Typography in New Media

Product of TiNM Learning Group 2013

BASIC TOPICS

1a. Typography Basics: What is typography; The typographic principle; Movable type; Typographic Elements; Examples of layout;

1b. Fonts: Font Classification: Typical Font Families; Type Specimens, Weights; Kerning and Leading; Examples of Layouts with Typographic Elements;

1c. Typography in Computer Communications: History of Typography in Computer Communications; Monospaced Type; ASCII & ANSI; Alphabets of the World; Glyphs & Symbols; Unicode; Examples of Unicode character set;

1d. Considerations in Typography: Aim of Typography; Examples of Multilingual Signage, Braille, Musical & Mathematical Notation.

2. History of Typography

Ancient: from pictorial to cuneiform to Roman square capitals http://karenswhimsy.com/public-domain-images/cuneiform/images/cuneiform/images/cuneiform-2.ipg; Roman cursive to gemena letters;

500–1300s: uncial, blackletter, ambiguity of naming conventions; <u>https://en.wikipedia.org/wiki/History_of_Western_typography;</u>

1400–1700s: Famous examples of Renaissance to Baroque type such as Garamond, Jenson, Caslon, Baskerville; work of type engraver (Counterpunch) & printing press;

1800s: Egyptienne & woodtype; rise of type foundries;

1900s: Bauhaus & Sans serif: Tschichold and asymmetrical design, Futura by Paul Renner; difficulties of metal type as driver towards photosetting; -?-; 1980's desktop publishing: Raygun, Emigre et al; 1990's standards: Postscript; TTF vs. PS -(Multiple Masters)-> OTF;

2000s: online typography, Adobe typekit et al.

3. Style wars

calligraphy vs. lettering; "hamburgefonstiv"; "display" type (not computer display); script; serif vs. sans-serif (grotesk), humanist & geometric sans;

Use of contrasting typefaces;

punctuation <u>https://en.wikipedia.org/wiki/Punctuation;</u> conventions of different quotation marks, dashes and hyphens; empty spaces; tabulation;

4. Letterform design

composition of a letterform: <u>http://typomil.com/anatomy/index.html</u>; x-height & baseline; direction of stroke, stroke width; ligatures; darkness and white space: page tone; trapping; Display typography exclusives: kerning & anti-aliasing.

5. Software

Fontographer, Font Lab; Basics of vector design: Illustrator, Inkscape? <u>http://www.typotheque.com/articles/typeface_as_programme_glossary</u> <u>http://fontstruct.com/</u>

6. Good conduct and rules

weights, contrasts, headline levels, grids, spacing; width and height relations; baseline grid; paragraph style & character style menus; style coherence; readability vs. legibility; symmetric vs. asymmetric vs. dynamic layout design

7. Type Technologies

Basic perception aspects for both screen and print typography: DPI: "Retina/HiDPI"; point size as unit; bitmap screen sizes of conventional typefaces; Common type technologies and related standards: Postscript, UniCode, UTF-8, HTML, CSS, XML

ADVANCED TOPICS

9. International writing systems, presented by students from those societies: Indian (Shakti & Palash); Dtomba of Naxi (Ninni Suni); Chinese?; Japanese?; Korean?; Cyrillic?; Arabic?; others?; http://www.omniglot.com

10. Psychology of type: Errol Morris NYT experiment; Setting the mood; Revealing and creating fakes: evaluating the age and origin of typographic styles, spotting anachronisms, comparing typefaces by overlaying, checking the release date

11. Typography in UI design: Games: Borderlands 2;

12. Computational and generative typography: Karsten Schmidt: Type & Form sculpture; Michael Schmitz: Genotyp; Jonathan Puckey; Examples from Generative Design: P.2.3.3, P.3 Type; Typeface as programme: http://www.typotheque.com/articles/typeface_as_programme; http://letterror.com/writing/toolspace/

13. Mathematical Typography: Donald E. Knuth http://projecteuclid.org/DPubS?service=Ul&version=1.0&verb=Display&handle=euclid.bams/1183544082

14. Optical Character Recognition (OCR) and machine readable type

15. Coding friendly typefaces: Monaco 10pt; customizing Terminal window preferences;

16. Possibilities of OTF

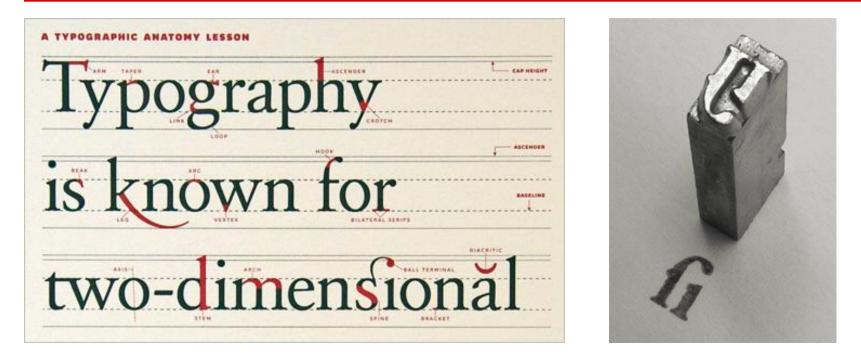
17. Moving typography, as on screen or in video

18. Emerging type technologies - web type (fontsquirrel and other ways of using custom fonts in web), colored type, animated type and layered type; Typesetter.js;

1.Typography
Basics

Product of TiNM Learning Group 2013

What is Typography?



Typography is technology and art of modular adaptable arranging of type (to make language visible)

What is Typography?



Calligraphy, lettering, engraving and stamping readymade word images are distinct from typography.

Brekle's Typographic Principle

"Movable type": is achieved through setting movable and reusable type elements into needed arrangements at will.

