

the development
of the
SANS SERIF
typeface

a thesis by

Ronald Hamilton

REFERENCE: 1

[A]

Typeface

ASCENDER LINE
CAP LINE
X LINE
BASE LINE
DESCENDER LINE

X-HEIGHT

[B]

ABIER kag

COUNTER
STEM OR MAIN STROKE
ARMS
ASCENDER
COUNTER
TAIL
BOWL
TERMINAL
BOWL
TAIL

jt g

OBLIQUE TERMINAL
CROSS BAR
COUNTER
SPUR OR EAK
WEDGE SERIF
BOWL
BRACKETED SERIF
UNBRACKETED SERIF
SERIF
HAIRLINE (SERIF)
SLAB SERIF
SANS SERIF (WITHOUT)
LINK
TAIL
DESCENDER

[C]

B

■ MASS

This term alludes to the superficial appearance of the letter i.e. the form or shape of the letter.

B

■ COUNTER

This is the white or negative space in which the letter form is constructed.

Throughout the thesis when describing the various types, their visual characteristics and methods of construction. I have used different terms and at times referred to a system of classification (see page 21 for a slightly more detailed description). To aid the reader who may be unfamiliar with these terms or the system of classification, I have included two sources of reference. They both can be found on the inside sleeves of the front and back covers. (see fig: 1 and 2)

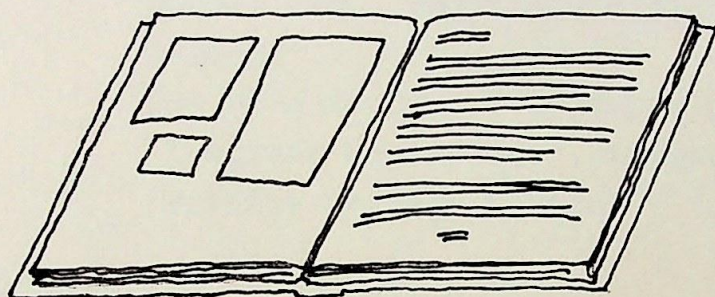


fig: 1

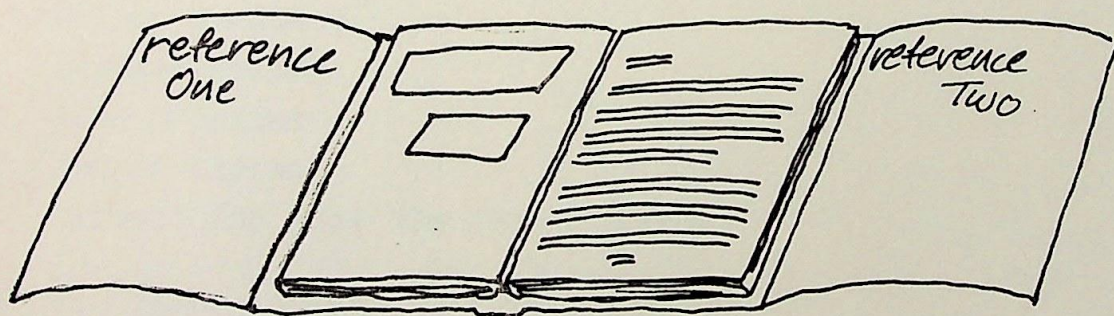


fig: 2

Reference one consists of [A] a description of letter heights e.g 'x' height [B] constructive and characteristic elements of letters i.e. names to describe them, and [C] a general definition of MASS and COUNTER. Reference two refers to a system of classification which was invented by the French designer Maximilien Vox.

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For Bridget and Andrew

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John Banks. Case histories for two corporate identity prog-
rammes i.e. the 'Post Office' and 'British
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Dr. Francis Boumans
Gilean Hamilton
Bridget Murphy
John O'Connor
Connor Clarke
Vincent Ray (for the typewriter).

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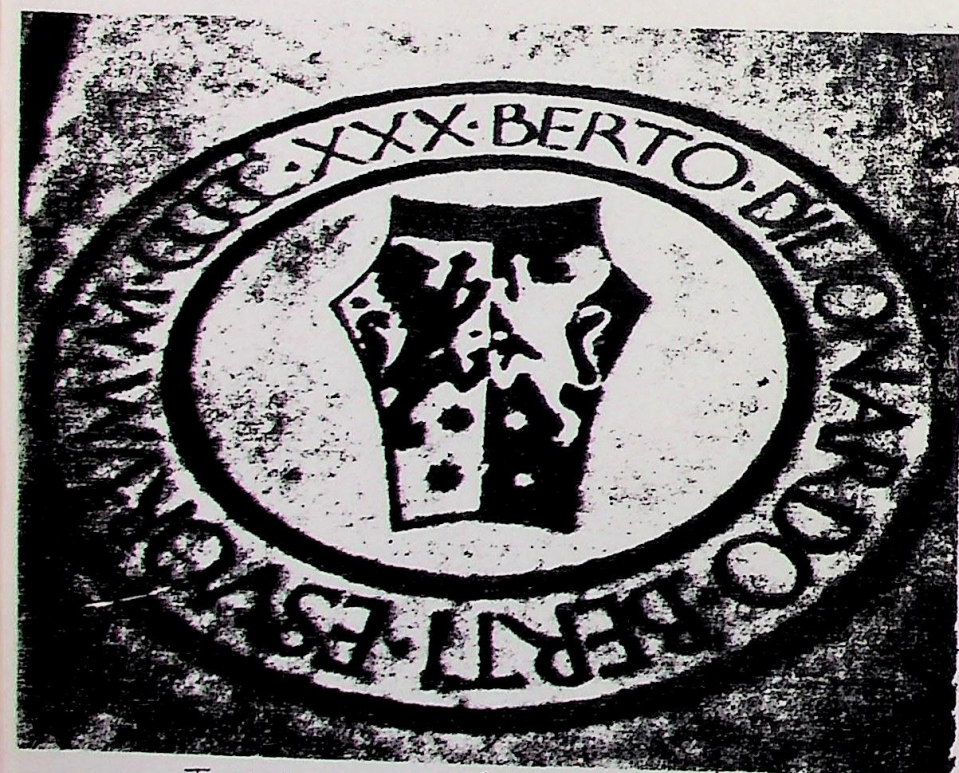
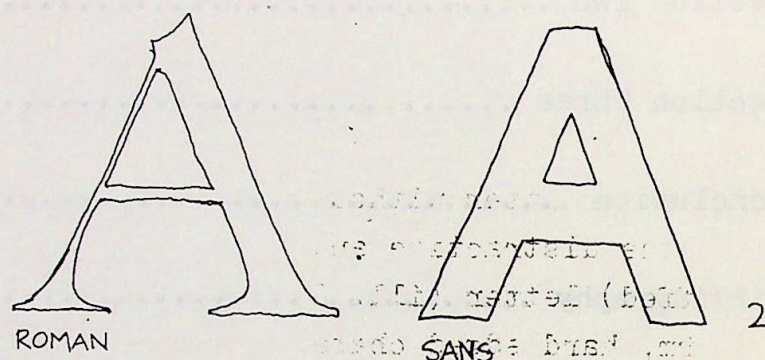
Connor Clarke

Vincent Ray (for the typewriter).

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MATRONIS
FLIABVS·M·
ARIVS·KGCE



Tombstone in the floor of Santa Croce,
Florence. Inlaid marble (1430).

INTRODUCTION

Letter forms can basically be divided into two categories, those with and those without serifs. Since it was first introduced on the terminal strokes of the Roman 'Capitalis Monumentalis' (1st century B.C. ill. 1). The serif became a characteristic if not dominant feature of letter design and construction. Over the centuries this simple terminal stroke has evolved and appeared in a variety of forms, thick, thin, hairline, slab, bracketed or unbracketed (ref: 1. B). However as the name indicates the sans serif is a letter without serifs. This serifless letter form lacks the distractive and decorative qualities of the Roman (seriffed) letter (ill. 2). The sans is generally a monoline, uniform, hard edged character, which by its nature is the basic skeletal form of the alphabetic sign.

Although the unserifed letter first appeared in the inscriptions of the ancient Greeks e.g. 'Greek lapidary type' (5th century B.C. ill. 3) and again briefly during the Renaissance (ill. 4). It did not reappear until the nineteenth century. After the transition from formal writing to the printed character no one had thought of removing the serifs from the terminals of the letter form until the first tentative design for the sans serif typeface was made in 1816 by William Caslon IV (1781 - 1869).

In the short period of its evolution (less than two hundred years) the sans has had a significant impact on design. Particularly in the later half of the twentieth century. It had been my intention from the outset to devote my thesis to the study of an area of design history. For this reason I chose the study of the sans serif typeface. It also presented an opportunity to broaden a subjective interest in the sans. Except for a few cases, serious study or research of this subject has not yet

been attempted. With this in mind I decided to structure the thesis into three sections.

The first is a general discussion on the history of the development of the sans serif typeface. It will be confined to England, Germany and Switzerland. It was in these countries that the major developments of the sans typeface took place. I intend to trace the sans evolution, from its origin during the nineteenth century through to the more recent designs of the later part of the present century. This discussion will also take into consideration the reasons for the sans introduction, the individuals (e.g. William Caslon IV, Eric Gill, Paul Renner and Adrian Fruitiger) and the various circumstances (i.e. such as changes in methods of reproduction) that affected the sans changing form.

The second section will be a more specific approach to discussing and comparing the individual typefaces e.g. through visual characteristics and varying concepts in methods of construction. For example, compared to the English sans of the early twentieth century, which were based on classical forms (i.e. the Monumental Capitals, Carolingian Minuscule and the early Roman typefaces), The German designs of the same period were based on geometric shapes and at times grounded in philosophical theory. In essence this section will take a more definitive approach in discussion the various typefaces. It will be treated in chronological order and the system of Classification (with reference to the sans i.e. Grotesques, Neo Grotesques, Geometric and Humanist) will be used to structure this section. I feel that it will lend itself to communicating this discussion coherently, thus increasing my own and the readers awareness of the different sans serif typefaces.

Finally, in the third section I will discuss the legibility and use of the sans. This section is more of a personal reaction to what I feel is the unseriffed letters true role. Edward Johnston's (1872 - 1944) sans serif design of 1916 gives us the first clue to this role. Johnston's letters were designed for use on 'London Underground' posters and signs. It was in fact

the first system introduced for the standardization of publicity material (i.e. corporate identity). It proved that as a medium for conveying the message with the maximum economy, the sans was both logical and ideal. Since then the sans has been increasingly incorporated in identity and information systems. As a conveyor of words, in the context of informing, communicating and indicating direction the sans is at its most effective. To illustrate this discussion I will use the identity/information programme designed (1975) by Adrian Frutiger for the Roissy (Charles de Gaulle) Airport, Paris. This final section will bring the thesis to its conclusion.

uns als wir an dich hie han
 gehoffet Ich haffen hie an
 dich dar umb werde ich nu
 mer geschant? V. Nadymer 5

A History of the Development of the Sans Serif Typeface.

From the Roman to the Sans Serif typeface - the origin of the Sans.

The invention of moveable type during the fifteenth century by Johannes Gutenberg (1398 - 1468) was undoubtedly inspired by the concept of producing the book by mechanical means. Certainly from its invention up to the late eighteenth century, printing was practically and solely concerned with the production of the printed book. The main letter form to emerge for use in continuous text was the Roman character. As such the development of printing and the printed book has been paralleled and complemented by the evolution of the Roman typeface.

The point of departure came during the Industrial Revolution (late eighteenth early nineteenth century), when amidst social and economic upheaval e.g. with the increase of consumer goods. The printers of Europe were looking for new and bolder types i.e. display faces for the purpose of advertising. Perhaps the main influence on the development of the display face, came in a period (during the eighteenth century) of radical and innovative change in the progressive evolution of the Roman typeface i.e. the transition from the Old (ref; 2. A and B, Humanist, Garalde) to the Modern (ref; 2. D, Didone) types.

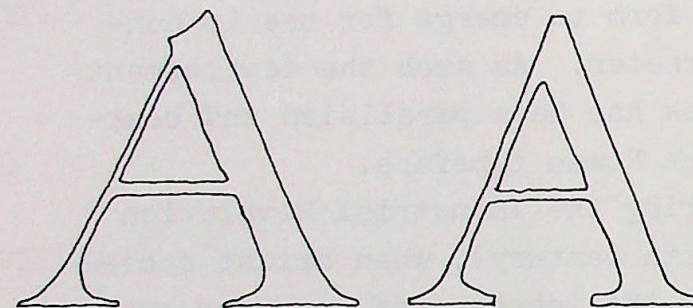
Gutenberg's characters for printing were based on the black letter or textura of German scriptoria (manuscripts). This letter was constructed by holding the pen practically upright. They were a rather heavy letter form, hard edged with little or no curves. Which gave the letters an illegible quality (ill. 5). But as Gutenberg's invention moved south to Italy the letter forms produced by the Venetian printers replaced the black letter

rex in colomis. Nos ob stup
 tanta eremiraculo. id quod
 cogebat ueritas facebamur.

Caroline Minuscule.

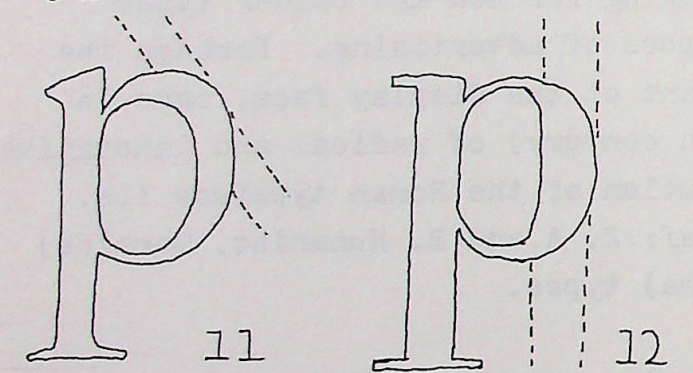
V i superum seu æ memorem uion
 M ulta quoque & bello passus dum c
 I nferret q. deo lano: genus unde
 A lbanis q. patres atque alte moen

Italian 15th. century writing. 8



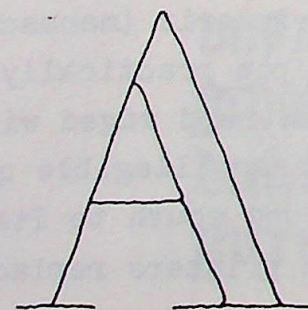
CASLON

BASKERVILLE



11

12



DIDOT.

commentari; neq; eo uultu, quo esse h
 soles, hilari, et soluto; sed, quo te in u
 be conspicimus, contractiore iinterdur

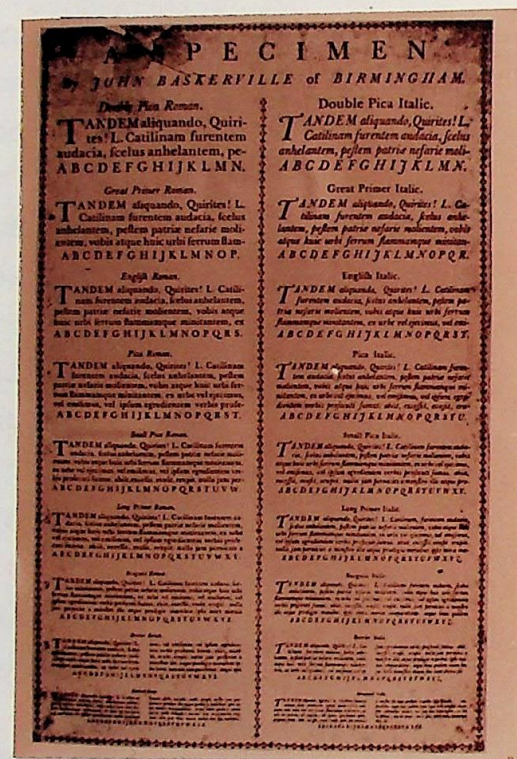
Aldus's Roman Letter. 7

mine che emaschi. In tutta gl'altra e lopp
 hano piu graue boce che le femine. Delf
 e tutto fuon. Non parla senon dopo lar

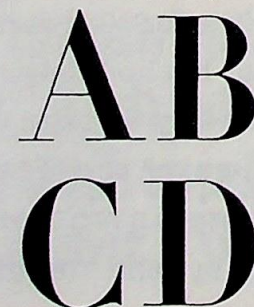
Jenson's Roman Letter. 6

This is Caslon Old Face which was
 designed at a time when printing was
 done on a hand-press on damp hand-
 made paper. Caslon looks its best when
 conditions are near those for which it
 was designed.

