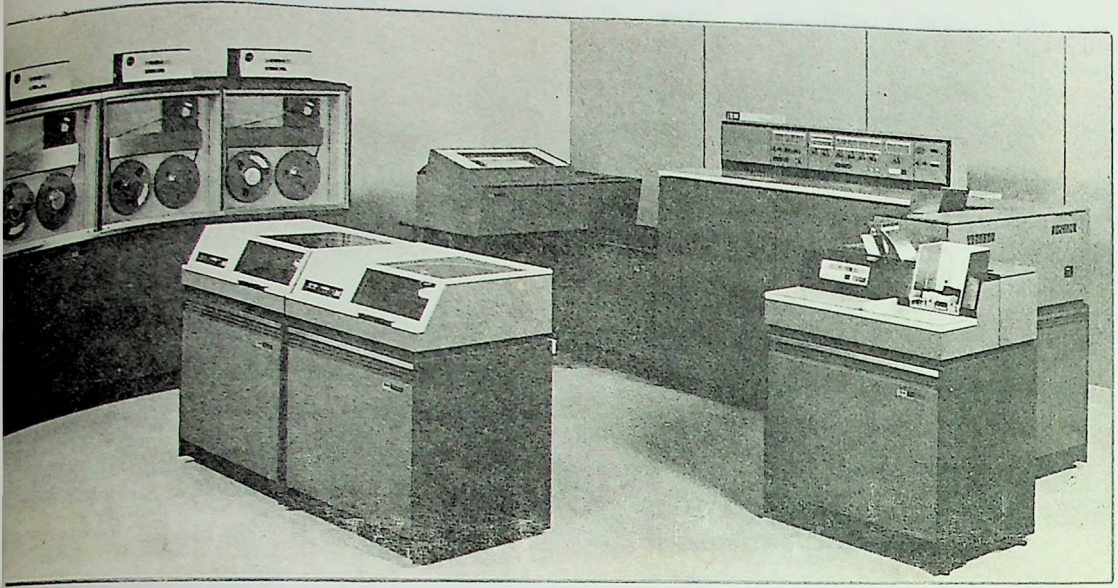
39. PORTABLE DICTATING MACHINE, DESIGNED BY ELIOT NOYES, 1964.

motivated by high enough intent'. By this he confirms his allegiance to the ideals of the modern movement, with its simplistic, functional approach to design. Noyes' own house at New Canaan, Connecticut, a masterpiece of American modernism, won 'Progressive Architecture's' design award in 1954.

Noyes' emphasis in the design on IBM's products through the 1960's was in expressing the sophistication of the products in a clear and concise manner in keeping with the established design policy. In his portable dictating machine of 1964 the functional components have been compartmentalised so that they are readily identifiable, yet co-ordinated into a unified form. Surface detailing has been kept to a minimum in order to emphasise clarity and simplicity of form.

Many of IBM's products are of a low profile nature. Their function is the storage of information in large 'computer banks'. The working environment into which these machines are placed does not allow for vibrant colours or varied interpretations in form. The objective in the design of many of these systems is to present the machines in a complacent, clearly identifiable manner, to recede into the background, as it were. A typical example of this type of design can be seen in the IBM System 360 designed by Noyes in 1965. The light/dark cool grey combination colour scheme presents a complacent serious nature. Each computer bank is of similar cubist form with display screens as functionally required. Each storage unit, located at the base of each information terminal is given a darker shade with minimal detailing due to its rare use. The breakline between storage unit and terminal is emphasised by a wide recessed band in order to distinguish their functional attributes. Brighter shades with angled fronts & recessed compartments are implemented due to user interactive requirements on a daily basis, for the tops of units and terminals. The overall visual unity between the modules allows for various arrangements of given components as well as allowing for increasing numbers without the break in visual continuity.