Herbert E. Brekle, a German typographer: "creation of a complete text by reusing identical characters"

Movable Type

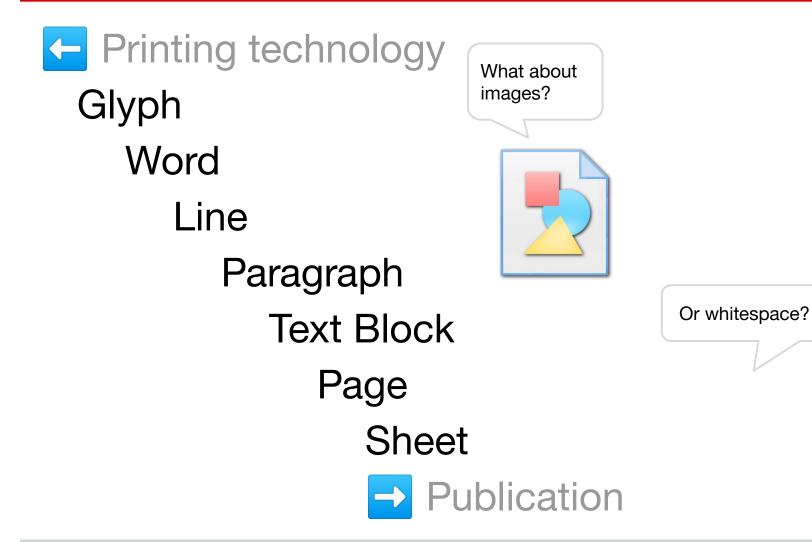


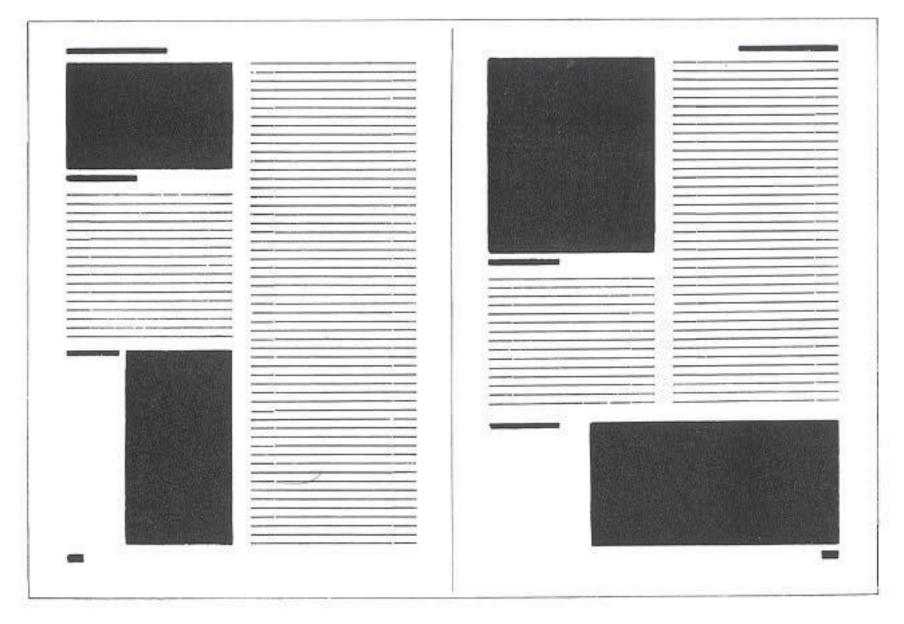
Typographic Elements

- Printing technology
 - Glyph character size;
 - Word character spacing;
 - Line length; word spacing;
 - Paragraph line spacing; paragraph form, indentation;
 - Text Block margins;
 - Page layout; page effect of type;
 - Sheet ordering of pages; print marks.



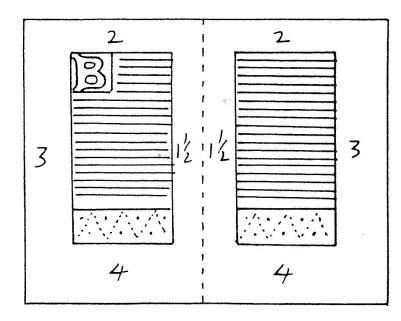
Typographic Elements

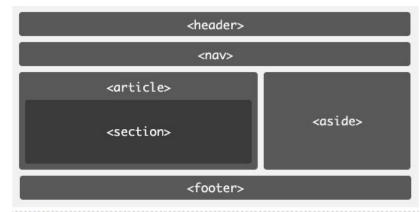




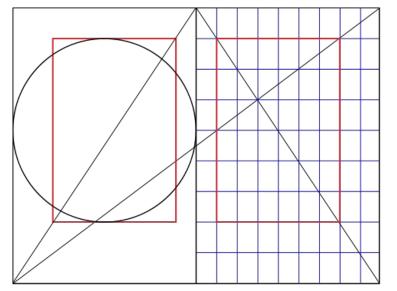
"Die Neue Typographie", Jan Tschichold (1928)





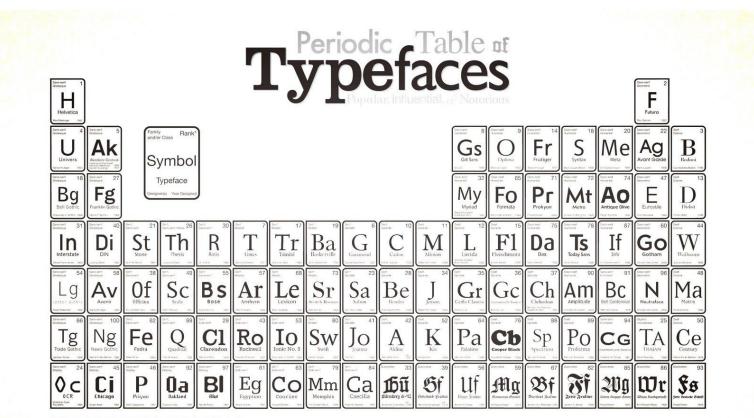


The div elements can be replaced with the new elements: header, nav, section, article, aside, and footer.





Typefaces (Fonts)



Ranking determined by sorting and combining lists and opinions from the following sites:

Namind generative (1) Justing and contrasting lass and balances from the toxicoming same. The index of the personal favoration is the respective and and distances (separatic toxic), Boyer Black Cogentrals.com), Be have been personal favoration (biotechica) and and an Bertam Schmidt-Friederich (biot.org), Stephen Colles (typographica.org), Venotae Esner (vew.fortshop.com/forts/bundy/velser_fake), Rait Herman (bentyper), and (and Calcula diametris) (control proc.gov).