Caslon's Old Face. 9



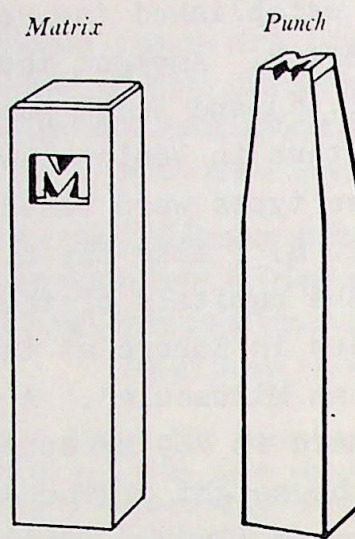
10



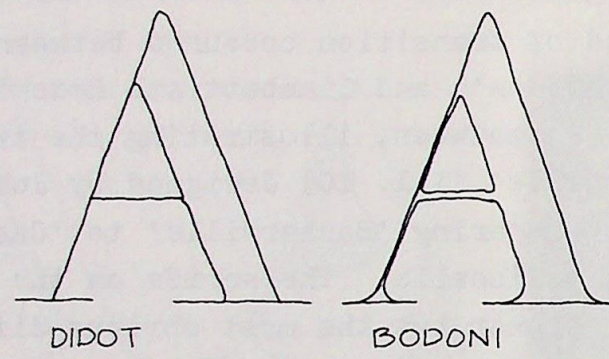
13

and established the Roman letter as the supreme character in
 printing. Amongst the first of these types was Nicholas Jenson's
 (ill. 6) and Aldus Manutius (ill. 7) Roman letter. Both were
 printers in Venice towards the end of the fifteenth century.
 These types were based on Italian hand writing of the same period
 (ill. 8) (like the black letter, Italian writing was influenced
 by the capitals of the Roman Empire, and like most sub calligraphic
 styles in Europe at that time , both were derived from the 'Carol-
 ingian Minuscule'. A system of standardized writing style int-
 roduced in 789 by decree of Charlemagne King of the Franks).
 At the height of the Roman typefaces development came William
 Caslon's (1692 - 1766) type design (ill. 9). 'Caslon', named after
 its creator, brought to an end one phase of the evolution of the
 Roman typeface and it signaled the transition from the Old to the
 Modern face. This period of transition occurred between the
 introduction of William Caslon's and Giambattista Bodoni's (1740 -
 1813) typeface designs. In between, illustrating the transition
 was the typeface 'Baskerville' (ill. 10) designed by John Basker-
 ville (1706 - 75). When comparing 'Baskerville' to 'Caslon' the
 first subtle changes are noticeable. The serifs on the 'Basker-
 ville' type are slightly thinner but the most obvious difference
 occurs in the execution of the curved elements of the letter
 forms. 'Caslon' and previous Roman types were based on the shapes
 made by a broad nibbed pen. Whereas by the eighteenth century
 typefaces like 'Baskerville' were "subject to intellectual as
 well as artistic development" (quote. p. 21. No. 23). In the
 'Caslon' letters the axis of the curves is inclined to the left,
 this is called oblique shading. (ill. 11). On the other hand
 in the 'Baskerville' letters there is a slight incline on the
 axis of the curves, this is called vertical shading (ill. 12).
 This vertical shading became a standard element of design in the
 Modern Roman typefaces.

The next radical change to the Roman letter was made by Firim
 Didot (1764 - 1836). In this case there is a greater contrast
 between the strokes of the letters (ill. 13). The emphasis



14



DEF
GHI

15

ULTRA BODONI: Series No. 120

LMN mno 36 pt.
NOPpqrsti 30 pt.
RSTUM uvwxo 24 pt.
VWXMNyzab&ff!?!£ 18 pt.
YZROPSTUabcdefghijkln 14 pt.
ABCDEFGHI kmopqrstuvw 12 pt.
JKLMNOPQRST yzabcdefghijklmn 10 pt.
UVWXYZABCDEFGHIopqrstuvwxyza 8 pt.

16

and weight has been put on the main strokes. The serifs have almost been eliminated altogether. They have become hairline, unbracketed and appear to have been drawn with a ruler. Another influence on the construction of these letters was the introduction of copper engraving and its popularity as a medium for reproducing illustrations in books. In an effort to design a letter form (for use in continuous text) to compliment the copper engraved illustrations the Modern Roman typefaces emerged.

Since the invention of moveable type up to the seventeenth century, characters for printing were made from metal punches i.e. they were cut out in relief on the end of a small steel rod called a punch (ill. 14). The punch was then hardened and used to stamp a matrix from which the types were cast. However after the introduction of Intaglio (during the seventeenth - eighteenth century) characters were engraved on a copper plate. Under heavy pressure the letter forms were picked up and printed on paper. As various methods of reproduction determine the appearance of the finished product. Intaglio by its nature had an influence in encouraging the use of fine hairlines and serifs which are evident in the type designs of Didot and Bodoni.

Didots letters were later absorbed and developed by Giambattista Bodoni. The Bodoni letter is quite similar to Didot's. Except in 'Bodoni' (ill. 15) there seems to be not as strong a contrast between the strokes to the extent that the thin strokes are slightly thickened. Brackets are also reintroduced on the serifs. As I mentioned up to this period printing was mainly devoted to the production of the book. With the increase of consumer goods and advertising during the industrial revolution a new letter form emerged, the display face. This letter form was undoubly inspired by, if not directly, then indirectly by the Modern typefaces. The connection seems an obvious one and was later (twentieth century) "acknowledged by the Monotype Corporation when they cut 'Bodoni Ultra' (ill. 16).

7

ABC

17

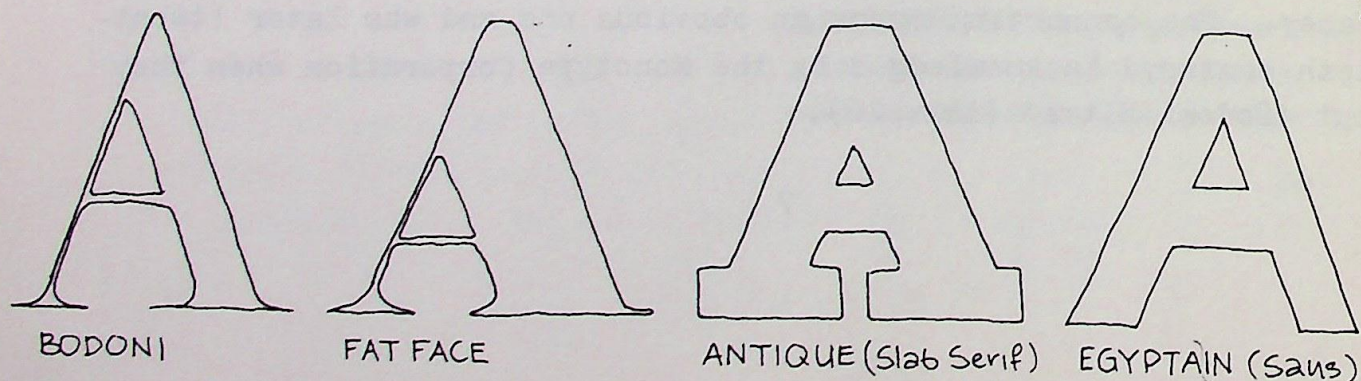
MINT
main.

18

TWO LINES PICA, ANTIQUE.

ABCDEFGHIJ
KLMNOPQR
STUVWXYZ&,,:;-

19



The Display Face

Perhaps one of the earliest display faces was introduced by Thomas Cotterrel (d. 1785) in a book of specimens (1765). The specimen of 'Caslon' type was twelve line pica in size (ill. 17), which was approximately the same size as the illustrated example shown. It is important to note that before the introduction of the display face, that the Roman typeface had appeared in one weight only (medium) and the largest size was 48pt. The Cotterrel specimen both in size and weight was unheard of then.

It was Cotterrel's pupil Robert Thorne (d. 1820) who was responsible for the development of the first 'Fat Face' introduced in 1802. This new display face contains elements of and was probably influenced by the Modern typefaces. In Thorne's letters (ill. 18) more emphasis is placed upon the contrast between thick and thin strokes. Similar to 'Bodoni' there are hairline strokes or serifs. However Thorne's letter forms are more rounded, almost whimsical in shape and slightly crude compared to 'Bodoni'. So successful were the new 'Fat Faces' that they dominated the printers founts for more than twenty years.

In 1815 Vincent Figgins (1766 - 1844) made the second significant contribution to the development of the display face. When he introduced a new design that was called 'Antique' or 'Egyptian' (ill. 19). This letter form was monoline in shape and had a machine like appearance, this image was enhanced by the inclusion of slab or rectangular serifs. The adoption of the name 'Egyptian' probably refers to the French invasion of Egypt (late eighteenth century). As a result of Napoleons invasion things 'Egyptian' became fashionable in the early half of the nineteenth century. An interest in the ancient Egyptian and to a lesser extent Greek cultures was evoked by this invasion. "The ponderous solidity of the Pharaonic tombs, the top heavy colonnades, the emphasis upon the straight line, vertical or horizontal, in the pylons and in the hieratic inscriptions, these features were reproduced with enthusiasm" (quote. p. 66, No. 14). Elements were absorbed from both cultures and the monoline slab serif and the unseriffed letter form were to an extent a result of this influence.

W CASLON JUNR LETTERFOUNDER

20

TWO-LINE GREAT PRIMER SANS-SERIF.
**TO BE SOLD BY AUCTION,
WITHOUT RESERVE;
HOUSEHOLD FURNITURE,
PLATE, GLASS,
AND OTHER EFFECTS.
VINCENT FIGGINS.** 21

TWO LINES SMALL PICA GROTESQUE.

**HEREFORD INDEPENDENT & FREE PRESS.
MODERN FURNITURE, &c. 1836.**

6. Unseriffed capitals cut by William Thorowgood, first shown in 1832. The examples are from his specimen book of 1837 (St Bride's).

THOROWGOOD & Co. LONDON.

22

FOUR-LINE PICA CONDENSED.

**CHRONONHONTONHOLOGOS
MUCH ADO ABOUT NOTHING**

23

The 'Fat Face' also had a part in inspiring the development of the 'slab serif' and in turn the sans serif. One feature that both the 'Fat Face' and the 'Antique' had in common was that one could either emphasize or eliminate the serifs. This seems to have been the logical step taken in 1816 by William Caslon IV when he made the first design for the sans serif typeface.

The Nineteenth Century Sans.

England.

William Caslon IV cut his two-line English (approximately 28pt) unseriffed capitals in 1816 (ill. 20). Unaware of the significance of his innovation Caslon hid the design amongst the decorative capitals in the back of a book of specimens. Needless to say at such a small size the design went unnoticed and Caslon received no money for his discovery.

As a result the sans did not officially appear until sixteen years later. When in the early eighteen thirties several typefounders introduced the design in their books of specimens. These early sans serif designs were rather crude in their construction. They were big and bold, designed to attract the attention of the consumer. The first of these was shown in three sizes in 1832 by the Figgins foundry (ill. 21). This was followed in the same year by Caslon and Livermore (not Caslon IV) (ill. 22) and William Thorowgood's (formerly Robert Thorne's foundry) (ill. 23) designs. The following year 1833 two more designs (~~ill. 24~~) were shown by Blake, Garnett and Company (formerly William Caslon IV's foundry). A variety of titles were used to name these designs. Caslon and Livermore called their design 'Condensed' which was later changed to 'Doric'. Thorowgood called his design 'Grotesque'. Blake, Garnett and company called theirs 'Sans Surryphs', which fortunately was later changed to 'Grotesque'. But it was Vincent Figgins title which focused on the letter forms most obvious feature that became the norm i.e. 'Sans Serif'.

The first lower case sans serif design was cut in 1835 by William Thorowgood. Up to that period all the sans designs had been cut

Communicate

25

TWO LINES ENGLISH ITALIC GROTESQUE.

London Banking Company
Provident Institution
Grand Promenade Concerts
Premium £84,537

26

BIRMINGHAM MERCANTILE REGISTER
Recently Circulated Numerous Handsome Designs
NORTHAMPTON and HUNTINGDON
Monthly Reports are now published, Cloth, 36s.

27

Mr. 500. 3 Cicero (36 Punkte)

30 x 12 A. 1 Satz ca. 8 kg

Kalendarium für Deutschlands Steindrucker und Buchbinder
Französische Poesie THE SPECTATOR Neues Handelsrecht

28

in capitals only. Thorowgood called the design 'Communicate' (ill. 25), this was later changed to 'Communion' in 1848 and 'Common' in 1868. The design was not only crude it was also illegible. There are a greater number of curved elements in the letters of the lower case and the characteristic monoline construction of the nineteenth century sans letter forms did not suit the design of the smaller letters. Both the equal weight of the letters and the choice of root i.e. were a curve or bowl joins the stem, portrayed the faults in Thorowgood's design. When placed together, as in the illustrated example, the letters were clumsy and illegible.

The Figgins Foundry seemed to have played a major role in the development of the nineteenth century sans. Figgins was responsible for the introduction of the first 'Antique' (as mentioned above) and the first official sans. This was followed in 1870 by the first sans italic (I could find no example of this design but an italic cut by the Reed and Fox foundry (ill. 26) in 1873 was influenced by and quite similar to the Figgins design). Finally in 1889 the Figgins foundry cut the first true Roman sans serif in upper and lower case (ill. 27). "Thereafter, sans serif in both capitals and lower case was an indispensable feature of all British specimen books" (quote. p. 74, No. 14).

Germany.

In Germany during the nineteenth century the opportunity to experiment with the sans letter form or Groteskschriften as it was called, thrived. As early as 1825 a sans serif design which included both upper and lower case was cut in seven sizes (10pt to 48pt) by J.G. Schelter of Leipzig (ill. 28). This design unlike the British sans which was a bold mechanical looking letter, was both condensed and light in weight. The J.G. Schelter firm later added (1830) a bold upper and lower case Roman. This was followed in 1850 by a condensed bold. Both the 1830 and 1850 designs were cut in a number of sizes. But in the 1850 design three of the nineteen sizes cut included a choice of three body sizes. "Their design, named 'Steinschrift', was obviously intended for text setting rather than eye catching display" (quote. p. 74, No. 14).

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz

29

CHESNUT STREET THEATRE
 LEWIS, JAMES, MEDICAL DIRECTOR, CH. MULLER, J. B. 1865
 STAGE MANAGER.

PRICES OF ADMISSION:
 Boxes, Chaise and Parquet... 50 Cents
 Boxes, Tier and Family Circle... 30 Cents
 Boxes, Private Boxes, Balcony, 1st Floor... 10 Cents
 Private Boxes, Balcony, 1st Floor... 5 Cents
 Boxes, Balcony, 1st Floor... 2 Cents
 Boxes, Balcony, 1st Floor... 1 Cent

SUMMER SEASON
PLEASING ENTERTAINMENTS!
OPERATIC
GEMS
GENTEEL COMEDIES
 LAST NIGHT OF THE ENGAGEMENT BY
SIGN'R STRINI
 THE CELEBRATED PRINCE, KING
MRS. ADA KING,
 The Favorite Vocalist and Actress, and
MR. EDWARD WARDEN
 The Favorite Comedian and Actor, and
SATURDAY EVENING, June 17, 1854
THE SECRET
 A Comedy in Three Acts, by Signor STRINI
 MRS. DUPUIS, MRS. ADA KING
 After which, CAVATINA from the Opera of Cinderella by Signor STRINI
PERFECTION!
 Or, The Maid of Munster.
 KATE O'BRIEN, with Songs, MRS. ADA KING
IRISH LION!
 MR. LYSANDER THOMPSON,
 The Celebrated Comedian.

30

This coupled with perhaps the major innovation in the development of the nineteenth century sans i.e. 'Akzidenz Grotesque' had an significant influence on the Swiss designs of the twentieth century (this will be discussed later).

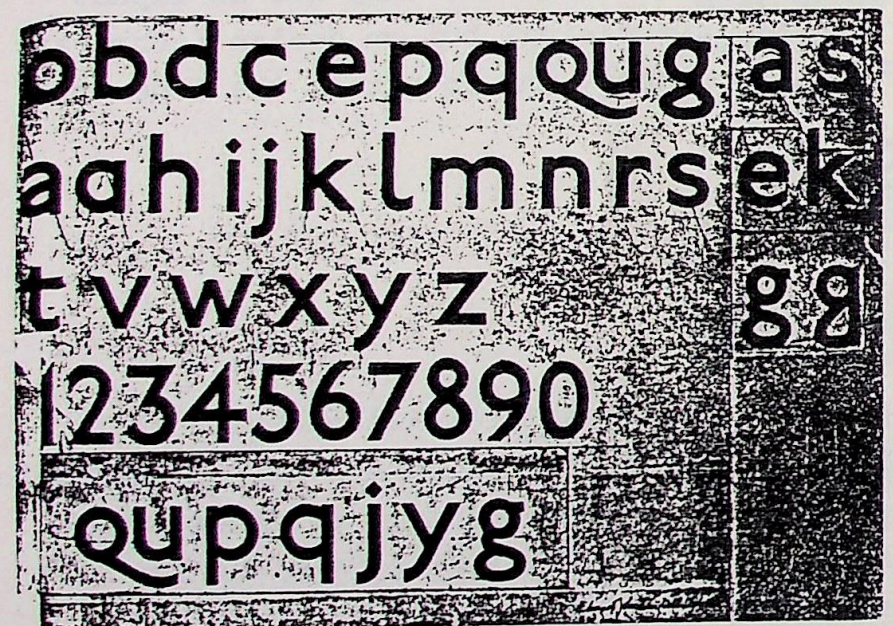
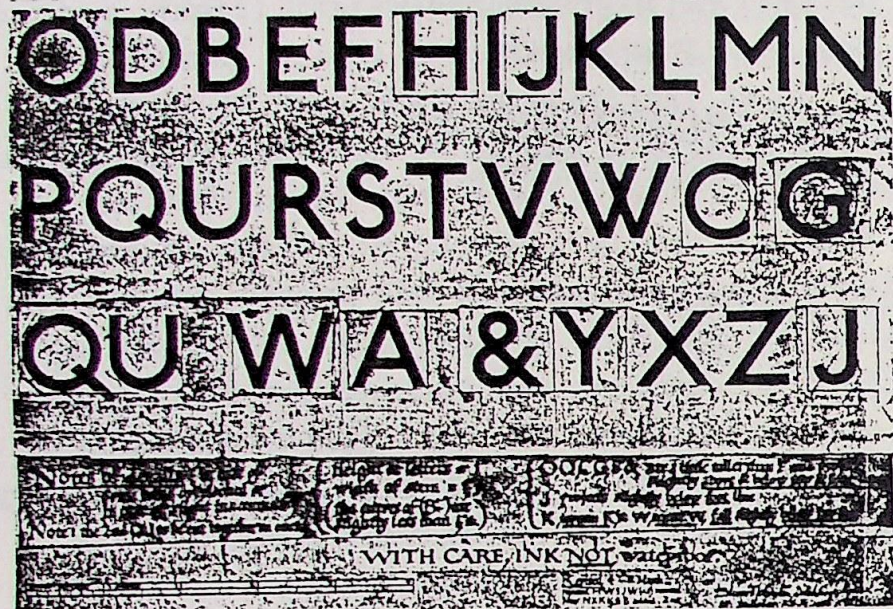
In 1889 the Berthold typefoundry introduced a family of ten sans typefaces, cut with variations in style and weight (light, medium, bold), based on one design. This family was called 'Akzidenz Grotesque' (ill. 29). Up to that time designs such as posters (ill. 30) were carried out using a number of contradictory typefaces. The advantage of 'Akzidenz Grotesque' was that it enabled one to carry out a job using one family composed of different styles and weight. But unfortunately the concept was wasted and did not catch on. Both Figgins and Berthold designs i.e. the true Roman and 'Akzidenz Grotesque' occurred at the turn of the century and as such brought the sans development for that period (nineteenth century) to a close. Generally the sans of the nineteenth century evolved out of the need and were used as display faces for the purpose of advertising. This role was to become more diversified during the twentieth century. The sans not only had an impact on the increasing growth of advertising, but on design (corporate identity and information programmes) and to extent the fine arts.