Throughout the implementation of the corporate design policy, Noyes maintained a loose, yet profound philosophy in the design of IBM's products, based on a combination of modern movement principles with



40. IBM 'SYSTEM 360', DESIGNED BY ELIOT NOYES, 1965.

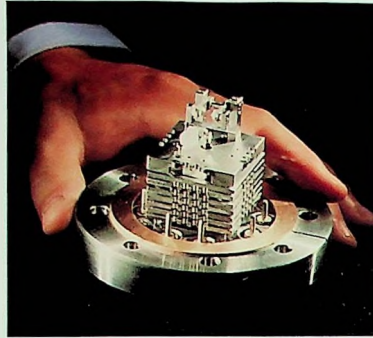
practical considerations. Commenting on Noyes' work Dean R McKay vice-president IBM 1961 had the following to say in the Public Relations Journal:

"He contended that any theme, any device is doomed to become hackneyed and dated. IBM's design programme, he urged, should have only two constants: it should reflect quality, and it should be contemporary".

At each stage in its development as a corporation, IBM has led the field in the technological development of the information processing industry. From electromechanical card punching machines at the turn of the century, through magnetic disc storage and transistors of the 60's to the integrated circuit technology and its derivatives today. Personal computers with the processing power of medium-scale computers of the 1960's are becoming an everyday part of society today, gaining wide acceptance in business and science, as well as in the home and schools. Vast research and development programmes spanning various technology sectors such as fibre optics, STM (scanning, tunnelling microscopy). ballistic electron-transfer and 'resistive-ribbon' circuit printing technology, are increasing the memory capabilities of personal computers. The industrial design input into IBM's machines may seem very little compared with the emphasis on new technology, but the clarity in expressing these advances in a reserved, clinical fashion is undoubted.

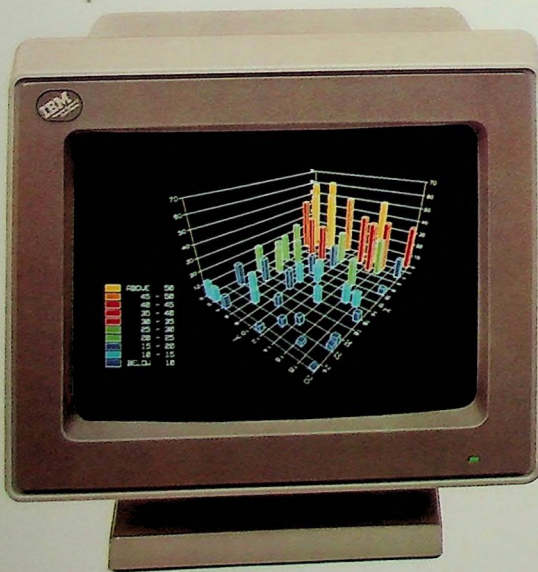


IBM researchers are experimenting with new techniques for optical storage of hundreds of millions of characters of computer information per square inch in a medium that can be read, erased and rewritten. One approach coats disks with a thin film of magneto-optic material. Another uses thousands of laser light colors, or frequencies, to "bleach" groups of molecules to represent binary ones and zeroes.



This is a small-scale version of the Scanning Tunneling Microscope (STM), invented by IBM researchers to produce images of individual atoms and the forces bonding them for the first time (photo at left). The smaller device allows wider use in scientific investigations. In scanning tunneling microscopy, a voltage is applied between a surface and a probe so sharp that its tip is a single atom. As the probe is moved to within a few atomic diameters of a surface, a "tunneling" current flows between the surface and the probe. The tip is then moved back and forth over the surface at a constant distance, accomplished by keeping the current constant. The continuous adjustment of the probe's vertical position produces a "contour map" of the surface, which is enhanced by computer processing.