Paul Shaw's Top 100 Types survey - http://www.tdc.org/reviews/typelist.html 21 Most Used Fonts By Professional Designers - http://www.instantshift.com/2008/10/05/21-most-used-fonts-by-professional-designers/ To 7 Fonts Used By Professionals in Graphic Design - http://justcreativedesign.com/2008/09/23/top-7-fonts-used-by-professionals-in-graphic-design-2/ 30 Fonts That ALL Designers Must Know & Should Own - http://justcreativedesign.com/2008/03/02/30-best-font-downloads-for-designers/ Typefaces no one gets fired for using - http://www.cameronmoll.com/archives/001168.html (to include all serious and reasonable opinions stated in the comments section)

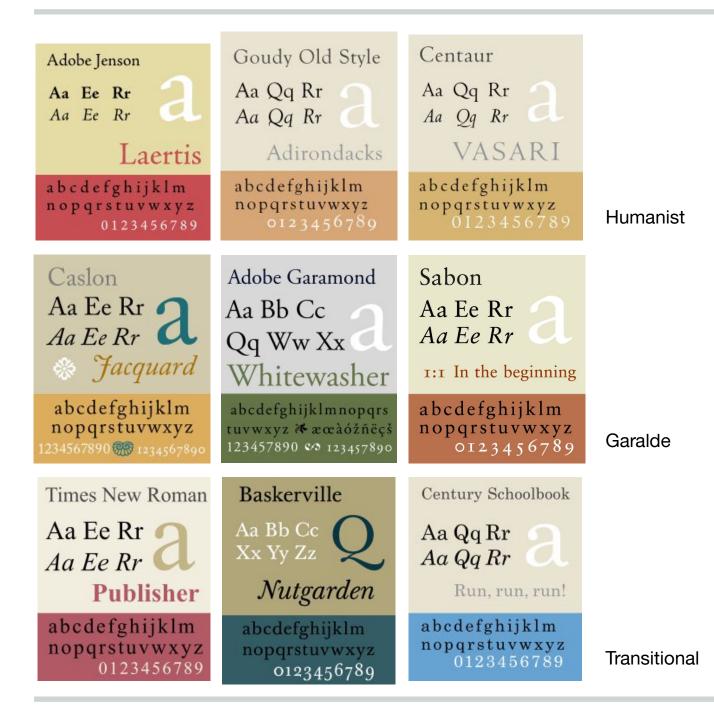


Typeface Classification

Mix of Vox-ATypl, British Standards & Bringhurstian classifications:

1 Classicals 1.1 Humanist ("Venetian") 1.2 Garalde ("Old Style") 1.3 Transitional ("Neoclassical, baroque") 2 Moderns 2.1 Didone ("Romantic") 2.2 Mechanistic 2.3 Lineal ("Sans Serif") 2.3.1 Grotesque 2.3.2 Neo-grotesque 2.3.3 Geometric 2.3.4 Humanist 3 Calligraphics 3.1 Glyphic 3.2 Script 3.3 Graphic 3.4 Blackletter ("Block", "Gothic", "Fraktur" " Old English") 3.5 Gaelic 4 Non-Latin ("Exotic")

http://www.adobe.com/type/fontfinder/



ABCI ABCDEFG ABCDEFGHI ABCDEFGHLIK ABCDEFGHIJKL ABCDEFGHIKLMN

French Cannon, Quoulque tandem abutere, Catilina, pati-Quouque tandem abutere, Catilina. patientia nostra?

DOUBLE PICA ROMAN. Quoufque tandem abutere, Catilina, patientia nostra? quamdiu nos etiam furor ifte tuus eludet? quem ad finem fefe effrenata jac-ABCDEFGHJIKLMNOP

GREAT PRIMER ROMAN. Quoufque tandem abutère, Catilina, patientia nostra ? quamdiu nos etiam furor ifte tuus cludet? quem ad finem fefe effrenata jactabit audacia ? nihilne te nocturnum præfidium palatii, nihil urbis vigiliz, nihil timor populi, nihil con-ABCDEFGHIJKLMNOPQRS

ENGLISH ROMAN.

Quouíque tandem abutére, Catilina, patientia noftra? quamdiu nos etiam furor ifle tuus cludet? quem ad finem fefe effrenata jactabit audacia? nihilne te nocturnum przfidium palatii, nihil urbis vigiliz, nihil timor populi, nihil confenfus bonorum omnium, nihil hic munitiflimus ABCDEFGHIJKLMNOPQRSTVUW

PICA ROMAN.

Melium, novis rebus fludentem, manu fua occidit. Fuit, fuit ifta quondam in hac repub, virtus, ut viri fortes acrioribus fuppliciis civem perniciofum, quam acerbiflimum hoftem coercerent. Habemus enim fenatufconfulrum in te, Catilina, vehemens, & grave: non deeft reip, confilium, neque autoritas hujus ordinis : nos, nos, dico aperte, confules defumus. De-ABCDEFGHIJKLMNOPORSTVUWX

SMALL PICA ROMAN, Not.

At not vigetimum jam dam patimur hebefore aciem horum sotontata, habemus esim hojufinatii fimanakonfulnum, ver rumtamen inclutum in tabula, tangtam gladam in vagira reconditum; quo est fenanticonfilito confettum interfoltum te effe, Casilina, convenit. Vivia: & vivia non ad deponendun, fel ad confirmandam audaciam. Cupio, P. C., me cale dementem : cupio in tanta reipub. periculia non daf-ABCDEEGHIJKLMNOPQRSTVUWXYZ