The Twentieth Century Sans.

England.

In 1916 literally one hundred years after William Caslon IV cut his first tentative design. The first sans serif of aesthetic merit was designed by the calligrapher and type designer Edward Johnston. He was commissioned by Frank Pick of the 'London Passenger and Transport Board' (L.P.T.B) to design a letter form for use on 'London Underground Railway'. "Johnston's daughter had described how Frank Pick persuaded her father to reflect on a block letter design that had the bold simplicity of the authentic lettering of the finest periods". yet would "belong unmis-

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz



31

akeably to the twentieth century" (quote. p. 76, No.14). The result was Johnston's 'Railway type'. This incorporation of a sans serif letter form on 'London Undergrounds' posters and signs gave the sans a respectability it had not achieved before.

Johnston's sans serif design was (ill. 31) based on classical letter forms. He used a simple method in the design of the individual characters. Not unlike the 'Monumental Capitals' whose construction was based on simple geometric shapes i.e. the square, circle and the triangle. For example, the 'M' is constructed within a square, the 'O' is a perfect circle and the 'A' is constructed within a triangle. Johnston not only worked out the relationship between counter and mass, he also worked out the spacing between the letters. Such considerations were unheard of in the sans of the nineteenth century.

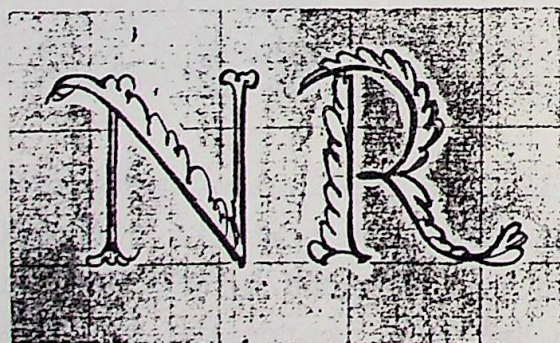
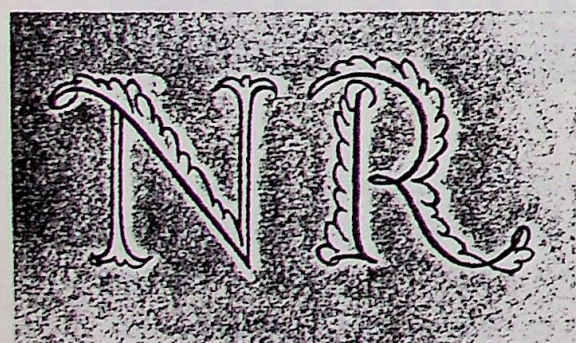
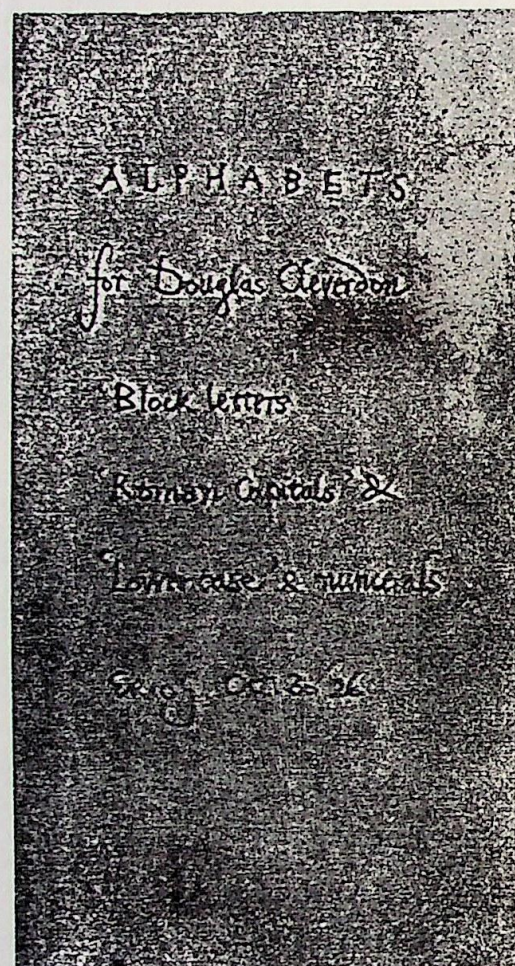
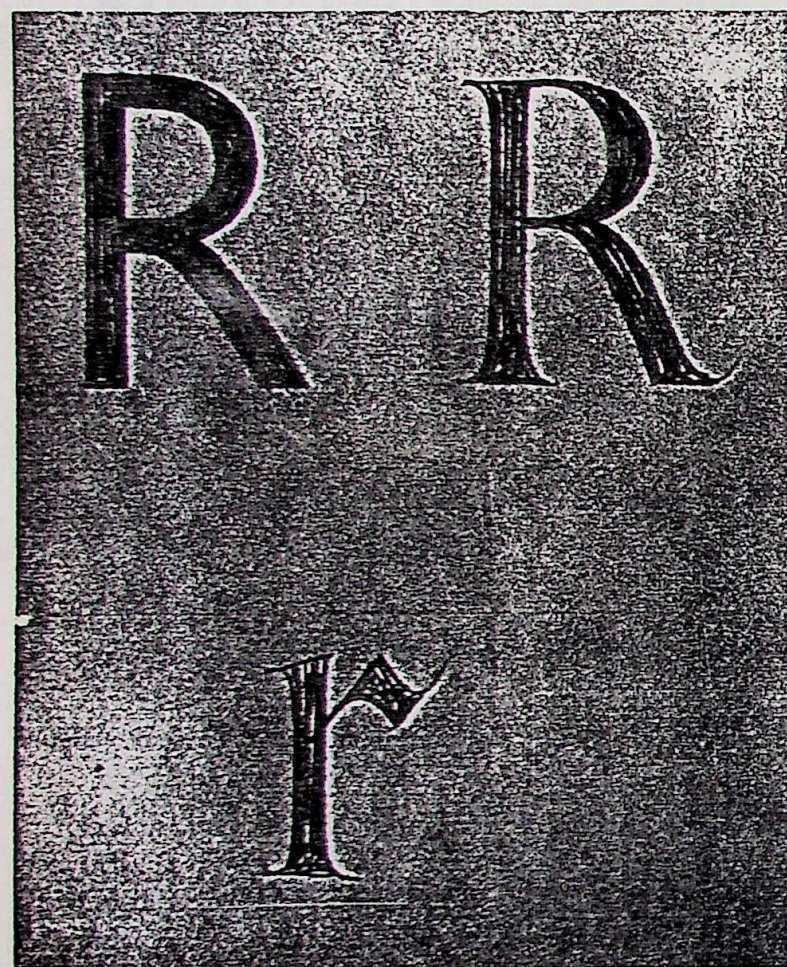
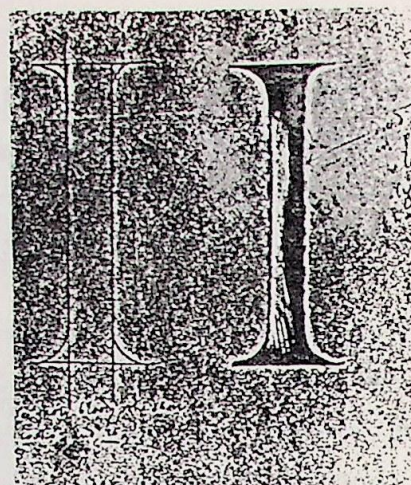
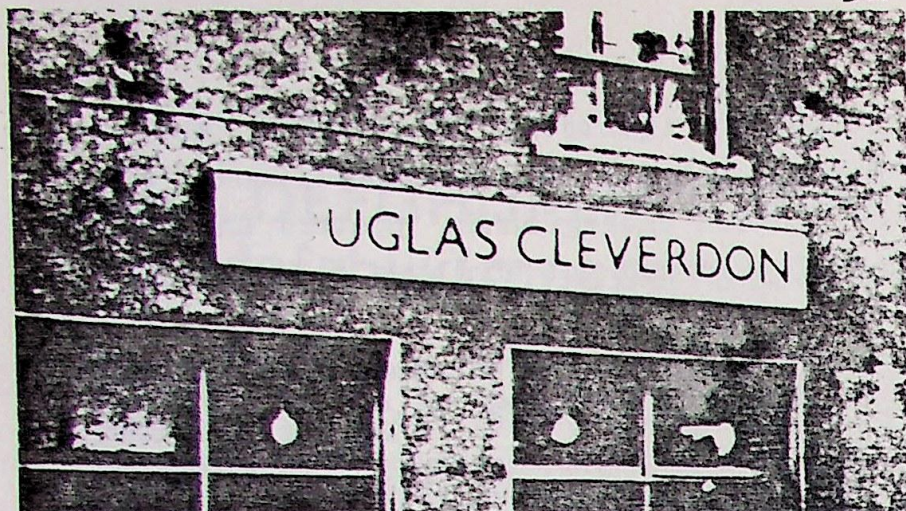
Present at the early meetings between Johnston and Pick was a young Eric Gill (1882 - 1940). This is evident from the different entries in Gill's diary dating between October 29th and November 17th.

"Oct. 29: To G(erard) M(eynell) with him to meet H(unter) re. £1 note design. Lunch with E.J(ohnston) and G.M. after. To see Pick (Undergrd. Rly) with E.J. and G.M. re. new alphabet, etc 2.30. Nov. 7: E.J. came to tea (also H.D.C P(epler)) to discuss Pick (Undergrd. Rly) lettering.

Nov. 17: To Ditchling in eve. to see E.J. re. Block letter alphabet" (quote. p. 14, No. 16).

Although it may be derived from these entries that Gill had a part in the discussions relating to the new design. Unfortunately there is nothing to suggest that Gill had a part in the physical construction or designing of the letters. Needless to say the experience left a lasting impression on Gill and undoubtedly influenced the design of the later 'Gill Sans'.

Eric Gill was a pupil, assistant and friend of Edward Johnston. He first met Johnston at the 'Central School of Arts and Crafts' which had been founded by William Lattaby (1857 - 1931). Edward Johnston had been instructed by Lattaby to teach calligraphy at the school. Like William Morris before him Johnston went back



in history in search for fine lettering e.g. such as the 'Carolingian Minuscule', for use as models. Present at Johnston's first class was Eric Gill. The next significant English sans serif design was made by Gill in 1928.

A number of circumstances are collectively responsible for the creation of 'Gill Sans'. Notable (as mentioned above) the influence of Johnston's sans serif design of 1916. Gill derived from Johnston's block letters a simple display face of unseriffed capitals which he used in three different situations. The first was for use on sign posts at Capel-y-ffin. Secondly, for use on signs for the Army and Navy stores. Finally for use on the fascia board of Douglas Cleverdon's book shop in Bristol (ill. 32).

Gill had been bound to his bed by influenza. During this period of illness he took to completing a project for a book shop owner, Douglas Cleverdon. Cleverdon had approached Gill and had asked him to design a series of alphabets (some preliminary sketches, ill. 33) for use on signage, price tags and labels. Included in the final book of specimens was a design for unseriffed letters. Cleverdon later asked Gill to paint the fascia board of his shop using these block letters. A friend of Cleverdon's (and Gill's), Stanley Morison of the Monotype Corporation, on seeing the fascia board approached Gill and asked him to supply a design of block letters for type cutting.

The sans had become quite popular in Europe. Stanley Morison had been searching for an English equivalent to rival the designs emerging in Germany. He found what he was looking for in the person of Eric Gill. But there was one major problem. Gill was opposed to the modern industrial society and the task fell on Morison to convince Gill to allow his letters be reproduced by an industrial process. There ensued a series of arguments and debates by Morison based on 'Thomistic' lines (which would have appealed to Gill). Eventually Gill was convinced and he produced two designs for Morison the first was a seriffed face called 'Perpetua' and the second was 'Gill Sans'.

Gill's unseriffed letters (capitals only) was introduced in 1928



FIFTEENTH COST CONGRESS
OF THE FEDERATION OF MASTER
PRINTERS AND ALLIED TRADES OF
THE UNITED KINGDOM OF GREAT
BRITAIN AND IRELAND

IMPERIAL HOTEL, BLACKPOOL
MONDAY 21st MAY
1928

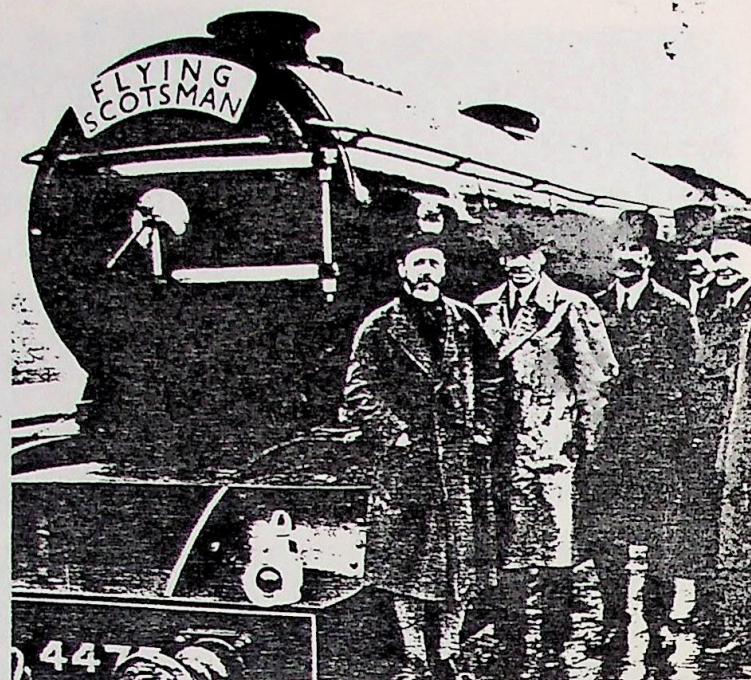
35

* MEETING OF FEDERATION OF MASTER PRINTERS
ANNUAL BLACKPOOL

PUBLICITY AND
SELLING CONGRESS

on Monday, 21st May, 1928
at the Imperial Hydro Hotel
at 2.30 p.m.

34



37



36

ABCDEFGH

Gill Sans Cameo, Monotype Series 233

ABCDEFGHIJ

Gill Sans Shadow Line, Monotype Series 290

ABCDEFGHI

Gill Sans Cameo Ruled, Monotype Series 299

ABCDEFGHI

Gill Sans Shadow, Monotype Series 304

ABCDEFGH

Gill Sans Shadow, Monotype Series 406

ABCDEFGH

Gill Sans Ultra Bold, Monotype Series 442

38

at the 'Annual Congress of the British Federation of Master Printers'. Stanley Morison used the sanserif typeface to design a programme cover for the Congress (ill 34). Gill's typeface had a stormy baptism and was greeted with cries of 'typographic bolsevisism'. Which is understandable when one compares the radical new design with another cover designed for the Congress by George W. Jones (ill 35). However during the same period the newly appointed Publicity Manager (Mr. C.G.G. Dandridge) for the 'London and North Eastern Railway' (L.N.E.R.) was considering the standardisation of the railways publicity material.

He was impressed by the logical simplicity and legibility of 'Gill Sans'. As a result the lower case of the sans was cut. Gill who as a young boy in Brighton had drawn locomotives (ill. 36) with carefully rendered names, had come full circle when he placed his hand drawn name plate on the 'Flying Scotsman' (ill. 37). Like Johnston before him, Eric Gill's sanserif typeface was used to standardize the printed matter of a railway. Due to the various requirements of the L. N. E. R. many new variations (ill. 38) based on the original design grew until there was a family of twenty eight related designs. It seems that Gill did not complete all of these or have contrroll over the majority of the finished designs. "Gill was merely asked to provide basic alphabets from which the 'Type Drawing Office' could derive (by mechanical logic) what ever bolder, narrower or lighter version would be required" (quote. p. 16, No. 16). It is important to note that 'Gill Sans' was designed first as a typeface and later became a face for use on poster and signs. However tradition was slow to break amongst the British printers. They were slow in accepting the sans certainly within the context of using it for continuous text.

Germany.

On the other hand in Germany the sans had long been a favoured letter form. Several designs were introduced during the 1920's.