41. IBM RESEARCH & DEVELOPMENT STUDIES. 1987.



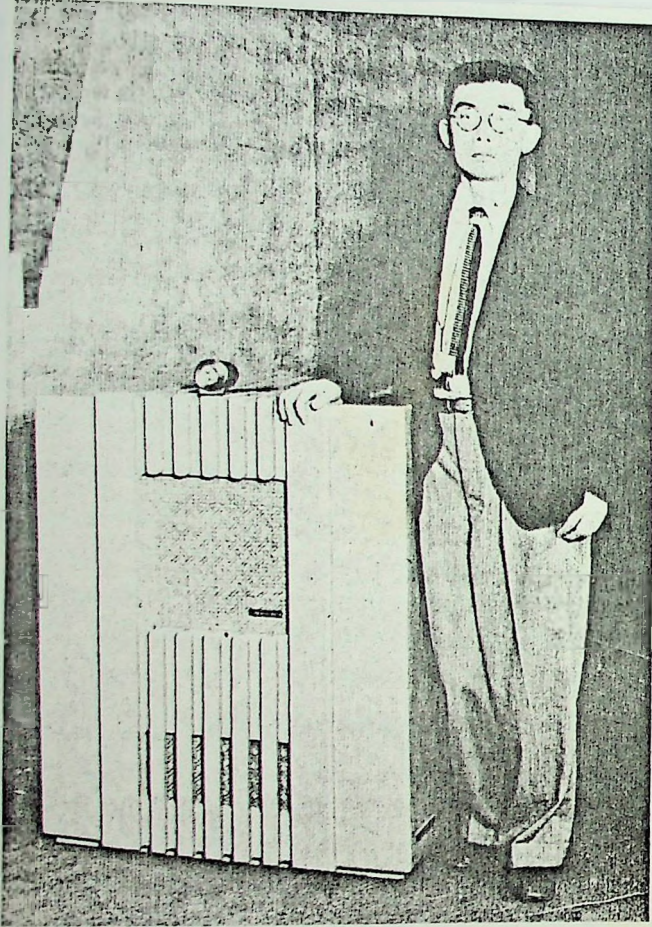
42. IBM PERSONAL SYSTEM - 2, 1986.

6. DESIGN AS MARKETING.

SONY 1946 - 1988

Following the second world war in 1946, two young engineers, Akio Morita and Masaru Ibuka, set up an electrical workshop in Tokyo and called themselves Tokyo Telecommunications (TTK). TTK started on its course of product innovation in 1950, when it designed, manufactured and marketed the first Japanese taperecorder, the 'G' type. This product guaranteed the company's development with constant distribution through schools and courtrooms throughout the country. On a trip to New York in 1952 Ibuka happened to hear that the Bell Corporation was prepared to sell the manufacturing rights to the transistor, a device it had invented in 1947. Supplemented by Japan's Ministry of International Trade and Industry, TTK bought the rights, producing the company's first transistor radio in 1955, the TR 55, shaped as a simple box. This machine bore the name of 'sony', which Morita had invented because it both evoked the latin word for sound and the affectionate connotations of 'son'. In 1958 'sony' was adopted as TTK's corporate name. With a keen eye for the marketability of sony's products and both co-founder's strongly held beliefs in technical innovation, the design of their products was an inbuilt component in the company's structure. Sony had hired its first full time designer in 1954 and by 1961 the company had 17 designers in its design room. A designer's input into the development of a product was treated in parallel with that of an engineer's. Unlike its american competitors where the role of a designer was often placed on an individualistic, guru-type basis, sony and other Japanese designers were treated like any other employee. The design philosophy was functionalist in its approach, but unlike European functionalism as typified by Braun, where it had a strong ideological and traditional basis, Sony's was flexible, depending for its inspiration on marketing demands.

In 1959 Sony introduced the first transistorized TV, the 'TV 8-301', also being the world's first truly portable TV. Sony broke into western markets by concentrating on small market areas at a time, testing the market, as it were, and then saturating larger market areas when a positive response for the product was achieved.