CLOTHES HORSE

Saturday Only: 50% Off All Custom-tailored Robes

Iade Out of Whole Cloth

Fashionable REGULAR

Really, you can trust me on this

WE'LL JUST NEED A \$1,496 DEPOSIT TO GET STARTED ON THESE ITALIC

TIONING

I believe your new clothes are ready, sire



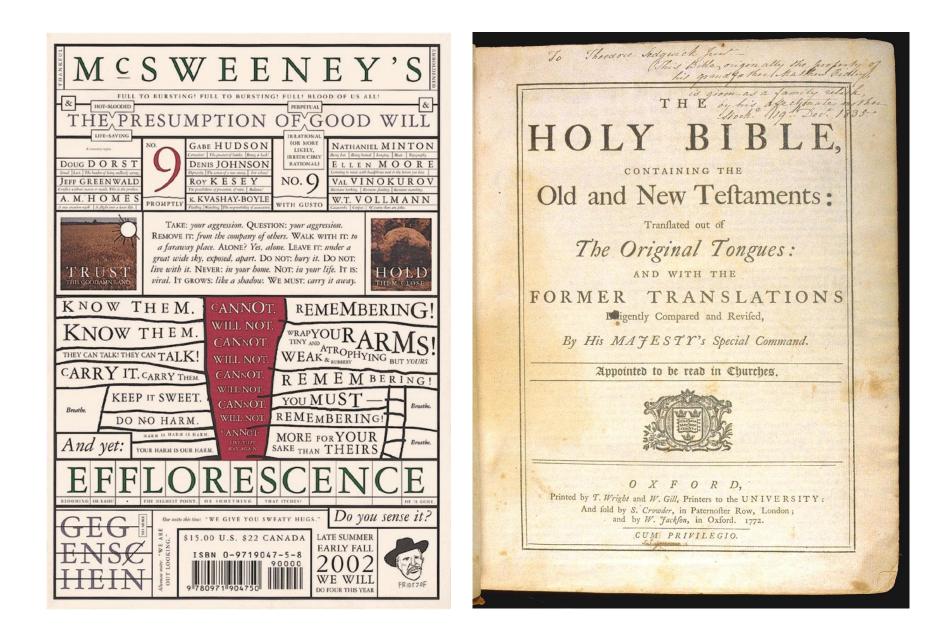
Now There's Something You Don't See Every Day

Elephant? What elephant?

Polite Fiction

I'M SURE THOSE ARE ALL STARES OF ADMIRATION BOLD ITALIC

Type Specimens of Caslon.



Bodoni Aa Qq Rr *Aa Qq Rr* HORATII

abcdefghijklm nopqrstuvwxyz 0123456789 Didot Aa Qq Rr *Aa Qq Rr* **MOLIÈRE**

abcdefghijklm nopqrstuvwxyz 0123456789

This became France's greatest contribution to the typographic field. After its design Didot was used religiously for body text in French books and is even still used today over Times New Roman.

Adrain Frutiger revised Didot's typeface in 1992 under the Linotype foundry. Frutiger kept the contrast between the thick and thin line strokes. He also kept Didot as the name of the typeface in honor of Didot.

> ir, bedd italic; hold roman, an terill as others. In 1911, Dalot started work as a printer for the Insite Français. It only took him two rears to searly a higher life as royal printer for the company in 1823.

> Boeffer & Frem-Jone also made a variation of D did's typefiere soul has mana-it 168.F3 Didot. This sorsio nes les a sud hold italic, hold o In DOLL Disks of In 1911, Debut atarteel work as a printer for the Insitut Français. It only took him ton teams to reach a higher fills as small printer for the company in 1911. Didd gates a pointer for his derect teiner schemelt [200]

d'sping system in 1700 Boller & Free-Jose

Horflet & Free-Josev has also much a participation of Diit 155.FJ Disks. This revealed comes in a sariety of differ-ent styles including light itsl

 012°



typographer, printer, publisher and author

tamı Frutiger Didot's typeface in 1992 under the Linotype Kondry. Frutiger kept the contrast between the thick and thin line strokes. He also kept Didot as the same of the typeface in honor of Dislot Boeffer & Frere-Joney has also made a variation of Didot's repetace and hos named it H&FJ Didot. This

GHIJKLM

UVWXY7

resident comments in a speciety of different styles including light italic, hold italic, hold roman, as well as others.

In 1811, Didot started work as a printer for the Insitut Français. It only took him two years to reach a higher title as royal printer for the contain in 1811.

Dalot grim a patent for his stereotyping system in 1792. Not to be confused with the poorhological term. for stereotyping, Didof's term ones from the Greek word

stero, meaning rigid or solid.

typefaces in 1783. For him any typeface was available for reworking.

print shop.

as he also worked on refashioning his family's typefaces. Didot continned his work with

creating new typefaces even after gaining the extra work that comes with owning the family

0123456780

abcdef thin and thick contrasting lines ghijklm

nopgrst



ters unusing right or odd. Didot began working adays no nearing of ourse with the structure of the structure styles including light italic, bold italic, bold roman, as well as others.

> modern roman typeface Didot

Made & Free La

FLATTERING JACKETS Soundtrack sewn into 873 garments Sound system formulas IS 1,425 WATTS SPEAKER WIRE STITCHING ALONG SIDE VENT CONDENSED LIGHT -streaming cuffs ume POLKA DOT PATTERN A SHAME le or piqué TED PINKING SHEARS NECESSARY

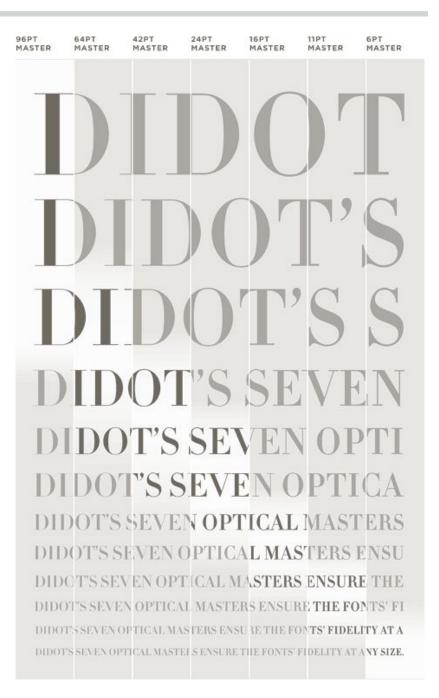




Seven 'optical size' masters

Seven 'optical size' masters 6PT MASTER





Akzidenz-Grotesk	Frutiger	TheSans
Aa Ee Rr	Aa Ee Rr	Aa Qq Rr
Aa Ee Rr	Aa Ee Rr	<i>Aa Qq Rr</i>
Buchdruck	Accès aux avions	Citizens
abcdefghijklm	abcdefghijklm	abcdefghijklm
nopqrstuvwxyz	nopqrstuvwxyz	nopqrstuvwxyz
0123456789	0123456789	0123456789
Helvetica	Univers	Futura
Aa Ee Rr	Aa Ee Rr	Aa Qq Rr
Aa Ee Rr	<i>Aa Ee Rr</i>	Aa Qq Rr