39 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz

KABEL
 ABCDEFGHIJKLMNOP
 QRSTUVWXYZ
 abcdefghijklmnopqrstuv
 wxyz123456789
 40

aaabbbcc
 ddefghij
 klmnoppp
 qqrstuv
 wxyz
 A B C D E
 41
 16. Paul Renner's first designs for the lower case of Futura.

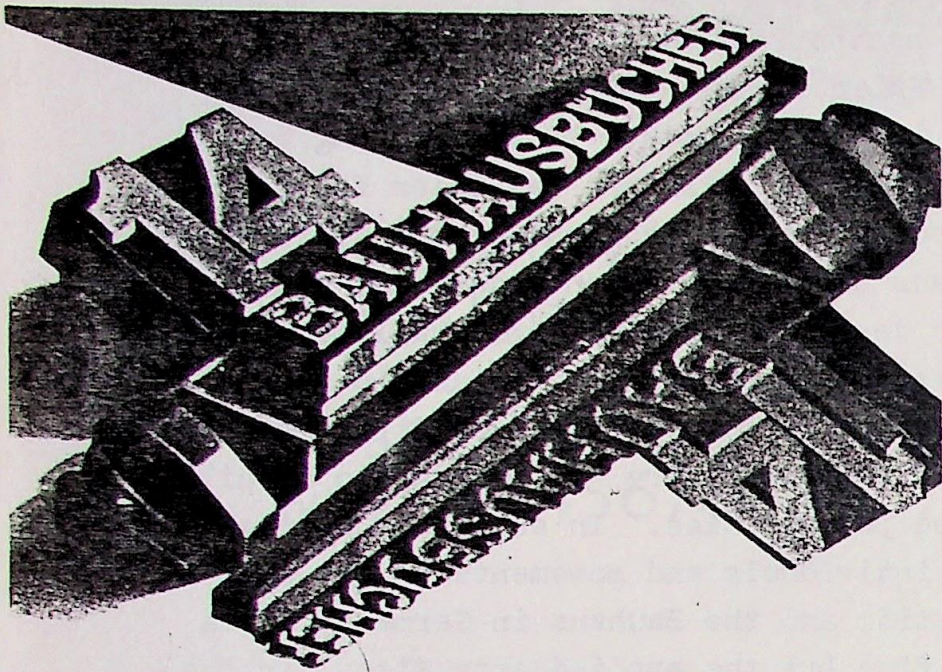
ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 40

The first German sans of aesthetic merit appeared in 1924 (ill. 39). It was designed by Jakob Erbar for the purpose of advertising. This was a result of the increasing growth of advertising in post war (First World War) Europe. 'Erbar' was later followed in 1927 - 28 by Rudolf Koch's 'Kable' and Paul Renner's 'Futura' (ill. 40). Johnston's sans serif for London Underground had a strong influence on these designs. They were generally monoline in their construction, based on geometric shapes and in some cases grounded in philosophical theory. Germany had just emerged defeated from the First World War. There was an urge to rebuild, to define new concepts and philosophies. In essence a Utopian image was sought by most individuals and movements in the arts e.g. the Dutch group De Stijl and the Bauhaus in Germany. This encompassed not only the fine but the applied arts also. In the lesser arts, typography in particular the unseriffed letter was caught up in this evolution of change. The sans was considered by the German's as a modern letter form, 'typically twentieth century', or 'unsere Zeit' (of our time). "Was it not a stage in the development of some new form?" (quote. p. 76, No. 14). Such questions and thoughts influenced the use of the sans and the initial experiments with a lower case alphabet by Paul Renner (ill. 41). This later resulted in the successful sanserif typeface design 'Futura' which was based on more conventional letter forms.

The popularity of the sans as 'unsere Zeit' was advocated and absorbed by various individuals and movements in the arts, in particular the Bauhaus. Characteristic's of such work (ill. 42) was the use of asymmetrical layout, the dynamic diagonal, the use of bars, rules and boxes for the purposes of balance and the sole use of the unseriffed letter form. As Jan Tschichold stated in his book 'Die Neue Typographie' that the "sans serif type in a range of weights (light, medium bold, extra bold, italic) and sizes (condensed normal expanded) was declared the modern face. Its wide range of colours in the black and white scale allowed the expressive, abstract image sought by modern design" (quote. p. 342, No. 24).

Perhaps the most basic principle of Bauhaus theory was functionalism.





45

abcdefghijklmnopqrstuvwxyz
a d d

47



43



46

STAATLICHES
BAUHAUS
IN WEIMAR
1919-1923

The unseriffed letter devoid of decorative serifs, portrayed the alphabetical sign in its most fundamental, elementary shape. This functional and impersonal quality appealed to the Bauhaus designers. The sans was also readily and easily compared to Bauhaus philosophical thought on architecture. "The unseriffed monoline letter echoed the stripped out line of ferro concrete and tubular steel"(quote. No. 13). As such the sans was preferred by the Bauhaus typographers and it was reckoned to be the only letter form suitable for modern design. With the result sans serif fonts were used almost exclusively for the setting of posters and books.

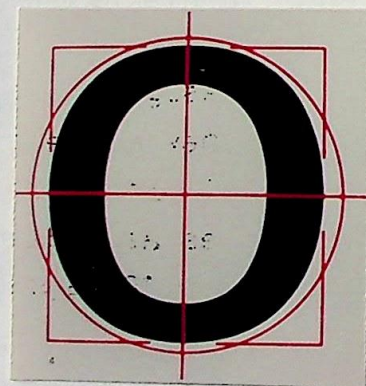
Two people who had a major impact on typographic design within the Bauhaus, was Lazlo Moholy-Nagy and Herbert Bayer. Moholy-Nagy's interests in a synthesis of photography and typography encouraged experiments in this area. This is evident in the poster design (ill. 43) by Moholy-Nagy in which he intergrated type and photography. He was also responsible for some excellent if not unusual designs for books. These include a design for the title page of the first Bauhaus book (ill. 44) 1925 and a cover design for a brochure entitled "Fourteen Bauhaus Books" (ill. 45) 1929. In the later Moholy-Nagy uses a photograph of metal type that is positioned in such a way which gives an optically jarring effect. Not unlike the contradictory movement one experiences in a print of M.C. Escher.

Herbert Bayer once a former student at the Bauhaus was the head of the typography workshop. His range of activities included the designing of book covers, poster^s and type (ill. 46). Among his designs for type was a study for a single sized (lower case) universal alphabet. This unseriffed alphabet (ill. 47) was based on geometric shapes with a dominant use of the circle. Bayer had favoured the sole use of a lower case alphabet. He argued 'why should we print with two alphabets? Both a large and a small sign are not necessary to indicate a single sound. Capital 'A' equals small 'a' "(quote. p. 48, No. 7). This eventually resulted in the Bauhaus abandoning capitals and for a period books were printed in the lower case alphabet only. Another advocater of the new typography (although he later rejected it) was Jan Tschichold. After a visit to a Bauhaus

abcdefghijklmnopqrstuvwxyz ß
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 52

abcdefghijklmnopqrstuvwxyz
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 53

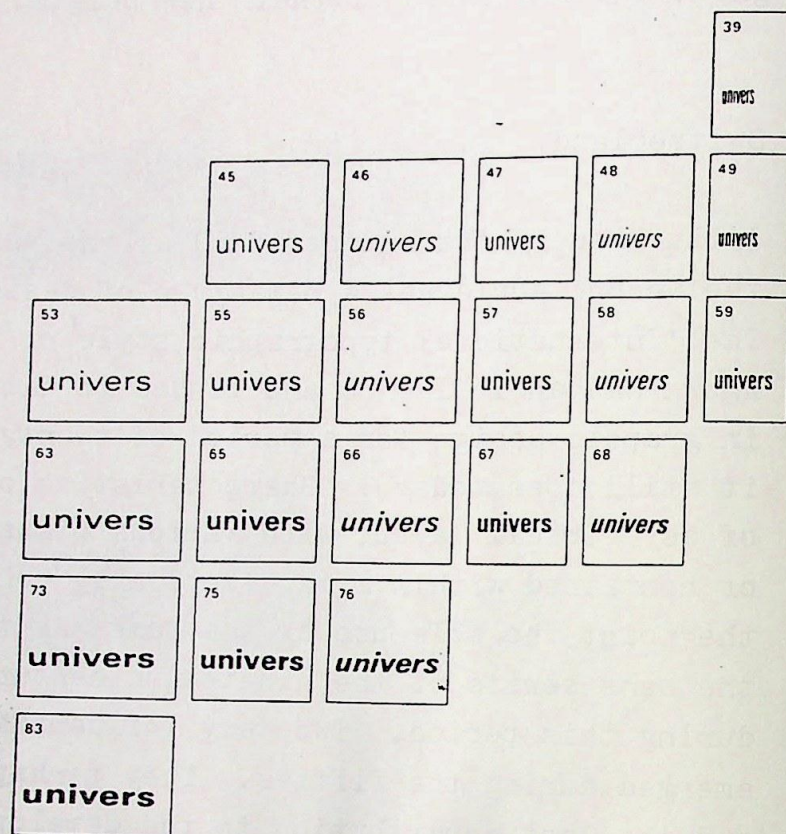
Geometrical grid in which the "more human"
 letterform of Univers has been drawn by
 hand.



This was the last sans designed before the war. With the outbreak of the 'Second World War' the different movements broke up. Many individuals left Europe and sought refuge in America or England, others went to Switzerland. As a result the numerous concepts that had evolved were exported, adopted and spread throughout the countries of their new origin.

Switzerland.

Influenced by the import of ideas and various individuals. After the Second World War a new style of design emerged from Switzerland. The 'International typographic style' or 'Swiss design' as it was known had an influence and tended to dictate the modes and trends in graphic design for a period of twenty years (and to some extent it still does today). Characteristics of this style comprised of asymmetrical layout with various visual material incorporated or contained within a mathematically constructed grid. More to the point the sole use of the sans was favoured. In particular the sans serifs of the nineteenth century enjoyed a Renaissance during this period. Two very influential and popular sans designs emerged during the fifties. They perhaps signify the most recent and the last contribution to the development of the sans serif typeface. These include Max Miedinger's 'Helvetica' (ill. 52 1957) (initially called 'New Hass Grotesque' it was designed for the Swiss type foundry HASS) and Adrian Frutiger's 'Univers' (ill. 53, 1957) (which was designed for the French type foundry Deberny and Peignot). Unlike the sans of the 1920's - 30's these new designs were not based on geometric shapes. As Frutiger said "the new style is not so geometrical, a purely geometrical letterform is not tenable in the long run. The eye sees horizontal strokes as thicker than vertical ones and the perfect circle of the 'O' appears mis-shapen" (quote. p. 5, No 10). 'Univers' was based on non construction, a totally new design. But at the same time its form was determined by an awareness of previous methods of construction. On the other hand 'Helvetica' is based on the nineteenth century sans 'Akzidenz Grotesque', it was a redrawn version of the old industrial sans.



Deliberate planning of a typeface family as a unified whole.

54 ▲

The development of photocomposing also had an influence on the design of both types. This is a process where by the image of the letter is projected on to film through a negative disc or plate. Thus the construction of 'Univers' and 'Helvetica' was based on a subtle use of visual perception to allow for deformation in printing which was one of the limitations of phototypesetting i.e. over exposure.

'Univers' also represents a mile stone in the development of the sans serif typeface. Since the standardization of the publicity material for London and North Eastern Railway, perhaps the largest related family of types was based on Eric Gill's 'Gill Sans'. But this family was expanded after the initial design was released and not all the variations can be credited to Gill. The same can be said for Max Miedinger's 'Helvetica'. Although he designed the original alphabet, other individuals expanded it to the large family of types in existence today. 'Univers' on the other hand was an entirely different situation. Frutiger executed all twenty one designs (ill. 54) in different weights and styles, before the design was actually released. "Before 'Univers' was produced the typographic designer was often obliged to use the typefaces from various periods and designers for jobs of a wide-ranging nature: today he can cover everything with a single, homogeneous type family, even for the most extensive requirements (quote. p. 14, No. 2).

At this stage I think two interesting connections can be made. Firstly as I have already mentioned the sans of the nineteenth century enjoyed a revival during the fifties. The innovative 'Akzidenz Grotesque' designed at the turn of the century (perhaps the first time that a family of types in different weights and styles was developed) probably had an influence on the concept of completing a predetermined thought out family of types in various weights and styles before it was introduced. Secondly in an article for 'Idographic' entitled 'Typographical training for technicians and technical training for typographers', Frutiger declared the following. " It is necessary to stress the essential difference which exists between text types and display types, because in exactly the same way there are really two cat-

egories of type designers; it is hard for one and the same designer to work in both fields. For a variety of reasons, I have belonged to the first category ever since my start in the profession" (quote. p. 22, No. 21). The sans since its inception was primarily designed for the purposes of display. Except during the nineteenth century when J.G. Schelter of Leipzig cut the design called 'Steinschrift' (1850) (which came in a choice of three body sizes) and later when Frutiger designed 'Univers' for the purpose of continuous text. For this reason Frutiger gave the lower case a large 'x' height, opened the counter in the letter and designed small capitals. Such a relationship between the upper and lower case allows ease of layout in different languages with little or no major alternations to the page. "I (Frutiger) must never forget that a letter exists only in its relation to other characters. In addition the look of the printed page in a given typeface must be the same in all languages" (quote. p. 3, No. 10).

So the development of the sans which was initially inspired by the need of a display face for the purposes of advertising ends (in a sense) in the role of a text face. Since its first appearance in 1816 in this first section I have discussed the sans development from the nineteenth century through to the twentieth. This has been complimented by a discussion on the influences for the unserified typefaces origin. The individuals, movements, methods in reproduction and construction which inspired the changing shape of the sans.

At present the new technologies are determining the form of the typeface. Many of the old nineteenth century sans are been redrawn by computers. Adrian Frutiger is involved in researching the adaptation and designing of typefaces for the new technologies. "The problems I have to face today in the designing of a new typeface are not the problems I have had to face before. They are those of digitisation, a process by which it is hard to reproduce curves. I have found it necessary to think of a design that will fit the technology. However, I always try to retain the human element of the hand drawn image (quote. p. 5, No. 10). Thus this is the next stage in the development of the sans serif typeface.

The Typefaces.

These types originated during the nineteenth century. Their development was influenced by the 'Fat Faces' and 'Antiques' and the need of a display type for the purposes of advertising. Their unrefined letter forms were crude in their construction. Amongst the English designers was William Caslon IV's tentative

To reduce the confusion between various styles of typefaces and the names used to describe them (e.g. Gothic, Grotesque, Old and Modern). A system of classification was invented by a French designer Maximilien Vox (1894 - 1974). Typefaces were classified according to age and characteristic elements i.e. methods of construction. A series of artificially composed names was devised to describe each group. A necessary form of standardization "since many words describing typefaces have different and sometimes opposite meanings in different languages" (quote. p. 58, No. 23).

The sans serif (or lineale) for example is broken down into four groups. They are (a) Grotesques (b) Neo-Grotesques (c) Geometric and (d) Humanist. The display types of the nineteenth century belong to the first group. The more recent designs such as 'Univers' and 'Helvetica' belong to the second group. Those types based on geometric construction such as 'Futura', 'Kable' and 'Erbar' belong to the third group. Finally the types which are based on the old inscribed Roman capitals and the early Roman typefaces, such as Johnston's 'Railway type' and 'Gill Sans' belong to the last group.

I feel that this system of classification could lend itself to giving a clearer discussion of the second section. For this purpose I have rearranged the group in such a way that it would allow me to structure and treat the development in chronological order i.e. Grotesques, Humanists, Geometric and Neo-Grotesque.

W CASLON JUNR LETTERFOUNDER

1

TWO-LINE GREAT PRIMER SANS-SERIF.

TO BE SOLD BY AUCTION,
WITHOUT RESERVE;

2

Grotesques.

These types originated during the nineteenth century. Their development was influenced by the 'Fat Faces' and 'Antiques' and the need of a display face for the purposes of advertising. These unseriffed letter forms were crude in their construction. Amongst the English designs was William Caslon 1V's tentative design (1816), Vincent Figgins 'Sans Serif' (1832) and William Thorowgood's lower case design (1835). Included in the German sans or Groteskschriften were the J.G. Schelter design (1825) and the Berthold foundries 'Akzidenz Grotesque' (1889).

William Caslon 1V Two-lines English Egyptian 1816.

This single size type was cut and first appeared in 1816. It was a tentative design and unaware of its potential Caslon hid it amongst the decorative capitals in the back of a book of specimens (ill. 1). It consisted of twenty one unseriffed capitals which simply read "CASLON JUNR LETTERFOUND". In size it was approximately 28pt (equivalent to two-lines English). The proportions of the individual letters are quite similar to the Roman 'Monumental Capitals'. Remarkably, although the design was not used, it was not as crude as its antecedents.

Vincent Figgins Two-line 'Great Primer Sans Serif' 1832.

Vincent Figgins introduced the first 'Antique' or slab serif typeface in his book of specimens (1815) a year before Caslon cut his design. Similar to the 'Fat Faces' which inspired the development of the slab serif, the serifs could be emphasized or eliminated. A logical process which Caslon followed in 1816 and Figgins in 1832 (independent of each other) when he showed for the first time three sizes of sans serif. Again the letters were all capitals, the largest specimen was approximately 36pt in size (equivalent of Two-line Great Primer). The letters (ill. 2) were all heavy,

Comm

3

venezianischer
Porträtmalerei

4

mechanical and crude in their appearance. Compared to Caslon's unseriffed letters Figgins are aesthetically inferior. Take for example Figgins S and contrast it with Caslon's S. The counter in Figgins S is particularly bad. Figgins R also lacks the freedom evident in the proportion of Caslon's R, the tail is constricted and tight. Figgins specimen is typical and reflects the quality of the majority of the nineteenth century sans serif designs.