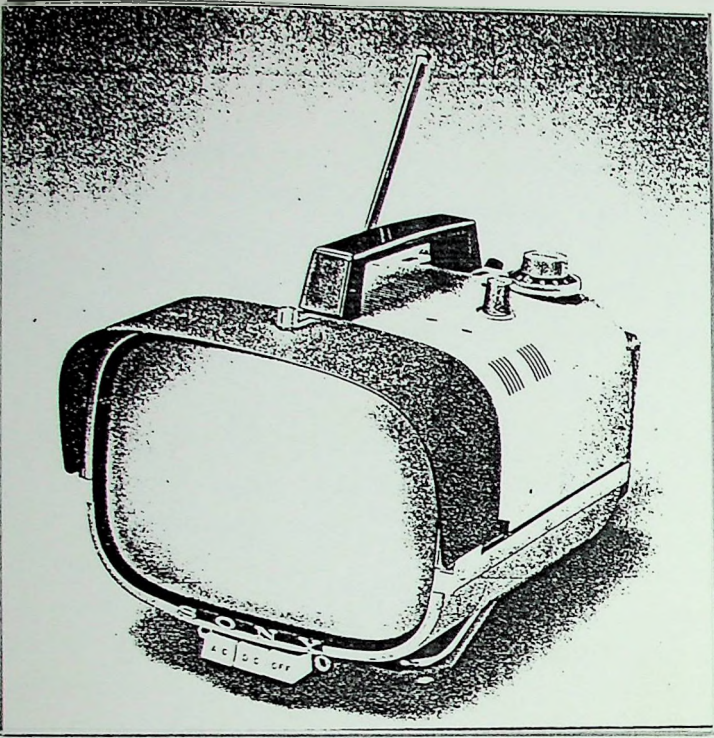


43. MASARU IBUKA, CO-FOUNDER OF SONY WITH JAPAN 'S FIRST TAPE RECORDER,
THE 'G TYPE'. DESIGNED & MANUFACTURED BY MASARU IBUKA & AKIO MORITA,
1946.

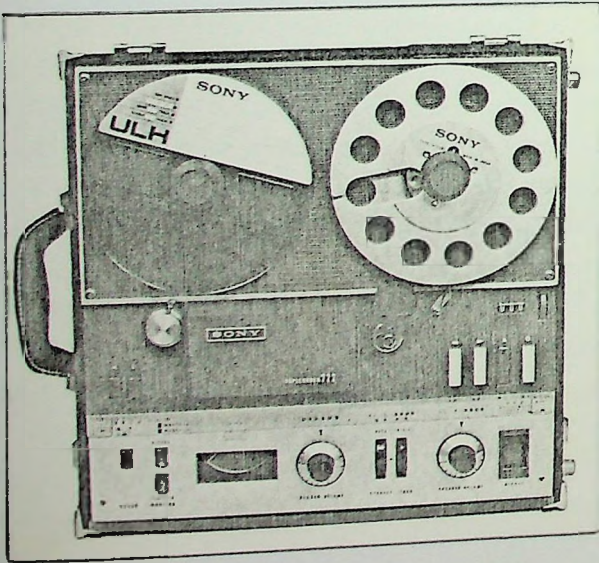
The TV 8-301 became immediately popular on American and European markets and proved a warning sign to Western competition that the age of miniaturization had begun. It also drew attention to the standards of quality and technological achievement of Japanese industry in general. Reduced to essentials of tube and battery pack tightly sheeted in a metal cabinet, with control knobs and handle, positioned where they would be functionally suited, the machine became a cult object and a symbol of the Japanese functional aesthetic.

At this stage in Sony's development miniaturization of its audio product line became of increased importance. Increased emphasis was placed in research and development of existing products. Reduction in the size of products reduced transportation costs and increased the marketability of designs. Japanese companies in general at this time were flooding Western markets with increasingly sophisticated products at very competitive prices. In order to sustain their position in the market place, they also needed a consistent image to reflect the quality of their technological achievements. The hi-tech look, characterized by increased surface detailing of the housings of products, through function controls, deep channelling and surface decoration, established the new image apparent in Japanese products to this day. In Sony's IC-777 open reel tape recorder of 1961 the compact design, square format and multi function detailing, concentrated at the front of the machine, symbolized the direction other designs were soon to follow.