ROYAL ARCTIC LINES A New Play by Margot Tenenbaum EMERGENCY · EMERGENCIA African Wildlife Wing

The crickets and the rust-beetles scuttled among the nettles of the sage thicket. "Vámonos, amigos," he whispered, and threw the busted leather flintcraw over the loose weave of the saddlecock. And they rode on in the friscalating dusklight.

PROTECT AND SURVIVE

*Typisch für Berthold» und weltweit verbreitet: die «klassische» Akzidenz-Grotesk schalfet: Akzidenz-Grotesk sch



Ampersand conference Open Doors Constant Round Tables Конференция Ετήσιος συνδιάσκεψη **Speed Geeking** Scientific - Society ANFANGSBUCHSTABEN FÜR ALLE!

WANTED

STRONG-AS-AN-OX LETTERS

FROM THE HEART OF THE INDUSTRIAL REVOLUTION

MUST BE COMPLETELY FREE

CONSIDERED AN ASSET

THOSE INTERESTED PLEASE TO INQUIRE:

H. BERTHOLD FOUNDRY GRÜNDUNGSJAHR ACHTZEHN-NEUNZIG ACHT

THE

GÜNTHER G. LANGE

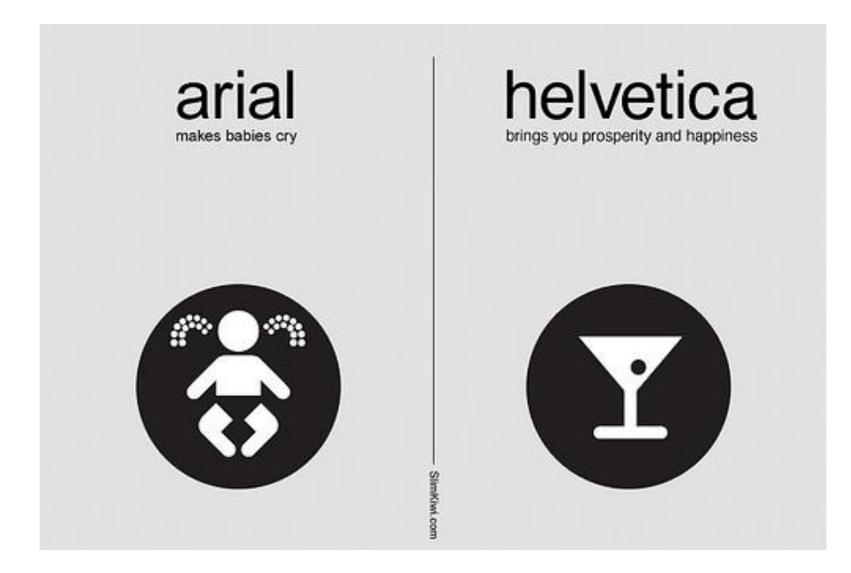
FOR

EEKING

ABCDEFGHIJKLM abcdefghijklm

noparstuvwxyz

[1234567890?!]



Egyptienne

Aa Ee Rr Aa Ee Rr

Campagne

abcdefghijklm nopqrstuvwxyz 0123456789

Wedding Invitations

Wedding Invitations

Wedding Invitations

WEDDING INVITATIONS

Bickham Script

Citadel Script

Edwardian Script ITC

Engravers MT

Rockwell Aa Ee Gg Nn Og Rr

TURBINE

abcdefghijklm nopqrstuvwxyz 0123456789

Courier Aa Ee Qq Aa Ee Qq Think. abcdefghijklm

nopqrstuvwxyz

Botisch (Textur) Rundgotisch (Rotunda) Schwabacher Fraktur Saelač

Trajan Rustic Greek Uncial Uncial Half-Uncial → Visgothic Luxeuil → Beneventan → Caroline Insular Protogothic → Textura quadrata Fraktur Humanist limes

ABCDEFGHIJKLMNOPQRSTUVWXYZ ABCDEEGHIJKIM NOPORSIUVW XYZ **ΑΒΓΔΕΖΗΘΙΚΛΜΝ ΣΟΠΡC**ΤΥΦΧΨω ABC O E F G DIJK LON NO P G F S T U V W X Ý Z abcdefshijklmnopqrssuvwxyz abcdefghiklmnopgrrauzyz ubed & F Thisklmnopopf Tuvwxyz abcdefghijklmnopqr szuv wxy3 xb cd efg hijklmnopqrstuvwxyz abcoefghijklmnopqpscuvwyyz abcdefghijklmnopqrstuvwxýz abcdefghijklmnopqrstuvwfyz abcdefghijklmnopgrst uv wry z abcdefgbijklmnopqrstuvwxyz a b c d e f g h i j k l m n o p q r s t u v w x y z