William Thorowgood Communicate 1835.

The first unseriffed lower case was cut by William Thorowgood in 1835. He called his design 'Communicate' (ill. 3), this was later changed to 'Communion' in 1848 and finally to 'Common' in 1868. The design was heavy and typical in appearance of the nineteenth century types. The choice of root (i.e. were a curve or bowl meet the stem) combined with the weight of the letters portrayed the faults in Thorowgood's letters. When placed together almost devoid of counter the letters appeared clumsy and illegible. One interesting factor to arise out of this was that it highlighted the problems involved in making the unseriffed lower case alphabet legible. There are a greater number of curved elements in the lower case letters which require predetermined consideration in their construction and design.

J.G. Schelter 1825.

In Germany the opportunity to experiment with the unseriffed letter form or Groteskschriften as it was known thrived. One of the first sans was cut as early as 1825 in upper and lower case (ill 4) by J.G. Schelter. The design was condensed and appeared in seven sized i.e. 10pt to 48pt. Compared to Thorowgood's lower case the German version was superior in construction and thus had improved legibility.

Berthold foundry Akzidenz Grotesque 1889.

At the turn of the century an innovative design was produced by the

ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz

4

ABCDEFGHIJKLMNOP
 PQRSTUVWXYZ
 abcdefghijklmnopqrst
 uvwxyz

The Johnston Underground sans serif

5

Germans. It was called 'Akzidenz Grotesque' and consisted of a family of ten unseriffed typefaces, cut, with variations in style and weight (light medium bold) all based on one design. This enabled the individual to complete a job using one family of types, something unheard of then. The usual procedure was to use contradictory types.

By the end of the nineteenth century the sans had evolved through numerous stages of progression and modification. From the first unseriffed capitals, to the first lower case, italic and finally to a family of types (in different styles and weights) based on one design. In 1889 the Figgins foundry cut the first true Roman sans. This design was cut in upper and lower case. But the first sans of aesthetic merit first appeared in 1916, a hundred years after William Caslon 1V made the first design.

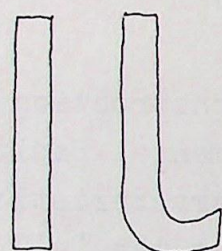
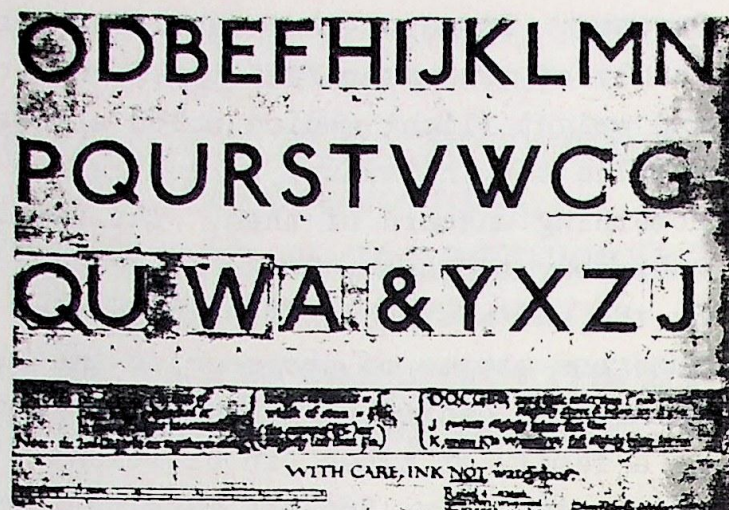
Humanist.

These typefaces are monoline in their construction and based on the Roman inscriptional capitals ('Monumental Capitals') and the Roman typefaces. Their most obvious characteristics are a double storeyed 'a' and a closed tail or loop on the 'g'.

Edward Johnston Railway type 1916.

Edward Johnston was commissioned by Frank Pick of 'London Passenger and Transport Board' to design an alphabet for 'London Underground'. Which as a result the sans achieved a respectability it had not received before. Johnston's design was based on classical letter forms. He used a simple construction not unlike that of the 'Monumental Capitals', which were based on basic geometric forms i.e. square circle triangle. For example the upper case 'O' is a perfect circle, the 'A' a triangle and the 'M' a square whose internal strokes converge on the exact centre point (ill 5). The capitals are all basically uniform in weight.

24



ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

1 New Johnston Bold

ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

2 New Johnston Medium

ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

3 New Johnston Light

ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

4 New Johnston Bold Condensed

ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

5 New Johnston Bold Italic

ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

6 New Johnston Medium Italic

ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

7 New Johnston Light Italic

ABCDEFGHIJKLMN OPQRSTUVWXYZ
XYZ&...!?"'()/--* abcdefghijklmn
opqrstuvwxyz£1234567890

8 New Johnston Medium Condensed

Several visual characteristics include a large bowl on the lower half of the 'B'. 'E' and 'F' have short extending centre arms. The 'G' has no spur and the tail of the 'J' has an oblique terminal. The 'R' has a curled tail. The tail on the 'Q' is set at an oblique angle. In the preliminary design (ill 6) Johnston seem to have considered crossing the centre strokes of the 'W' i.e.. similar to combining two 'V's'.

The lower case alphabet is also of a uniform thickness with a subtle variation in weight. The 'a' is two storeyed although a single storeyed 'a' was considered (ill. 7). There are oblique dots on the 'i' and 'j'. They were probably a calligraphic influence i.e. holding the pen at an angle of 45°. There is a curve on the tail of the 'l' which helps reduce confusion between it and the upper case 'I' (ill. 8). The tail on the 'y' is curved. Also apparent in Johnston's preliminary sketches for the lower case alphabet, is a capital 'Q' reduced to a smaller size with a large extended tail. Johnston seems to have been calculated (to an extent) in the design for the 'Railway type'. Not only did he work out the relationship between mass and counter but Johnston also gave allowance for the space between the letters. A consideration unheard of until then.

Quite recently I came across an article which discussed 'London Undergrounds' proposal to phase out Johnston's 'Railway type' and introduce or review a new printed visual identity. Fortunately in restating the problem 'Banks and Miles' who had been invited to review the situation convinced 'London Transport' to retain Johnston's sans serif and extend the range by developing additional weights (ill. 9). The result was eight new designs 'New Johnston Bold, Bold Italic, Medium, Medium Italic, Light, Light Italic, Bold Condensed and Bold Condensed Italic' (quote. p. 13, No. 10). The letters were modified and the 'x' height increased to enhance legibility (when printed in small sizes). Thus one of the oldest and one of the first types used for the standardization of publicity and information material was brought up to-date.

DOUGLAS CLEVERDON

10

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklmnopqrs
tuvwxyz

Monotype Gill Sans Medium Series 262, 48 pt

11

Eric Gill

Gill Sans

1928.

Gill was a pupil friend and colleague of Edward Johnston. He was present at the meetings between Johnston and Pick. Although Gill had no part in designing the 'Railway type' (in the process of my research I found no reference) undoubtedly the experience left a strong impression on him. After seeing Johnston's design Gill viewed the sans in a new light and started to experiment with his own block letters. While at Capel-y-ffin he constructed simple unseriffed capitals for use on sign posts. He also designed block capitals for use on posters and signs for the Army and Navy Stores. But it was the capitals designed for Douglas Cleverdon's bookshop (ill. 10) that prompted Stanley Morison of the 'Monotype Corporation' to approach Gill and ask him to supply a design of unseriffed capitals for type cutting.

Reluctant at first because of his ideals i.e. Gill was opposed to the modern industrial society. The task fell to Morison to convince Gill to allow his letters be produced by an industrial process. As he became more aware of the methods of reproduction Gill's enthusiasm grew. With the help of the 'Monotype' technicians he recognized the limitations (both physical and optical) and the considerations necessary for designing type. Gill produced two designs, the first was a Roman called 'Perpetua' and the second a sans called 'Gill Sans'.

The visual characteristics of 'Gill Sans' include the following. The 'E' and the 'F' both have extended arms of equal width (ill.11). The 'G' has no spur. 'C', 'G', 'O' and 'Q' are constructed from a perfect circle. The 'R' and the 'Q' have curved tails. The diagonal strokes of the 'V' and the 'W' converge on a sharp point. In the lower case visual elements include a two storeyed 'a' (a single storeyed 'a' was considered). Similar to Johnston Gill closed the loop on the 'g'. There is no curve on the 'l'. The terminal on the 't' is oblique. 'v' and 'w' are similar to the upper case letters, the strokes converge on a point. The tail of the 'y' is straight. Finally there is an increased contrast in the construction of the lower case letters (unlike Johnson's lower case they are less uniform and monoline). This is evident

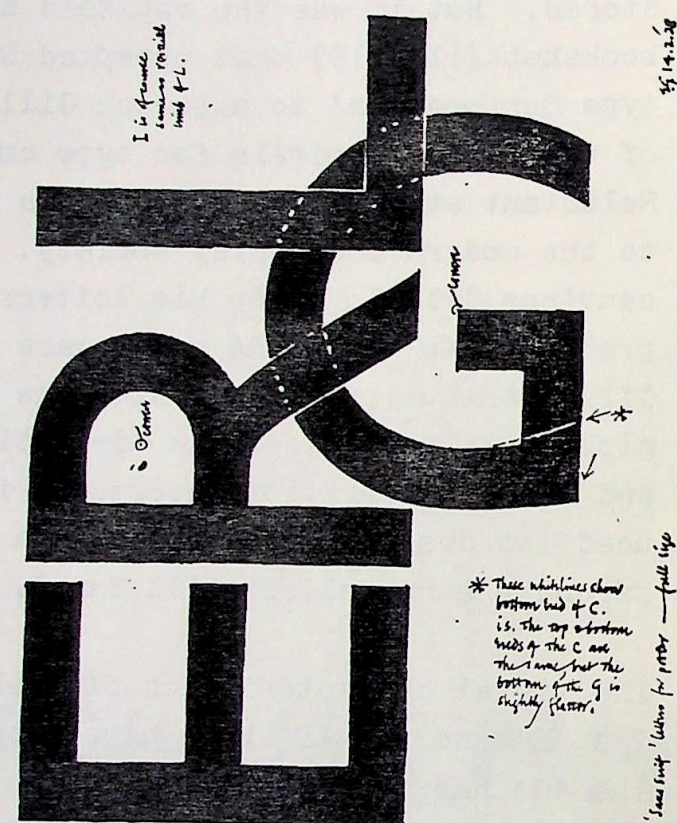


Fig. 17: From a drawing $10\frac{1}{2}'' \times 8\frac{1}{4}''$ in the Collection.

This is evident where curved elements of the letters join the stems. For example see the letters 'a', 'm', 'n' and 'r' and (ill. 12).

Both Johnston's and Gill's types were based on classical letter forms. Although 'Gill Sans' was influenced by Johnston's 'Railway type' and at first glance the two types seem very alike. There were specific and subtle differences. One can discern this from a letter Gill sent to Lawrence Powell (dated 16.1.1940) in which he attempts to justify the difference between the two types. The following is an extract from the letter "As perhaps you know, I was a pupil of Edward Johnston and was living almost next door to him when he was designing the London Passenger Transport Board sans serif. It was a revolutionary thing and, as you know, at one go it redeemed the whole business of sans serif from its nineteenth-century corruption. It was not until 1927 that I was asked by the Monotype Corporation to do a sans serif for them. This was designed, of course, for a somewhat different purpose from that of the LPTB. The latter was designed primarily for station name-boards and only later became a printing type, whereas the Monotype sans serif was designed first of all for typography, and moreover for machine punch-cutting. It therefore seemed desirable to me that the forms of the letters should be as much as possible mathematically measurable and that as little reliance as possible should be placed upon the sensibility of the draughtsmen and others concerned in its machine manufacture. Thus the E has equal arms and the middle one is as near as possible to the middle and so throughout. I do not myself think there is much to choose between Gill Sans and Johnston Sans, but I do think the alterations I make might be said to be an improvement from the point of view of modern methods of production".

The important point upon which the two designs revolve is that initially Johnston's type was designed for posters and signs and only later became a printing type. He was more concerned with the optical appearance (to the extent of working out the counter, mass and spacing of the individual letters) of his block letters. Gill however took this a stage further, not only was he concerned with the visual appearance of his design, he was also aware of

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

13

the mechanical limitations involved in reproducing the unseriffed letters. Perhaps the only difference was that Gill was slightly more calculated in his approach.

Geometric.

These types basically originated in Germany in the early half of the twentieth century. They were monoline in their construction, based on geometric forms and at times grounded in philosophical theory. The sans was considered by the Germans as a modern letter form, 'typically twentieth century' or 'unsere Zeit'. The concept of evolving a new form influenced Paul Renner's experiments which led to the design of 'Futura'. Typefaces belonging to this era were Jakob Erbar's 'Erbar', Rudolf Koch's 'Kable' Paul Renner's 'Futura' and I have also included Herbert Bayer's studies for a universal alphabet.

Jakob Erbar Erbar 1924.

Basically the typefaces 'Erbar', 'Kable' and 'Futura' are quite similar in construction. The first of these 'Erbar' (ill. 13) was designed by Jakob Erbar for the purpose of advertising. This was a result of the increasing growth of advertising after the 'First World War'. Characteristics of the face include a low bar on the 'A'. The letters 'E', 'F', 'L' and in particular 'T' are constricted or condensed in shape. The tail on the 'Q' is a short horizontal stroke. Unlike the 'a' and 'y' in Johnston's and Eric Gill's sans serifs, which are based on the Roman typeface. The 'a' in 'Erbar' is one storyed and the tail or loop on the 'g' is open.

Rudolf Koch Kable 1927 - 8.

Rudolf Koch's 'Kable' like 'Futura' appeared in 1927 - 8.

KABEL
 ABCDEFGHIJKLMNO
 PQRSTUVWXYZ
 abcdefghijklmnopqrstu
 vxyz123456789

14

ABCDEFGHIJKLMNO
 PQRSTUVWXYZ
 abcdefghijklmnopqrstu
 vwxyz

Futura Medium, 48 pt

15

Characteristics of this typeface (ill. 14) include a splayed 'A' with a high bar. The letters 'B', 'D', 'E', 'F', 'L', 'P', 'R', 'S' and 'T' are marrow and constricted. The 'M' has splayed legs and the 'O' is a perfect circle. 'Q' has a small tail and the 'U' has a spur i.e. similar to the construction of 'a' lower case 'u'. The centre stroke of the 'W' converge and cross like the synthesis of two 'V's'. In the lower case the 'a' is single storeyed. The counter in 'a', 'b', 'c', 'd', 'g', 'o', 'p' and 'q' is made up of perfect circles. The tail on the 'j' has a curve. Finally perhaps the most interesting element of the lower case is the shape of the 'g' which seems to be constructed from two circles, with the lower one open.

Paul Renner

Futura

1927 - 8.

Of the three typefaces 'Futura' was and still is the most popular. Visual characteristics of the face (ill. 15) include splayed legs on the 'A' with the bar in a central position. 'E', 'F', 'J', 'L', 'R', 'S' and 'T' are constricted. The arms on the 'E' and 'F' are of equal width but unlike the 'E' and 'F' in 'Gill Sans' were the distance between the arms is equi-distant. There is a bigger distance between the middle and bottom arms of the 'Futura' letters. The legs on the 'M' are splayed. The only points appear on the tops of the 'M' and 'N' and on the bottoms of 'M', 'N', 'V' and 'W'. In the lower case letters the 'a' is single storeyed. The tail on the 'g' is open. There are no curves on the tails of the 'j' and the 't'. Similar to the upper case, points appear on the 'v' and 'w'. On the 'y' the tail is straight. Like Gill, Renner has reduced the uniformity of the strokes in the lower case letters.

The 'Futura' alphabet was developed from earlier experiments with a lower case constructed from pure geometric forms (ill. 16). This experiment was influenced by the concept of creating a new form that would "represent the abstraction or pure essence of the alphabetical sign" (quote. p. 76, No. 14). The letters are constructed from triangles (see the 'g') circles (such as 'a', 'c', and 'o') and vertical or horizontal strokes (which at times are

16. Paul Renner's first designs for the lower case of Futura

ABCDEFGHIJKLMNOPQRSTUVWXYZ

MANY NIFTY MAXIMS LOWER LAZY TYPESETTER'S...

MANY NIFTY MAXIMS LOWER LAZY TYPESETTER'S...

AVANT GARDE GOTHIC BOOK

30

ABCDEFGHIJK

LMNOPQRS

TUVWXYZ

abcdefghijklm

nopqrstuvwxyz 22

ABCDEFGHIJK

LMNOPQRS

TUVWXYZ

abcdefghijklm

nopqrstuvwxyz 23

best meets today's requirements" (quote. p. 111, No. 42).

Neo-Grotesques.

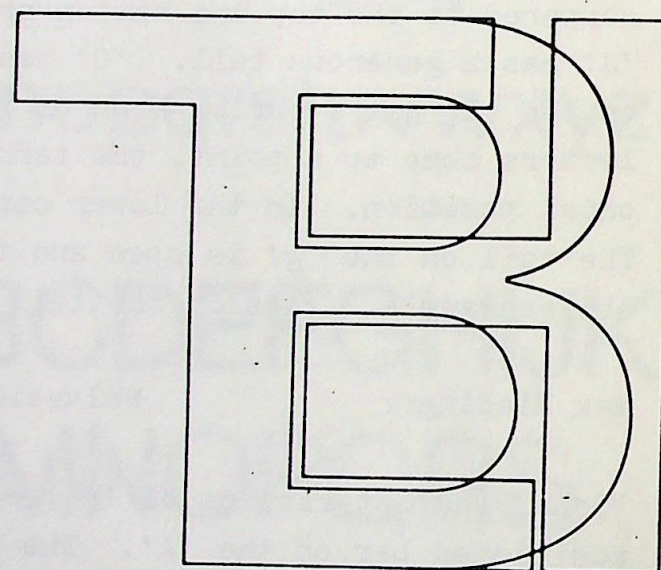
Both 'Univers' and 'Helvetica' signify the most recent and the last contribution to the development of the sans serif typeface. The construction of these types is based on optical rather than mathematical rules. This not only allows ease of appearance on the eye but also to facilitate for deformation or over exposure in printing i.e. phototypesetting.