The hi-tech image continued to be a source of inspiration to Sony designers through the 1960's and 70's. Audio and visual product ranges consisted of standardised functional components being regulated into a rectangular format. The term 'black box' which has plagued designs since the introduction of microelectronics and the lack of meaning in any given product, is exemplified here in the Sony 'jackal' radio/tape deck/tv system produced in the late 70's. Visual complexity has now become the ideal. The 'black box' format could not be more in evidence. During the years 1968 - 77 Sony's designers were scattered amongst the audio, tv and professional equipment factories of the Sony corporation where they were under the influence of engineers,



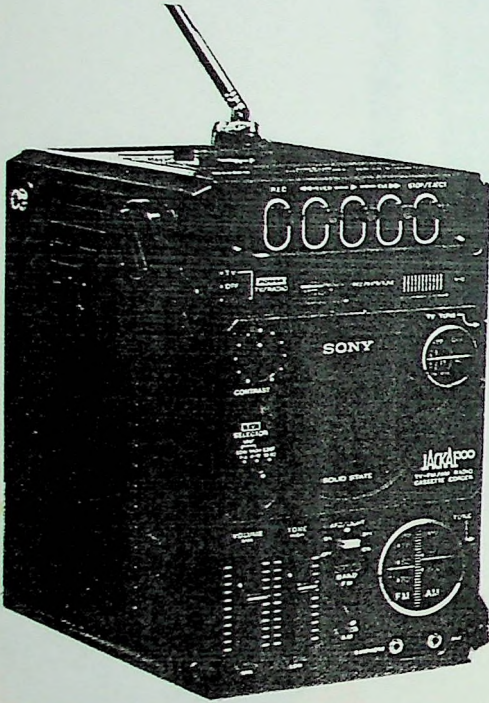
44. SONY TV-8-301 8" PORTABLE TELEVISION, 1959.



salespeople, and short-term-minded product planners. In 1978, in a bid to integrate the various designers into a unified team, the 'PP Center' (loose term referring to product planning, product presentation or proposal and promotion) was formed, under the direction of Masuo Kuroki, Sony's chief designer. This resulted in cross fertilisation between designers in different parts of the company. Increased interdepartmental meetings and direct access to Kuroki through communication links, ensured a greater interchange of ideas and a solid base for the in-house design team.

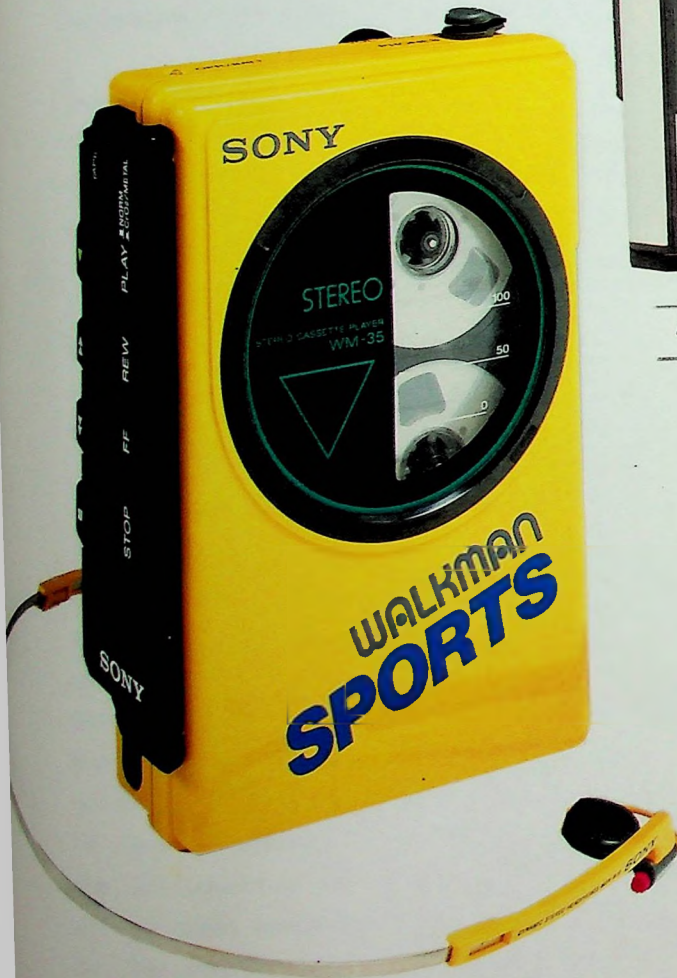
In the late 70's, the sales growth of many of Sony's products, including Trinitron TVs and audio equipment reduced, leaving the company more reliant on its Betamax video cassette recorders. Increased sales of its main rivals in these areas including JVC, Matsushita, and Phillips, pressurised Sony into developing a greater understanding of changing social attitudes and behaviour in order to identify what the consumer really wants or needs. This swing from a sellers to a buyers market was to testify to the co-founders' flair for technical innovation and their confidence in developing their design division. Morita had this to say at the close of the '70s: "Up to now Japan has only produced products, paying little attention to considerations of culture and lifestyle. we must change."