Eggshell White Medium Orange **Blackberry Wine**

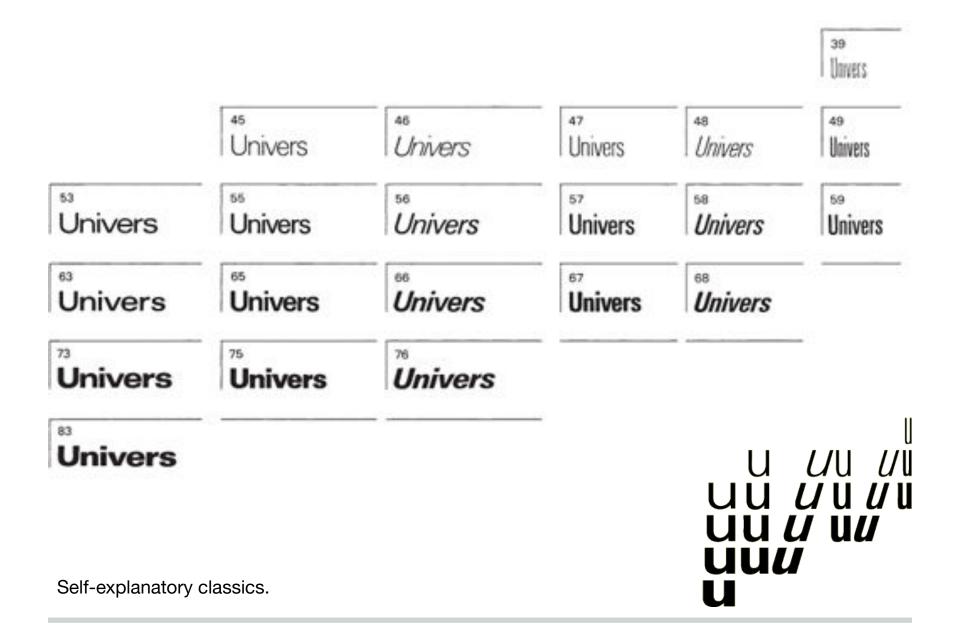
Dead History (Emigre)

Designed by P. Scott Makela in 1990

Font families

Helvetica Neue 25 Ultra Light Helvetica Neue 35 Thin Helvetica Neue 45 Light Helvetica Neue 55 Roman Helvetica Neue 65 Medium Helvetica Neue 75 Bold Helvetica Neue 85 Heavy Helvetica Neue 95 Black

Frutiger 45 Light Frutiger 46 Light Italic Frutiger 55 Roman Frutiger 56 Italic Frutiger 65 Bold Frutiger 66 Bold Italic Frutiger 75 Black Frutiger 76 Black Italic Frutiger 95 Ultra Black Frutiger 47 Light Condensed Frutiger 57 Condensed Frutiger 67 Bold Condensed Frutiger 77 Black Condensed Frutiger 87 Extra Black Cond.

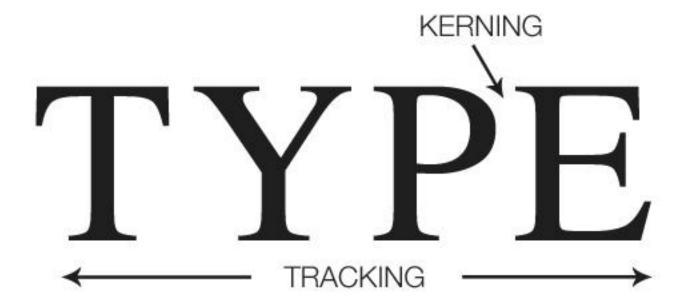


ITC Garamond Light ITC Garamond Book ITC Garamond Bold ITC Garamond Ultra

ITC Garamond Light Italic ITC Garamond Book Italic ITC Garamond Bold Italic ITC Garamond Ultra Italic

ITC Garamond Light Condensed ITC Garamond Book Condensed ITC Garamond Bold Condensed ITC Garamond Ultra Condensed

ITC Garamond Light Condensed Italic ITC Garamond Book Condensed Italic ITC Garamond Bold Condensed Italic ITC Garamond Ultra Condensed Italic ITC Garamond Light Narrow ITC Garamond Book Narrow ITC Garamond Bold Narrow Italic ITC Garamond Book Narrow Italic ITC Garamond Book Narrow Italic Georgia Regular *Georgia Italic* **Georgia Bold** *Georgia Bold Italic*









WAR. AR A

OPEN LETTER SPACING

TIGHT LETTER SPACING

kerning between two letters

add or delete space between individual letters using the kern panel of the type palette add or delete space between all letters in a word or sentence using the track panel of the type palette Takes two

SCALA, WITH KERNING SUPPRESSED Spacing appears uneven, with gaps around the T and w.

Takes two

SCALA, WITH KERNING Spacing seems more even.

nearly touch

SCALA ITALIC, WITH KERNING SUPPRESSED A gap appears between the l and y.

nearly touch

SCALA ITALIC, WITH KERNING The intimacy of italic requires kerning.

LOVE LETTERS

The VE and TT combinations make the whole word look mismatched.

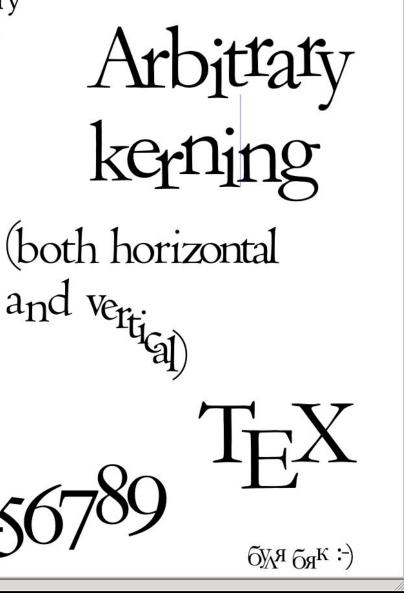
LOVE LETTERS

Kerning has been manually adjusted for a more even appearance.



TYPE CRIME: TOO MUCH SPACE Mind the gap, especially at larger sizes <u>File E</u>dit <u>V</u>iew <u>O</u>bject <u>P</u>ath <u>D</u>ialogs <u>H</u>elp

 $\overset{i}{=} Letters opacea unitary$ Letters Spaced Uniformly - default Letters Spaced Uniformly Letters Spaced Uniformly ¹ Letters Spaced Uniformly atters Small Iniformk Click to select or create text object, then type