Adrian Frutiger Univers 1956 - 8.

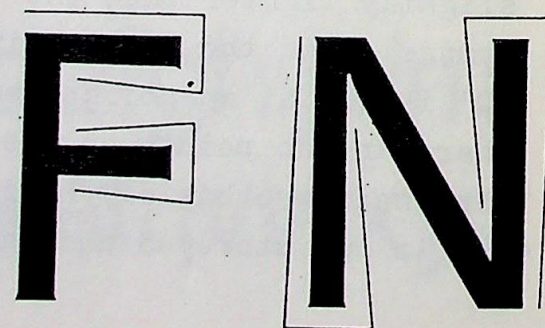
Visual characteristics of 'Univers' include a low bar on the 'A'. The centre arms on the 'E' and 'F' are slightly shorter in width compared to the top and bottom arms. There is no spur on the 'G'. 'J' has a generous tail. 'Q' has a horizontal tail and the tail on the 'R' has a curl. None of the strokes on the upper case (ill. 22) letters come to a point, the terminals are generally in a horizontal position. In the lower case alphabet the 'a' is two storeyed. The tail on the 'g' is open and the top of the 't' is cut at an oblique angle. Finally the tail of the 'y' is straight.

Max Miedinger Helvetica 1957.

Visual characteristics of 'Helvetica' (ill. 23) include a central positioned bar on the 'A'. The middle arms on the 'E' and 'F' are shorter in width than the top and bottom arms. The 'G' has a spur. The 'Helvetica' 'J' has a generous curve on its tail but slightly tighter than the 'Univers' 'J'. The tail of the 'K' protrudes from the lower third of the upper arm and the tail of the 'Q' is set at an oblique angle. The tail of the 'R' has a curl. There are no points on the tops of the upper case letters, all terminals are basically horizontal. In the lower case letters the 'a' is two storeyed and has a curved tail. The 'g' has an open



24



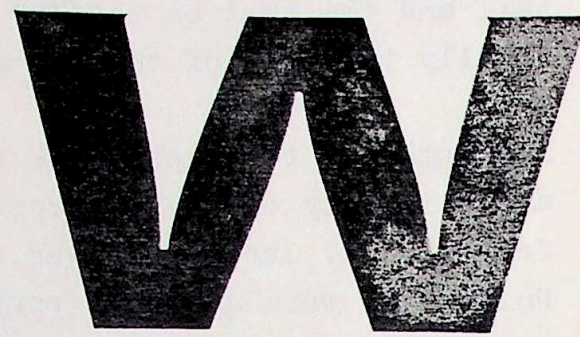
25

tail and the tail on the 'k' is similar to the upper case 'K'. Finally the tail of the 'y' is curved.

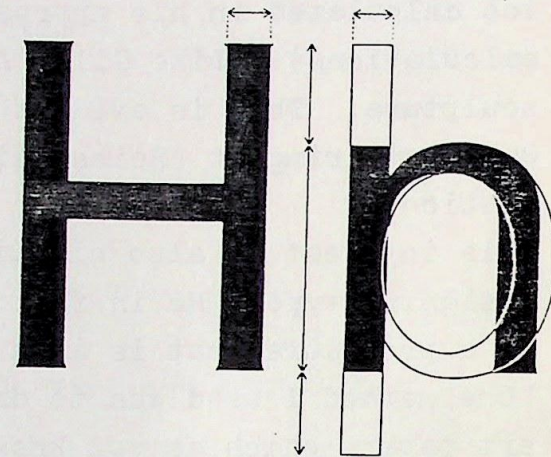
Although the two types look alike, when they are compared there are a variety of differences. I have always experienced a cold feeling i.e. lack of colour, from the 'Univers' sans serif. Unlike the warm generous portions portrayed in 'Helvetica'. There are two reasons for this. First, in an effort to achieve an optically proficient face, Frutiger like Gill may have been too calculated in his approach (even though they were necessary calculations). Like Gill, Adrian Frutiger's interests extended to sculpture. This is evident in his numerous sculptures and the wall lettering at 'Roissy Airport' (i.e. the airports railway station).

This interest is also highlighted in a method Frutiger uses in designing type. He in fact applies a three dimensional process to a procedure that is in a sense by its nature two dimensional. "One method I used was to draw the design in black ink on a heavy art paper, which as you know has a clay base; if the shape was not the design I wanted I could scrape away any part of the design until I had the required shape of each letter. The tools and equipment used for the creation of a typeface are such that they leave an imprint on the work" (quote. p. 3, No. 10). He also defines the unseriffed letter as follows. "A sanserif typeface, is in its essential nature a carved or chiselled form....The uniform shaping of a symmetrical stroke is the basic and most natural means of expression" (quote. p. 15, No. 2).

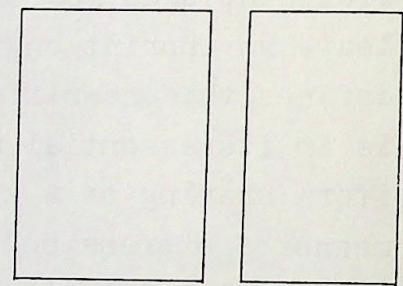
Eric Gill had trained as a stone mason and had learned to incise a letter that could be read at a distance. Combining this knowledge with the necessary considerations for punch cutting Gill achieved a bold simplicity in his sans. In his way Frutiger also combined his knowledge but this time with the necessary considerations for phototypesetting. "Thus the weight and height of the letters are determined by optical rather than mathematical rules" (ill. 24 quote. p. 20, No. 2). In the construction of letters like 'E' and 'N' (ill. 25) Frutiger has slightly thickened the vertical and horizontal strokes which run slightly conically towards the outside. Interior angles on a letter such as the 'w' are opened



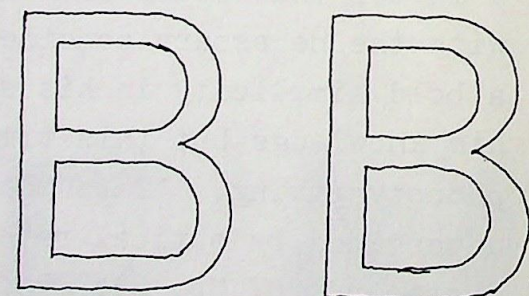
26



27



28



29

HELVE TICA

UNIVERS

(ill. 26) and the outer angles are partly strengthened i.e. in the form of slight projections (these are necessary exaggerations prevent the filling in on black i.e. phototypesetting). Secondly 'Univers 55' the initial design and the point of departure upon which the rest of the family is based, was designed as a text face. Keeping in mind the requirements of setting in various languages Frutiger gave the lower case a large 'x' height (ill. 27). The capitals are designed small, thus there is little difference in size and weight between the upper and lower case alphabets. This was to give a tranquil appearance to the page. As a result the letters in a sense seem to have lost their individuality and they also seem to be slightly constricted. On the other hand 'Helvetica' letters have a generous weight and are slightly extended. If I were to illustrate the difference with two rectangles they would look like this (ill. 28). Compare the two 'B's'. Notice the counter in the 'Helvetica' 'B' is extended and slightly larger than the counter in the 'Univers' 'B' (ill. 29). Undoubtedly 'Helvetica' was designed as a display face and thus responds in form to the true shape of unseriffed letter.

To conclude in this second section I have discussed the various visual characteristics and methods of construction used on the different sans serif typefaces. This has been complimented with a comparison of the separate faces. I used Maximilien Vox's system of 'Classification' to structure this section (it was rearranged to treat the discussion in chronological order). Thus the objective was to reduce and keep confusion to a minimum.

SECTION THREE

Legibility and the use of the Sans Serif typeface.

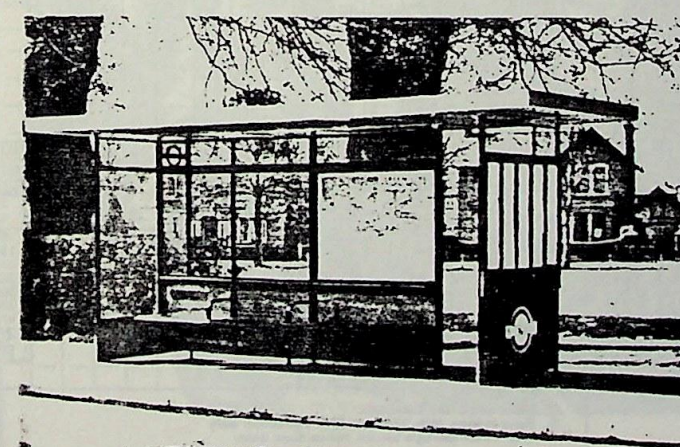
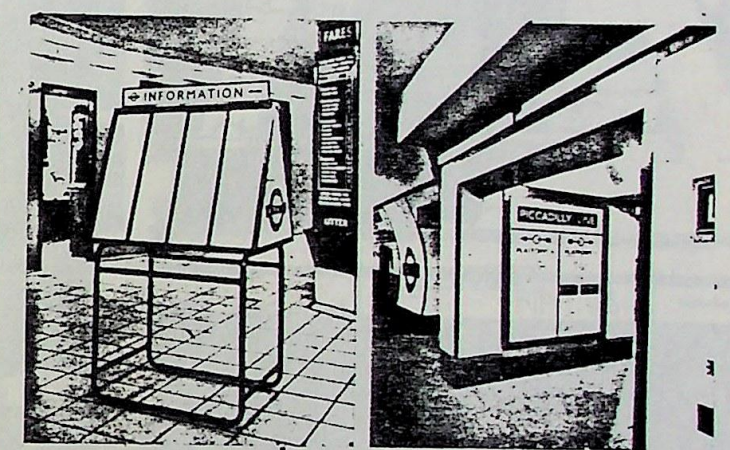
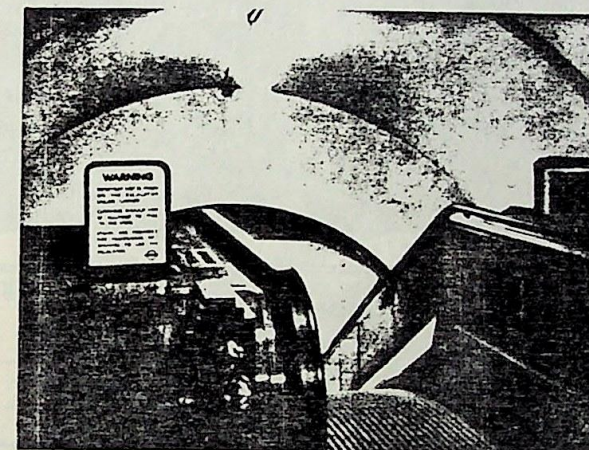
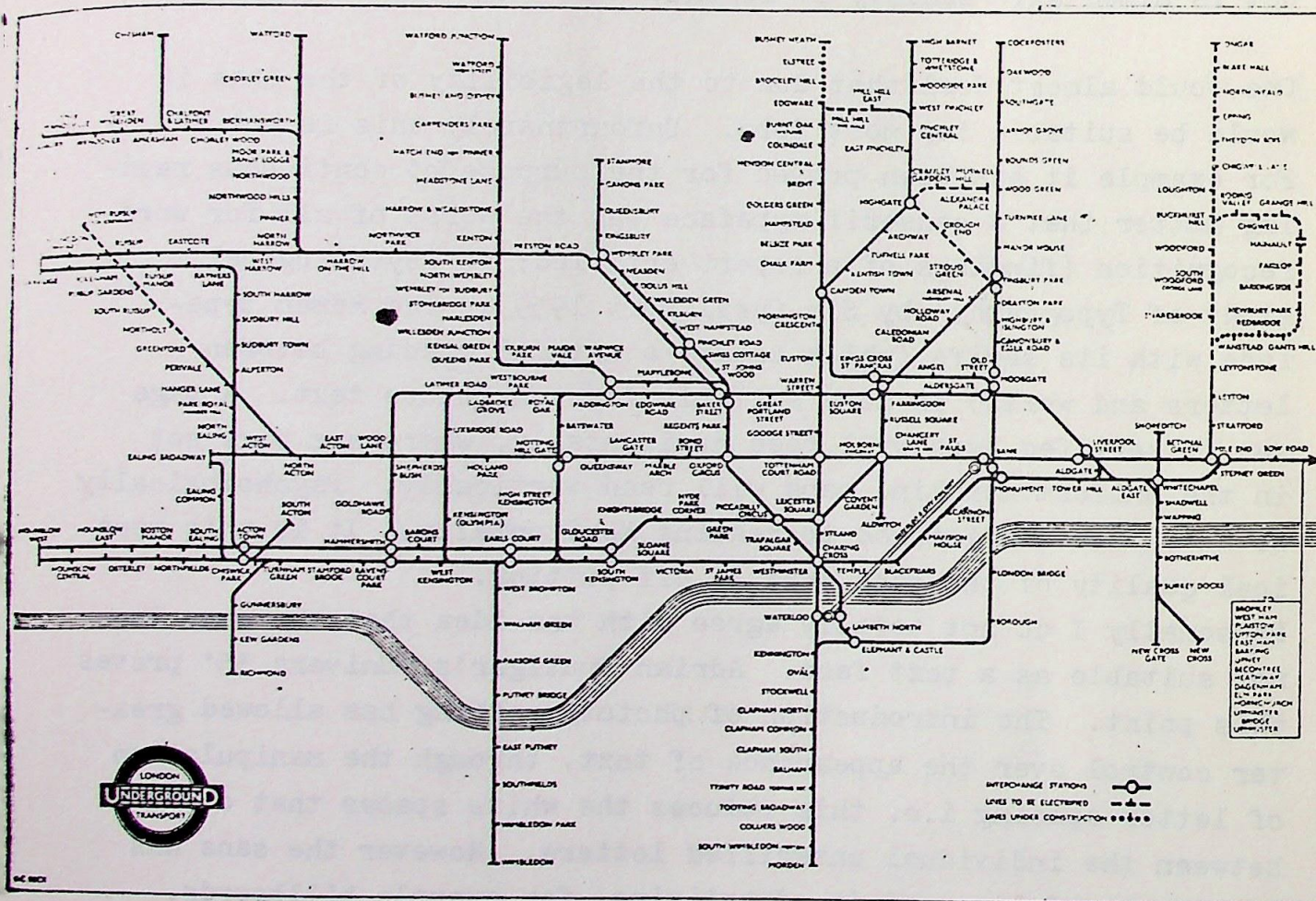
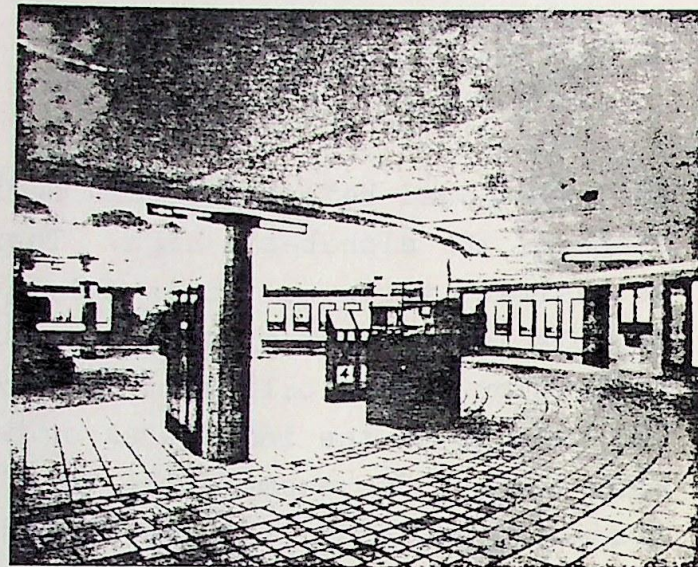
As I mentioned before the sans serif is in essence the basic shape of the alphabetic sign. There are no serifs or decorations to distract the eye. It is this quality that makes the sans a legible letter form i.e. as a display face. There is no specific definition of legibility it is more of a subjective reaction in the make up of the individual or designer. Legibility depends on many things, for example the brief, context, circumstances, client, projected audience i.e. age of group at which the design or product is aimed at. Basically it is what works and looks well.

One would almost feel that due to the legibility of the sans it would be suitable for most jobs. Unfortunately this is not so. For example it has been proved for the purpose of continuous reading matter that a sans serif typeface was the worst of all for word recognition (findings of a report entitled; 'A Psychological study of Typography' by Sir Cyril Burt 1959). The Roman typeface with its serifs (which create a natural spacing between letters and words) is more suitable for continuous text. A page set in seriffed type will read horizontally, whereas a page set in the uniform monoline sans will read vertically. Psychologically we have been conditioned to reading horizontally. It is this vertical quality of the sans that is off putting.

Personally I do not totally agree with the idea that the sans is not suitable as a text face. Adrian Frutiger's 'Univers 55' proves this point. The introduction of phototypesetting has allowed greater control over the appearance of text, through the manipulation of letter spacing i.e. this reduces the white spaces that occur between the individual unseriffed letters. However the sans has been successfully used in advertising, for example billboards,

television, posters, mast heads on news papers and magazines, is constantly used for headlines and short titles for various articles and reports (also magazines and news papers). This is because in such short reading matter (such as a title) the sans is at its most legible. The hard edged character of the unseriffed letter, especially in a bold face attracts the eye.