It was in an altogether more mundane episode in product development than those quoted previously, where existing technology was ingeniously refined, that brought the corporation into an immense new market that fixed its image more definitely in the public's eye. 'The Sony walkman', once described as 'a sort of hi-tech hula hoop' created a new image for hi-tech products, which has affected the design of new products over the world. The technology for light weight headphones and small cassette players had been around for years, but it was Sony's flair for marketing, combined with a forward looking integrated design team that ensured the success of the product. What makes the Sony 'walkman' such an important point in the development of the corporation is not the connotation of miniaturisation as exemplified in its size, but in the emphasis of consumer psychology portrayed in its design.



45. 'JACKEL' RADIO-TAPEDECK-TV SYSTEM, LATE SEVENTIES.

SONY



47. SONY 'SPLASHABLE', 1984.



46. SONY WALKMAN, 1979.

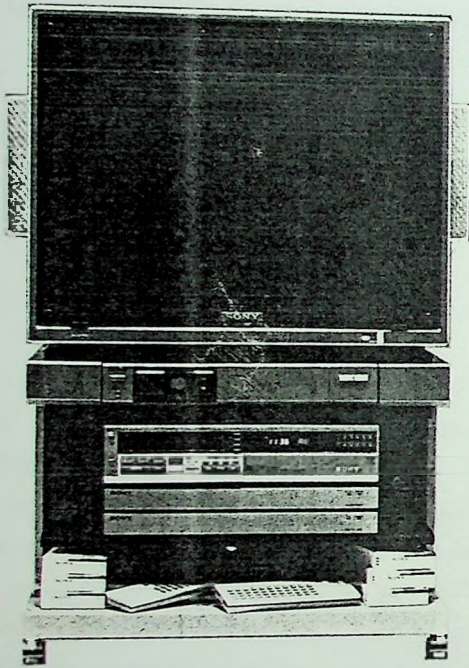
As Steve Braidwood states in 'Design', August 1981:

"..Sony has packaged and marketed the Walkman not simply as a portable product, like a transistor radio, but as a personal one. It's worn rather than carried, and wearing one constitutes a personal statement just as a major piece of clothing or jewellery does...with a walkman round your ears you have a barrier that's far more impenetrable than dark glasses. I'm here, but I'm not really here, I'm far too cool for this kind of thing! is the unstated message."

With the continued commercial success of the Walkman Sony designers and indeed Japanese designers in general have become increasingly style conscious, exploring through their work, the post modern concepts of 'Memphis' and 'new British design'. The 'black box' or 'silver box' concept of design which epitomised the electronic consumer products of the seventies has given way to a brighter colour range and more expressive product lines for personal consumer goods.

The expressive nature of the Sony designers' work is exemplified in the corporation's latest 'splashable' range of Walkmans. The bright yellow colour is in line with current trends in surfing sails, swimming gear and the healthy lifestyle. The acrylic 'window' with chrome surround and rubber sealing resembles a ship's porthole. Extra studs have been placed on the frame for added effect. The product has been designed to appeal to active people with a healthy lifestyle, not necessarily because they will use their Walkman while doing water sports, but because they can relate to the lifestyle it represents and thus relate to the product as a personal item.