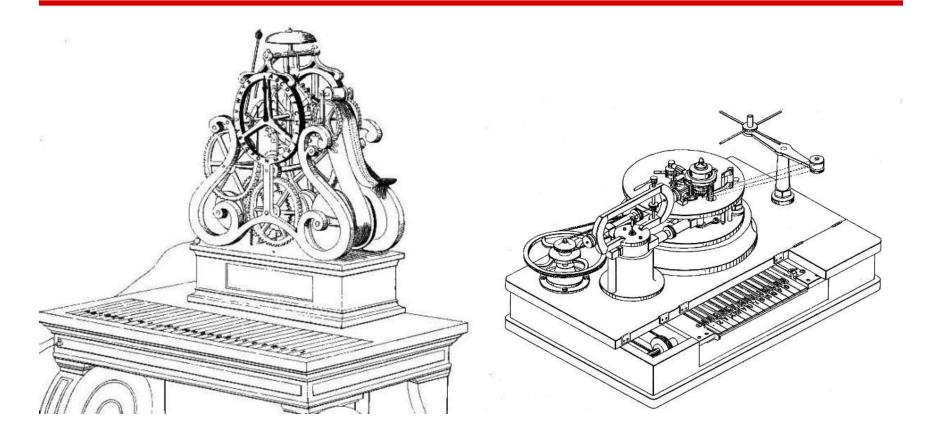


!"#\$%&'()*+,-./0123456789:;<=>? @ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_ `abcdefghijklmnopqrstuvwxyz{|}~ i¢£€¥Š§š©ª«¬-®⁻°±²³޵¶·ž¹^Q»ŒœŸ¿ ÀÁÂÃÄÅÆÇÈÉÊÈÌÍÎÏĐÑÒÓÔÕÖרÙÚŰŰÝÞß

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer eleifend tincidunt nisl sit amet ultricies. In et dui eu libero placerat egestas. Nunc a risus id lorem imperdiet venenatis sit amet sed metus. Duis pretium quam et diam aliquet et condimentum mi accumsan. Quisque et nunc at ligula varius fermentum. Phasellus ultricies, arcu ac dapibus accumsan, ligula orci tempor leo, in vestibulum erat risus vel tortor. Quisque cursus, purus nec porta posuere, orci dui lacinia leo, eu fringilla velit lacus et lorem. Quisque fermentum libero ut enim vulputate id dictum sem hendrerit. Nullam condimentum fermentum risus vel pellentesque. Fusce ultrices rutrum faucibus.

> Exceptions to kerning are the monospaced fonts (Inconsolata & Monaco 10pt)

Printing Telegraphs (1840s)

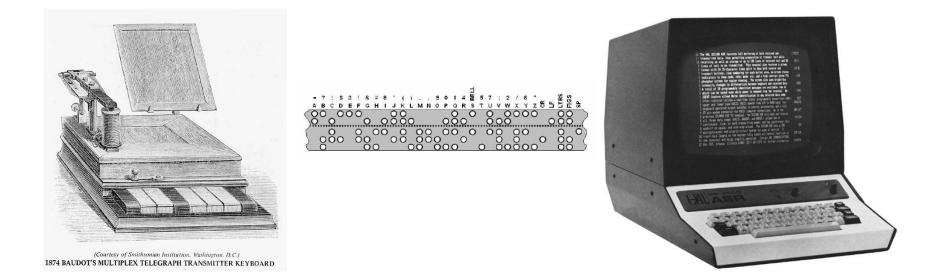


Brett's Electric Type Printing Telegraph 1848

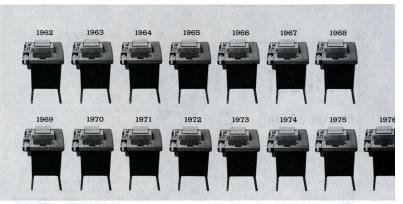
Used by the European Telegraph Company in 1854.

House's Type Printing Telegraph 1849

Royal Earl House's second and much improved type-printing instrument.



Baudot Code (1870) -> International Telegraph Alphabet No. 1 & 2: "With an alphabet of 26 uppercase letters, the code had to be at least 5 bits long" HAL DS-3100 ASR (1979): Still receiving and sending Baudot, Morse as well as ASCII.



Just how much longer will the model 33 make it easier and more be around?

The moment economy, reliability and versatility in data communications go out of date, the model 33 will become obsolete. But the more we look at today's business and economic environment, the more it seems the model 33 will live forever.

Because where else can you get so much for so little?

When the model 33 was first introduced, it was a bargain. Today, it's still a bargain. But it's hardly the same machine.

We've got a team of engineers assigned to the model 33 and their job is to keep making it better. Every year, they come up with a number of new features and improvements. Some improvements make the 33 more

dependable and versatile. Others economical to manufacture.

Because of these changes, the model 33s we're building today are standard-duty terminals instead of light-duty units. And our manufacturing changes have enabled us to stay ahead of rising costs.

Since we feel the model 33 is going to be around for a long, long time to come, our parts support, quality service and continued product improvement programs are as strong as ever.

It takes more than manufacturing facilities to build the terminals Teletype[®] Corporation offers. It also takes commitment. From people who think service is as important as sales. In terminals for computers and point-to-point TELETYPE communications.

The computercations people.

ype product, write or call: TERMINAL CENTRA, ue, Skokie, Illinois 60076. Phone 312/982-250

INFORMATION RETRIEVAL NUMBER

.EDIT	. is the disk monitor system prompt. Run the editor program.
*0UT-S:ST2	Output to file ST2 on system device and input from file STAT.
+IN-SISTAT	
	NT
*0PT-	No options specified.
*R	Read the input file into the editor buffer.
**	Large files had to be edited in small chunks.
*8,105	Search lines 8 to 10 for character typed ('2' typed but not echoed)
	200 I=1.N Not line wanting to change, typed formfeed to find next 2.
	D 211,110, V Type rubout to delete 2 and type 1. \ is echoed since 2 can't be erased.
110 FOF	Control (^)g ^g typed to search for (non-existent) ^g then ^p to stop printing.
*E	This is how the search is completed without changing any more text.
	E to write buffer to disk and exit.
.FORT +OUT-SIST2	Start Fortran compiler.
+001-51512	Output to ST2 binary file and read from ST2 source file.
*IN-5: 572	Output to 512 binary me and read nom 512 source me.
•	A sample of control a to compile and encoute the presence
*READY	A couple of control-p to compile and execute the program.
Lunn nur u	
ENTER THE N	Tell it to read 5 values.
VALUE 1	15 0.123456E+2
VALUE 2	IS 0.134567E+1
VALUE 3	15 0.563434E+1 Values read from paper tape then printed.
VALUE 4	IS 0+678455E+1
VALUE 5	IS 0.764752E+3
NUMBER OF V	ALUES 5 MEAN 0.158172E+3 STANDARD DEVIATION 0.303310E+3
1	
PALD	Now run the PAL disk assembler.
?	
.PALD	
#0117-T:	
*	Output to paper tape punch and read from source file PUN
+IN-S:PUN	
+OPT-	
BP(
(8)	These funny characters are the binary data being punched.
8	The ASR 33 can't punch without printing.
8	
?>"9	(7"\$(8
	8
	8
	?"\$(?"\$(?"\$(8)*<;=)<"\$)*<08:.\$6<>?/
LEN 6051	
LL00P 6037	
LOC 6050	
PLOOP 6001	
PUNLDR 6034	
	@ was junk printed when teletype turned off