The sans was initially introduced for the purposes of advertising during the nineteenth century. But it was with the first sans of aesthetic merit that I feel the unseriffed letter found its true role (as a medium for indicating information in a basic legible and logical form). Edward Johnston's Railway type was incorporated in an information/publicity programme for London Underground. "In Beatrice Warde's words: What was a foot was the first standardization of lettering forms for systematic use by a large organization in signs posters and printed matter" (quote. p. 68, No. 23). Eric Gill participated in the meetings between Johnston



LONDON—
Great Northern Hotel, King's Cross
Great Eastern Hotel, Liverpool Street
ABERDEEN—Palace Hotel
Station Hotel
BRADFORD—Great Northern
Victoria Hotel
CRUDEN BAY—Cruden Bay Hotel
EDINBURGH—North British
Station Hotel
FELIXSTOWE—Felix Hotel
GLASGOW—North British
Station Hotel
GRIMSBY DOCKS—Royal Hotel
GRIMSBY TOWN—Yarborough
Hotel
HULL—Royal Station Hotel
HUNSTANTON—Sandringham
Hotel
LEEDS—Great Northern Central
Station Hotel
NEW HOLLAND—Yarborough
Hotel
NEWCASTLE—Royal Station Hotel
PARSON QUAY—Great
Eastern Hotel
PETERBORO' (NORTH) STATION
Central Northern Station Hotel
SALTWIN-BY-THE-SEA—Zetland
Hotel
SHEDDING—Royal Victoria
Station Hotel
WEXHAM—HARTLEPOOL—Grand
Hotel
YORK—Royal Station Hotel.

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booked at any Hotel owned by the
Company free of charge.

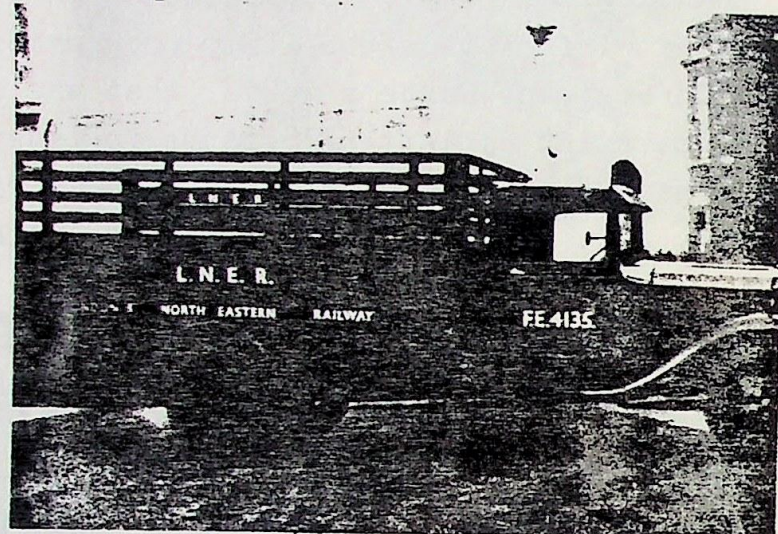
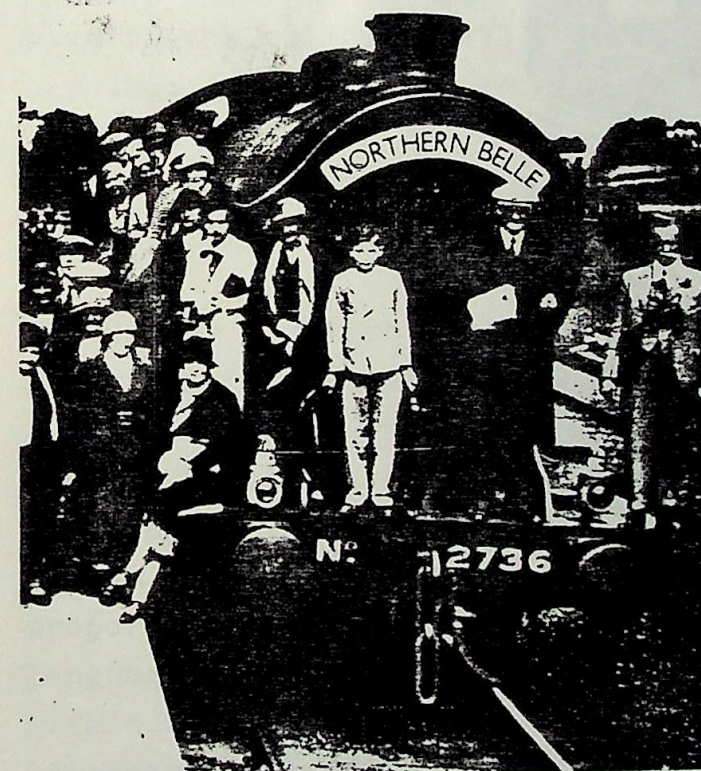


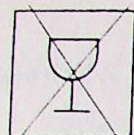
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and Pick (of the London Passenger and Transport Board). Although he had no part in the design of the Railway type, Gill's sans serif design for the Monotype Corporation was undoubtedly influenced and derived from Johnston's block letters. Initially designed as a typeface 'Gill Sans' like Johnston's Railway type was used to standardize the publicity material of a railway i.e. London and North Eastern Railways. For the second time a sans serif letter form was used in a corporate identity system.

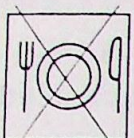
WHEREVER **L.N.E.**
USES LETTERING IT STANDARDIZES
GILL SANS:



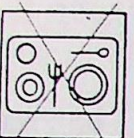
1



Bar



Snack



Selfservice



Restaurant

2

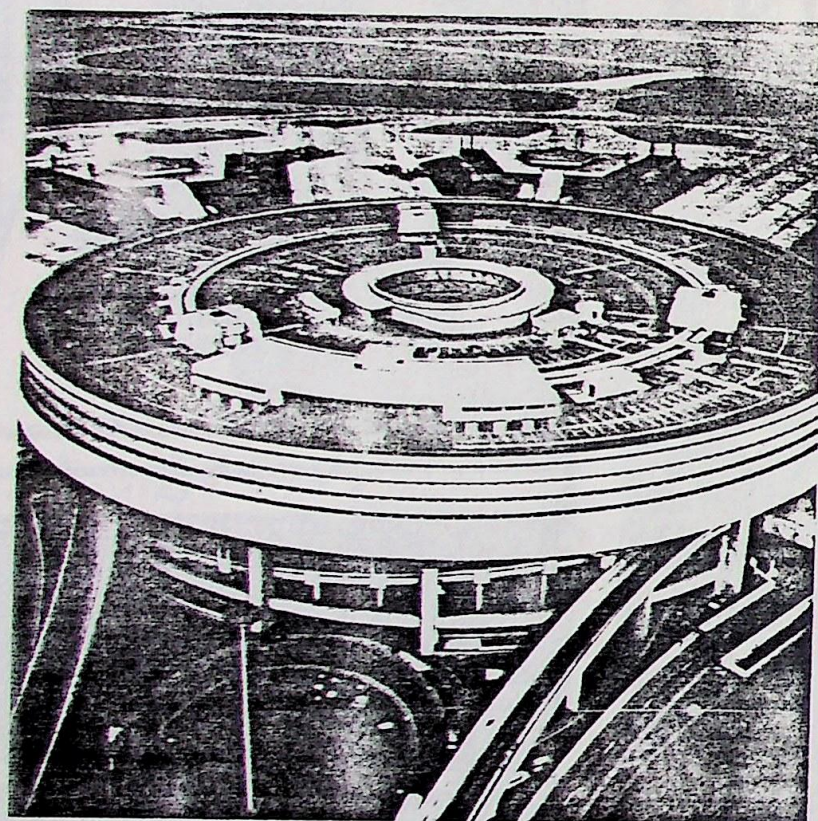
douane
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Départs
Departures

5

douane

3



Alphabet Roissy:

HAHBHCHDHEHFHGHIIHJHKHLHMHNHOHPHQHRH

HSHTHUHVHVHWHXHYHZH nanbncndnenfngnhninjn «β»

nknlnmnonpnqnrnsntnvnwnxnynzn ç (éèêë) îï

4

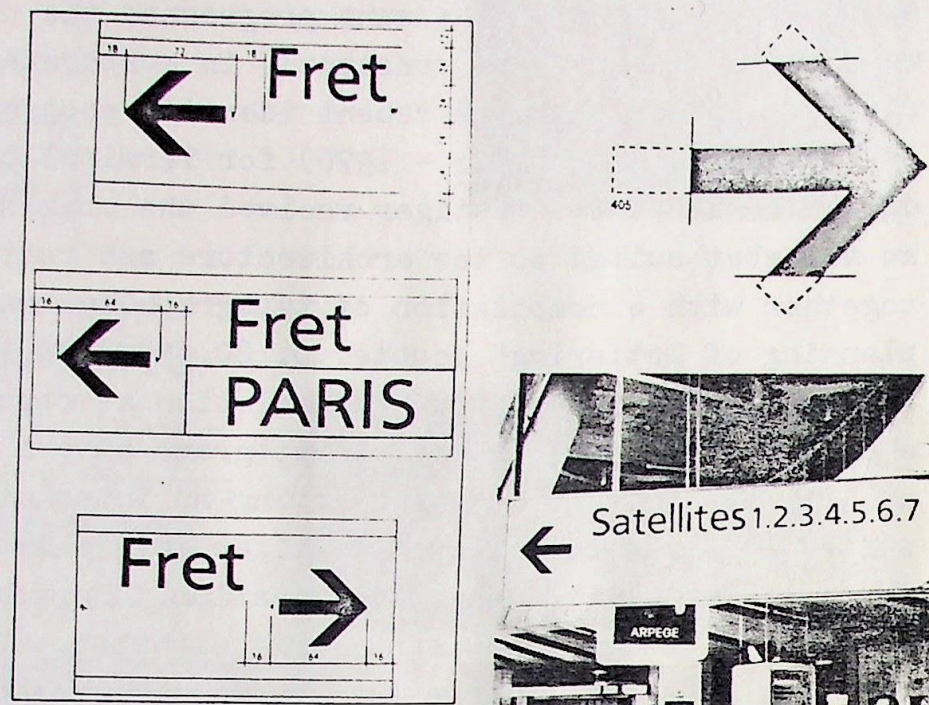
As the development of the sans progressed the unseriffed letters were and still are used constantly in corporate/information programmes. One of the more recent identity programmes was designed by Adrian Frutiger (1975 - 1976) for Terminal 1 Paris (Charles de Gaulle) Airport. Frutiger received the commission "to design an alphabet suited to the architecture and function of the airport, together with a compilation of typographical rules for the overall planning of lettering" (quote. p. 80, No. 2). Frutiger chose a typographical solution as opposed to the use of a pictorial system (ill. 1). Pictograms have a certain ambiguous quality as a result of there having no internationally recognized system of standardization. Frutiger felt that words prove to be the most practical means of indication. For this purpose he decided to design a new sans serif alphabet. This was due to the fact that the sans in use then had a dated appearance. A seriffed face was also considered but "for indication purposes, serifs (ill. 2) are felt to be a kind of visual noise" (quote. p. 80, No. 2) compared to the sober practical and less distracting character of the sans serif. Initial "considerations were of a purely geometrical nature, such as the balancing of the round letters with the circular plan of the building" (ill. 3) (quote. p. 80, No. 2). The final alphabet seems to be a compromise between the construction of the Geometric sans and the Neo Grotesques. In essence Frutiger has applied an knowledge of the sans serifs development to produce this new alphabet.

The Roissy alphabet (ill. 4) is generous in shape and the optical rather than mathematical rules applied to the construction of 'Univers' for example are employed here also. The monoline form combined with the optically designed letters give the alphabet good legibility. (in a sense I feel that Frutiger has used his system of optical construction and combined it with the generous proportions found in 'Helvetica').

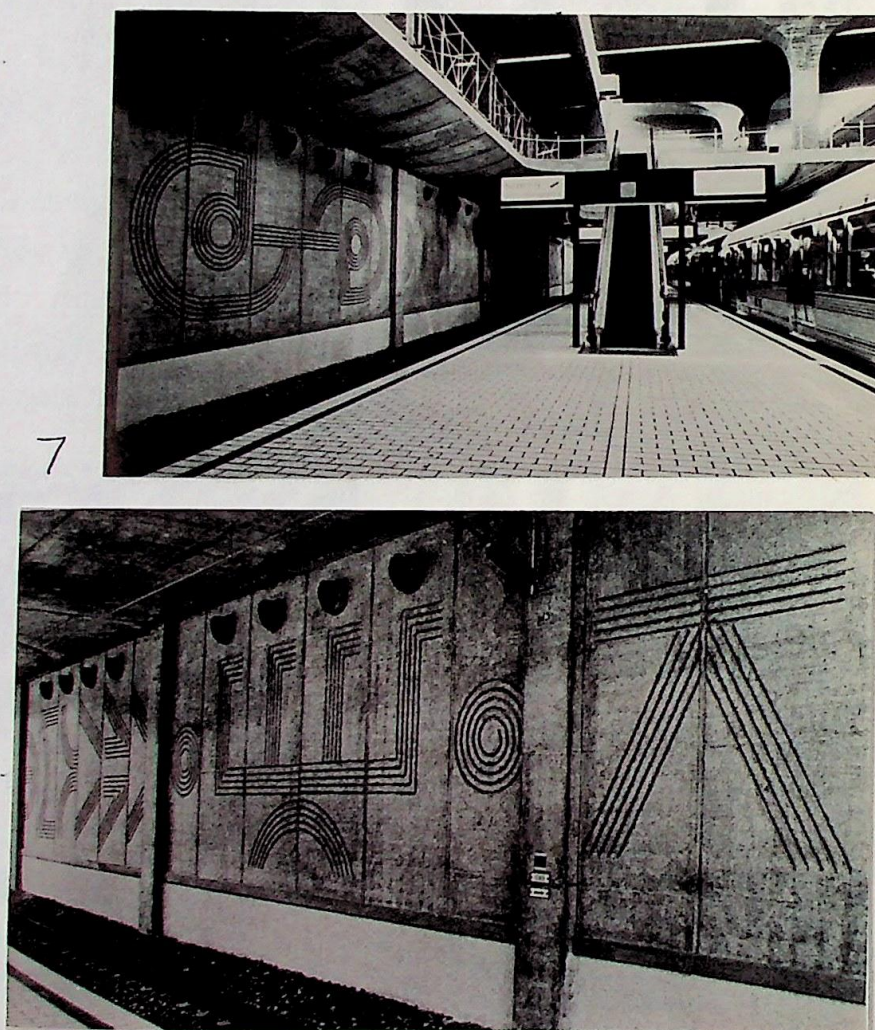
Language and its use had been another important consideration within the context of this job i.e. for an airport the need for internationally accepted and recognized terms are necessary.

The Roissy system is bilingual, the layout of information is in both the English and French languages. The background colour used