In the visual products field which included TV and Video, digital electronics were fast becoming the latest in hi-tech. It represented a totally new technology comparable to the change from black and white to colour tv. Digital electronics transform all the information, audio and video signals, into numbers. The information is transmitted more accurately, converting back into pictures and sound on the tv screen. Using the latest in digital technology and in the tradition of Sony's technical innovation and forward-looking design policy, the introduction of the 'profeel' modular TV system in 1980 marked another great achievement in product development. It was not a tv in the conventional sense the 'colour monitor' as it has been called, did not have a tuner. A separate tuner or video is required to operate the monitor, both being sold separately. The system is complemented by an array of additional components including swivel jointed speakers,

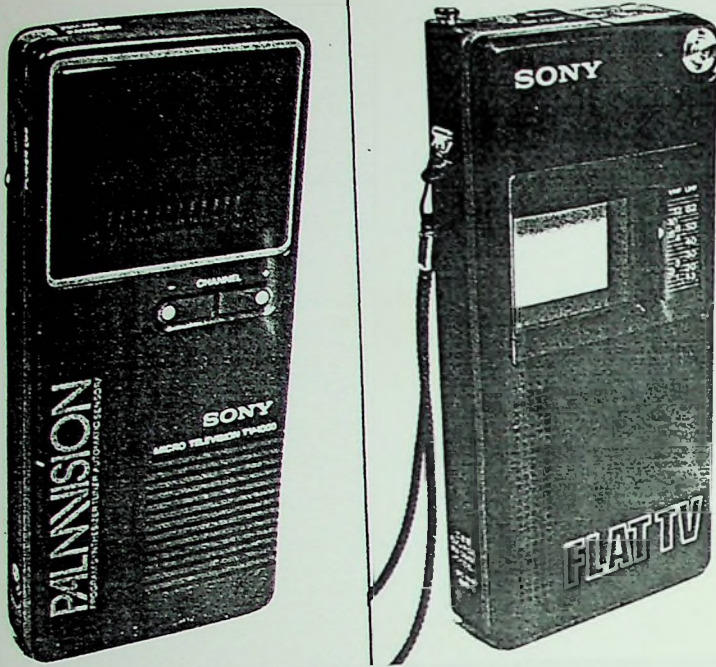


48. SONY 'PROFEEL' COMPONENT TELEVISION SYSTEM, DESIGNED BY SONY'S
PRODUCT PLANNING CENTRE IN 1980.

headphones, video and even compatible desks and bookshelves. The breaking down of audio systems into their functional components had begun years earlier when the record player was separated into turntable, amplifier and speaker. Through the Profeel, Sony were demonstrating how the evolutionary process could be applied to the TV. The sheer elegance of line and attention to detailing evident in the Profeel is a testament to Sony's integrated design policy. The rear of the machine is as integrated into the visual form of monitor as the front screen. There is no longer a need for a control panel, allowing for a continuous frame around the screen at the front. Its simplicity in form allows for greater visibility of the screen. If its metallic finish is felt to be too modern, it can be purchased with a fake wood or plastics veneer. It can be bought with a one leg stand, stacked on top of a hifi system or figure as a centre piece between speakers, amps and tuners. In other words, the system can be adapted to the individual's taste or preference.

Many of Sony's products have been developed with highly specialized markets in mind, then extended to incorporate 'fringe' market areas. In 1982 the corporation introduced the smallest portable personal TV - the flat tv - as a result of improved miniaturization and technological progress. The newly developed 'flat screen' produced a 2" picture. Originally intended for professional use by TV programme makers, its wide popularity led onto other markets such as sports events watchers and busy housewives. Originally produced in a stainless steel housing its redesign, the 'watchman' was introduced in 1983 with a high quality plastic housing. Greater integration of component and circuit layout allowed for a smaller, lighter and more ergonomic model. Although still a specialized product its similarities to its cousin, the walkman, are undoubted. Whether its personal qualities will be developed to the stage of the walkman's has yet to be seen.

With the increased convergence of technologies involved in Sony's range of brown goods (audio and video - all Sony's products are of this nature) products and the constant need for integration of ideas between each department, the entire Sony design staff, a complement of 150, were centralized into one unit in Sony's headquarters, in the Tokyo suburb of Shinagiawa in 1984.



49. SONY 'PALMVISION' AND 'FLAT TV', 1982.



50. SONY 'WATCHMAN', 1984.

Although distancing the designers from direct contact with engineers involved in product development on the ground floor, it was felt that the greater overall perspective gained by the designers in constant contact with one another would allow for greater exchange of ideas and standardize the visual character of the products. One manager of Sony described the reorganization thus : "The designer needs to see from a distance. He can't be creative if he's too involved in the nitty gritty of operations."

The high regard industrial design is bestowed at Sony and the integration of design at every stage of product development can be seen as a continuing inbuilt relationship between the corporation and the design staff. From the first transistor radios, taperecorders and tvs produced, right through to their counterparts and cousin products today, Sony's appreciation of design in the evolution of market orientated products is consistent. In the words of Christopher Lorenz, commenting on the status of design with the Sony Corporation: "This...role was formally recognized in early 1985 when Sony's design chief, Yasuo Kuroki, added 'Director of Consumer System Products' to his title, and a bevy of senior engineers and planners to his staff. An extension of this magnitude in the formal role of design is virtually unparalleled, both in Japanese industry and in the West. Sony has certainly become a latterday design pioneer."

7. CONCLUSION

In tracing the development of each company's design policies it has become evident that each has been subject to influencing factors. Apart from changes in technology major influences have been:-

- marketing demands
- changes in design philosophy in general over the years.
- changes within the company structure
 - takeovers/collaboration
 - new managers/designers.

The consumer market for manufactured goods has steadily increased over this past century. Consumer tastes have become more refined, each market sector requiring goods to satisfy their own lifestyle and sense of identity. The shift from a sellers market to a buyers market has necessitated the tailoring of products to a given market's need or want. Large manufacturers can no longer produce products for a given customer type, but must be flexible in order to satisfy different types of customers.

Changes in design philosophy over the years reflect social and cultural attitudes to man's environment and the objects he uses in everyday life. 'Modernist' ideals are now being questioned on their relevance to modern society and technology. Companies have had to change with the times, as it were.

Each company has witnessed changes in their physical makeup. Extensions in product ranges offered has expanded each company's sphere of influence and increased the sophistication of the corporate design policy. Gillette's takeover of Braun AG in 1969 did not have an immediate impact on that company's policy, but in recent years, given the company's responsibility to its shareholders, the necessity to conform to modern thinking of design has become apparent. Olivetti's collaboration with AT&T since 1981 has meant considerable financial and technological backing for that company's design policy. Olivetti's commitment to the user interface aspects of design has ensured competitive products.

IBM has maintained its position as world leader in the information storage industry, establishing an integrated design programme compatible with their customers needs for serious, refined designs. Sony has become the design pioneer of recent years. Their commitment to quality of design combined with an astute sensibility of each customer's requirements is ensuring commercial success.

With the increased globalization of world markets, co-operation between various countries in research and development and the predominance of the 'international style' of design, the maintenance of co-ordinated design policies in line with the corporate character or identity has become very difficult. Products produced by a given company still possess the character of the company to a certain extent ^{but} it is becoming increasingly difficult to distinguish this fact. Companies producing products for a number of market sectors with various ranges such as IBM and Sony, adopt different approaches to different product types in order to compete successfully. This results in a loose yet co-ordinated policy which can allow for variant thinking. Olivetti and Braun produce smaller ranges of products and are thus more distinguishable as products from those particular companies. Increasing corporate power results in increasing co-ordination between products and product types, so that although each market is segmented, they are nevertheless co-ordinated by this company's products. Is the anonymity of the large company to prevail over the personalized quality of one company per customer type? We cannot tell.

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