6



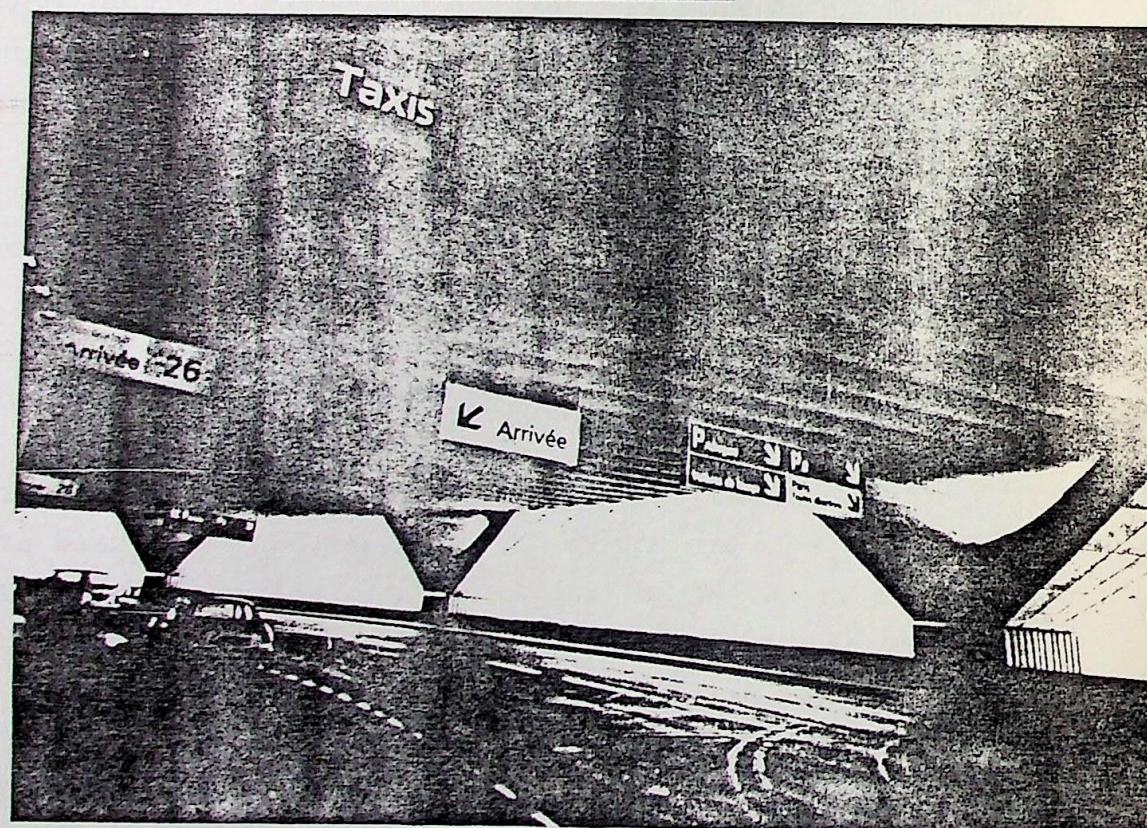
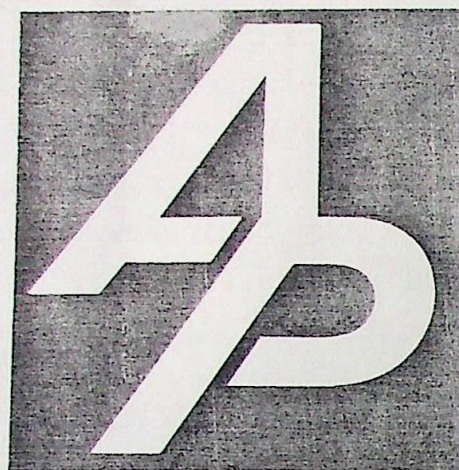
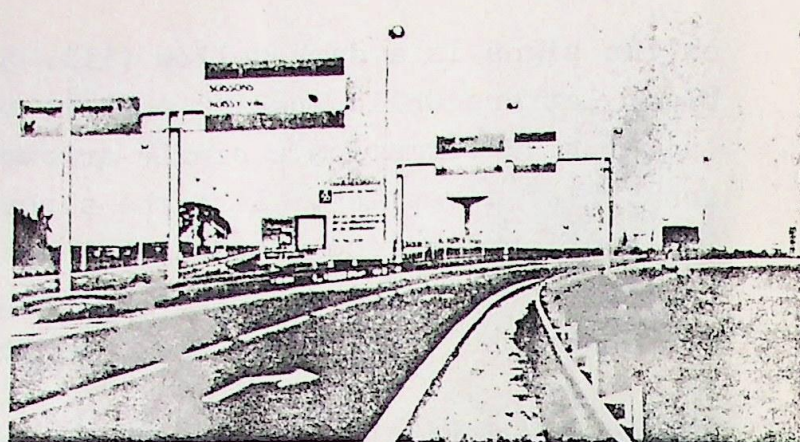
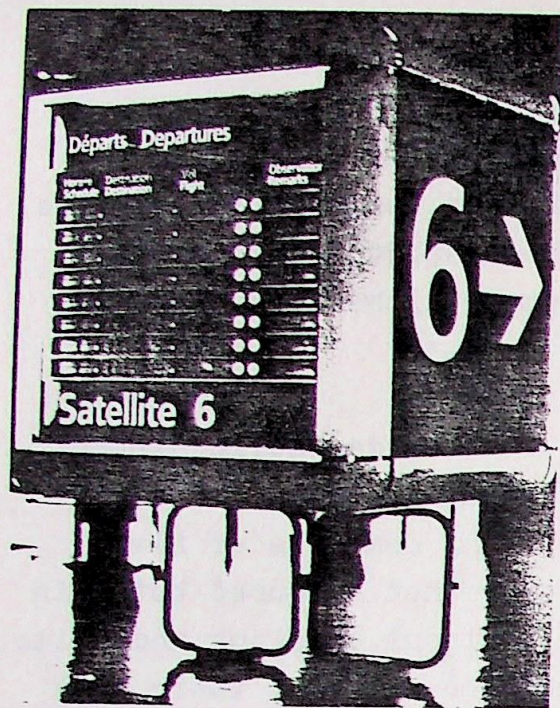
7



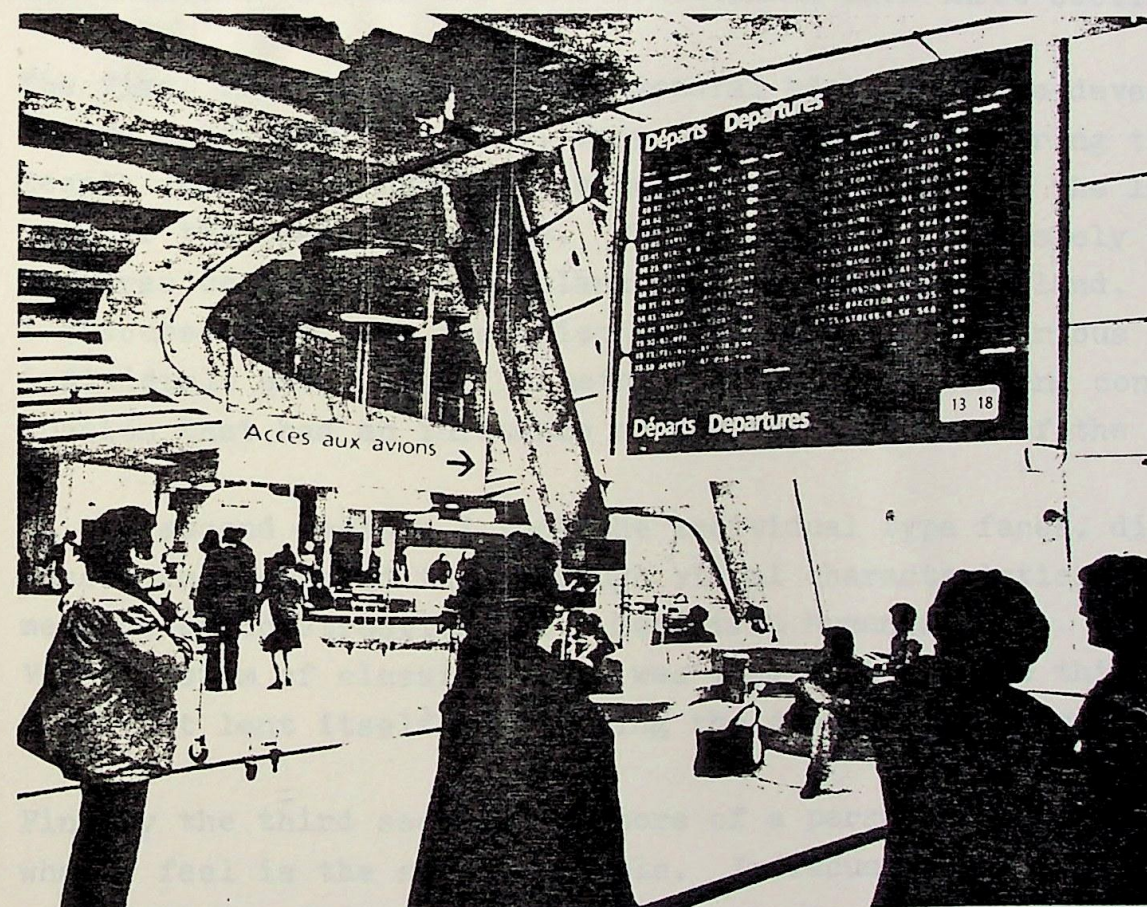
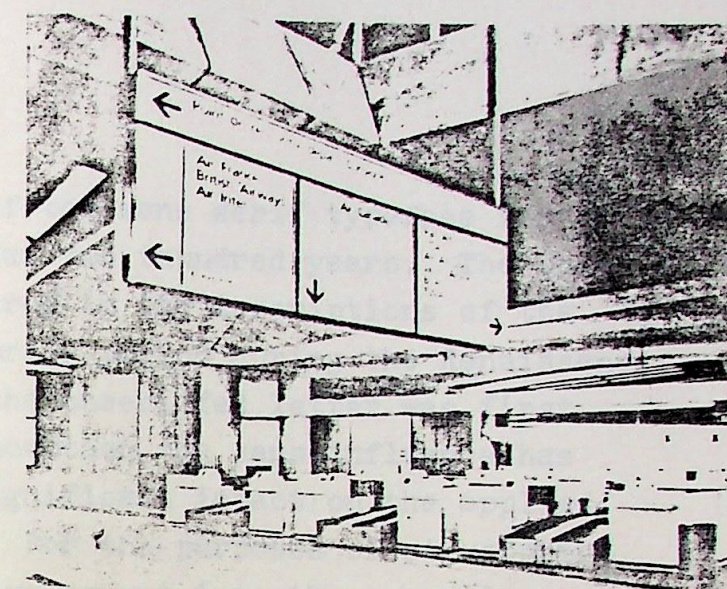
on the signs is a dark yellow (ill. 5). French text appears in black letters while English text is in white. To compliment the layout of information a single arrow (ill. 6) is used as an indication of direction. Like the alphabet the construction of this internationally recognized symbol has been subjected to psychological consideration. So as not to appear either too blunt or too sharp the constructed angle is 90° .

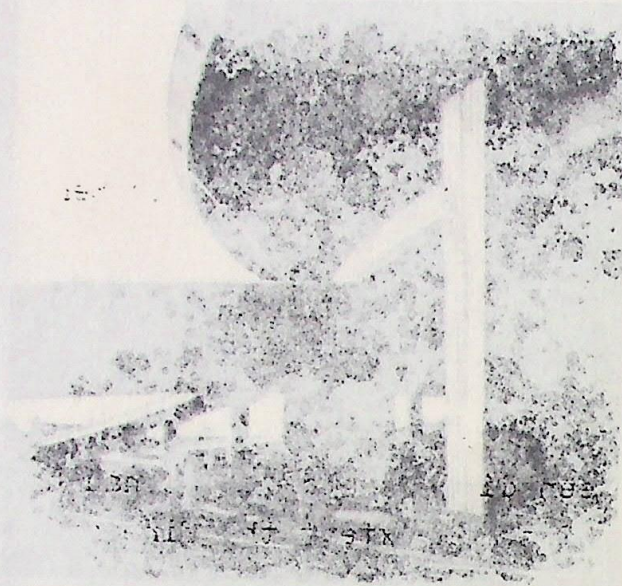
Another interesting development at the Charles de Gaulle Airport is the concrete lettering designed by Adrian Frutiger for the airport's own railway station. The lettering consists of five lines, monoline in shape. "These signs are not coloured but gain their life from the rising and falling contrast of black and white, light and shade. They begin nowhere and end nowhere, their only limitation is the length of the walls 250 meters" (quote. p. 143, No. 2). This lettering (ill. 7) was created by placing fifteen kilometres of nylon, two centimetres thick into the shutting for the concrete and removed with it. The letters have a lyrical, poetic rhythm combined with a dynamic feeling of movement. Not only is there method of construction related to Frutiger's own methods of designing type (mentioned earlier). It is also related to his definition of the sans i.e. "A sans serif typeface in its essential nature is a carved or chiselled form. The uniform shaping of a symmetrical stroke is the basic and most natural means of expression" (quote. p. 15, No. 2). From this I determine that not only does the concrete lettering reflect the structure of the architecture but it also compliments the sans designed for Roissy Airport.

To conclude this section, I have attempted to forward the argument that the sans is at its most effective when used in an identity system to convey an image or information. Essentially I have placed the sans in an environmental context. As a conveyor of information on an international scale, I feel that the legible form of the sans is best suited to this task. This has been backed up by various examples i.e. Johnston's 'Railway type' and Eric Gill's 'Gill Sans' for London Underground and the L.N.E.R. respectively. I concluded with a discussion on Adrian Frutiger's



identity system for Roissy Airport, Paris. I have attempted to intergrate many of Frutiger's ideas and comments with my own personal reactions in this final discussion on Roissy. Thus bringing the thesis to its conclusion.





Conclusion. Part 1973 - 57. Thus my conclusion is, that as a medium for conveying words and indicating direction i.e. in information/identity programmes, the unseriffed, hard edge sans-serif letter form is at its most effective.

In conclusion, the development of the sans serif typeface has evolved over a period of less than two thousand years. The un-seriffed letter form first appeared in the inscriptions of the ancient Greeks and later for a brief period during the Renaissance. But it was not until 1816 that the unseriffed letter was first cut as a typeface. Since its inception the sans influence has been diverse and it has had a significant impact on the applied and to an extent the fine arts. For the purposes of structuring the thesis I divided the sans development into three sections.

The first section dealt with a general history of the development of the sans serif typeface, from its introduction during the nineteenth century through to the more recent designs of the later half of the present century. The development was basically confined to three countries i.e. England, Germany and Switzerland. Thus I discussed the sans evolution in relation to the various countries, individuals and changes in methods of reproduction and construction that had an influence on the changing form of the sans.

In the second section I took the individual type faces, discussed and compared them through visual characteristics and methods of construction i.e. Geometric Humanist etc. Maximilien Vox's system of classification was used to structure this section. I felt it lent itself to treating the discussion coherently.

Finally the third section was more of a personal response to what I feel is the sans true role. I discussed the legibility of the sans and its use in identity programmes (from the first designed by Edward Johnston for 'London Underground' 1916 to the more recent identity system designed by Adrian Frutiger for

'Roissy' Airport 1975 - 6). Thus my conclusion is, that as a medium for conveying words and indicating direction i.e. in information/identity programmes, the unseriffed, hard edge uniform, monoline letter form is at its most effective.

My Own Books.

- (1) John A. Biggs
Unsettled the Letter and Lettering
published by: Blanford Press 1977.
- (2) Adrian Frutiger
Type Sign Symbol
published by: ABC Editions Zurich.
- (3) Graham Greene
Unsettled the Letter and Lettering
published by: Blanford Press 1977.
- (4) Robert Harling
The Letter Form and Type Design
of Eric Gill
published by: Iva Swenson 1976.
- (5) Stanley Morrison
A word in your eye
an article about Michael Harvey
Design Annual 1982.
- (6) John Lancaster
Lettering Techniques
published by: A. J. Matthews Ltd. 1982.
- (7) John Lawle
Typography: Design and Practice
published by: Martin and Jenkins Ltd 1978.
- (8) E.W. Ryan
The Irish Character in Print 1571 - 1923
published by: Martin and Jenkins Ltd 1982.
- (9) John Ryder
Unsettled the Letter and Lettering
published by: Blanford Press 1977.

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- (1) John R Biggs Letter Forms and Lettering
published by: Blandford Press 1979.
- (2) Adrian Frutiger Type Sign Symbol
published by: ABC Editions Zurich.
- (3) Graham Greene Collected Essays (an essay on Eric Gill)
published by: Penguin Books in association with Bodley Head 1981.
- (4) Robert Harling The Letter Forms and Type Designs
of Eric Gill
published by: Eva Svensson 1976.
- (5) Stanley Harrison A word in your Eye
an article about Michael Harvey
Penrose Annual 1982.
- (6) John Lancaster Lettering Techniques
published by: B T Batstord Ltd. 1982.
- (7) John Lewis Typography: Design and Practice
published by: Barrie and Jenkins Ltd 1978.
- (8) E W Lynam The Irish Character in Print 1571 - 1923
published by: Barnes and Noble Inc. 1969.
- (9) John Ryder The case for Legibility
published by: The Bodley Head 1979.

- (10) Baseline Magazine tree articles (issue 4, 1983).
 (a) Adrian Frutiger.
 (b) Baskerville then and now
 and (c) Corporate Identity Systems and
 the typeface.

Books and articles lent by Bill Bolger.

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Bauhaus

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CLASSIFICATION OF TYPE FACES

- | | | |
|----|-----------------|---|
| A. | Humanist | Type faces in which the cross stroke of the lower case e is oblique; the axis of the curves is inclined to the left; there is no great contrast between thin and thick strokes; the serifs are bracketed; the serifs of the ascenders in the lower case are oblique.
<i>Note.</i> This was formerly known as "Venetian", having been derived from the fifteenth-century minuscule written with a varying stroke thickness by means of an obliquely-held broad pen. |
| B. | Garamonde | Type faces in which the axis of the curves is inclined to the left; there is generally a greater contrast in the relative thickness of the strokes than in Humanist designs; the serifs are bracketed; the bar of the lower case e is horizontal; the serifs of the ascenders in the lower case are oblique.
<i>Note.</i> These are types in the Aldine and Garamond tradition and were formerly called "Old Face" and "Old Style". |
| C. | Transitional | Type faces in which the axis of the curves is vertical or inclined slightly to the left; the serifs are bracketed, and those of the ascenders in the lower case are oblique.
<i>Note.</i> Influenced by the letter-forms of the copperplate engraver. It may be regarded as a transition from Garamonde to Didone, and incorporates some characteristics of each. |
| D. | Didone | Type faces having an abrupt contrast between thin and thick strokes; the axis of the curves is vertical; the serifs of the ascenders of the lower case are horizontal; there are often no brackets to the serifs.
<i>Note.</i> These are type faces as developed by Didot and Bodoni. Formerly called "Modern". |
| E. | Slab-serif | Type faces with heavy, square-ended serifs, with or without brackets. |
| F. | Lineale | Type faces without serifs.
<i>Note.</i> Formerly called "Sans-serif". |
| | a Grotesque | Lineale type faces with nineteenth-century origins. There is some contrast in thickness of strokes. They have squareness of curve, and curling close-set jaws. The R usually has a curled leg and the G is spurred. The ends of the curved strokes are usually horizontal. |
| | b Neo-grotesque | Lineale type faces derived from the grotesque. They have less stroke contrast and are more regular in design. The jaws are more open than in the true grotesque and the g is often open-tailed. The ends of the curved strokes are usually oblique. |
| | c Geometric | Lineale type faces constructed on simple geometric shapes, circle or rectangle. Usually monoline, and often with single-storey a. |
| | d Humanist | Lineale type faces based on the proportions of inscriptional Roman capitals and Humanist or Garamonde lower case, rather than on early grotesques. They have some stroke contrast, with two-storey a and g. |
| G. | Glyphic | Type faces which are chiselled rather than calligraphic in form. |
| H. | Script | Type faces that imitate cursive writing. |
| I. | Graphic | Type faces whose characters suggest that they have been drawn rather than written. |