3	÷		ì	100	5	- 3	-			Ĩ		20			23-				Ì					1				10	
20	21	1	22	Ξ.	23	#	24	\$	25	%	26	8	27	L.	28	(29)	28	*	28	+	20		20	_	26		2F
³⁰ 0	31	1	32	2	33	3	34	4	35	5	36	6	37	7	38	8	39	9	38	:	3B	;	30	<	30	=	3E	>	3F
40 (ð	41	A	42	В	43	С	44	D	45	E	46	F	47	G	48	Н	49	I	4A	J	48	к	ЧC	L	4D	М	4E	N	4F C
50 P	51	Q	52	R	53	s	54	Т	55	U	56	٧	57	М	58	Х	59	Y	5A	Z	58	[5C	1	50]	5E	^	5F
e0 (61	a	62 	0	63	С	64	d	65	е	66	f	67	g	68	h	69	i	6A	j	68	k	ec	1	eD	m	6E	n	6F C
⁷⁰ p	71	q	72 	~	73	s	74	t	75	u	76	v	77	ω	78	x	79	y	78	z	7B	٤	70	1	70	3	7E	~	

US-ASCII/ANSI X3.4 (1963-68)



CT-1024 TV Typewriter (1974): US-ASCII QWERTY





Sinclair ZX81 (1981): Non-ASCII QWERTY

IBM Model M (1984): EBCDIC-US QWERTY

20	21	22 11	23 #	²⁴ \$	²⁵ %	26 &	27	28	29	2A 米	2B +	20	20 -	2E	2F /	
³⁰ () 1	32 2	33 3	34 4	³⁵ 5	³⁶ 6	³⁷ 7	38	³⁹ 9	^{3A} :	3B ;	^{3C} <	^{3D} =	3E >	3F ?	
40 E	3 ⁴¹ A	₿	43 C	۳	⁴⁵ Ε	۴	47 G	₩H	49 I	ч ^я Ј	чв К	чс L	чо М	^{YE} N	^{4F} O	
50 F	, 21 Q	52 R	53 S	54 T	55 U	56 V	57 W	58 X	59 Y	^{5A} Z	58 Å	^{sc} ö	^{sd} Ü	^{5E} ^	5F —	
⁵⁰ (a	es p	63 C	۴чd	65 e	ee t	67 g	۴	⁶⁹ i	6A j	^{6В} К	ec 1	60 M	۴	6F O	
70 F) 71 Q	72 r	73 S	⁷⁴ t	75 U	76 V	יי ש	78 X	79 Y	7A Z	™ä	ö	^{7D} ü	۳E		
	20	21	22 11	23 #	24	25 %	26 &	27 1	28	29	2A 米	2B +	20	20	2E	2F
									1 V.	1 1	1.1.1	1.15	,		· · ·	- 63
	30 0	31 1	32 2	33 3	34 4	35 5	³⁶ 6	37 7	** **	39 9	3A :	3B;	, 3C <	^{3D} =	зе >	3F
					· · ·			³⁷ 7 ⁴⁷ G				38		³⁰ =	>	4F
	0 40	41	42	3 43	4	5 45	6	7	8 48	9	:	3B ;	^{3C} <	= 40	> ^{4e} N	ЧF
	0 40 60	41 A	2 ⁴² B 52	3 ⁴³ C 53	4 44 D	5 *5 E	6 46 F	7 47 G	8 48 H 58	9 ⁴⁹ I 59	: ЧА Ј 5А	^{3в} ; чв К 5в	3C < 4C L	= ^{чр} М	> 4e N 5e ~	4F (

- CA Canadian CSA Z243.4
- CN Chinese GB 1988-80
- CU Cuban NC NC00-10
- ES Spanish
- FR French NF Z 62-010
- HU Hungarian MSZ 7795.3

IT Italian

. . .

JP Japanese JIS X 0201 Roman

KR Korean KS C 5636

- NO Norwegian NS 4551-1
- **PT** Portuguese
- SE Swedish SEN 850200 B
- UK British BS 4730
- YU Yugoslavian JUS I.B1.002

"the socialist countries managed to substitute the international currency sign ¤ for ASCII's capitalist dollar sign \$ in the the first international reference (1972)"

VISCII, ISCII, YUSCII...

Ø 9 В С 8 Ε \mathbf{F} 1 2 A D Ø Q $(\mathbf{\cdot})$ Ξ П X 1 2 # 3 Ø 3 4 e К n 5 Ρ Q ٩ 6 a k 0 n 7 q s ê z Δ р Ç É τ u V ω y ë 8 é â ä å è ï ü à Å ę î A 1 ô ò Ñ û 9 Æ ö ij U æ á ú ≞ Ĥ í ó ñ <u>o</u> 为 ~ » Ŵ ∅ В ч า ۱I С т ш D т Ε Ō Σ θ δ Ω e α β π σ μ γ w ø n Ξ N F J ÷ ſ n 2 < -÷ > ſ

IBM PC

0 À É Ê Ē F Ñ Ò Ð Ó Ô 0 Ö × Ø Ù Ú U V Þ ß á â ä å ï à ã æ è é ê ë ì í î C ñòóôõö÷ øù úûüý ð þÿ

ISO/IEC 8859-1 (ISO Latin-1)

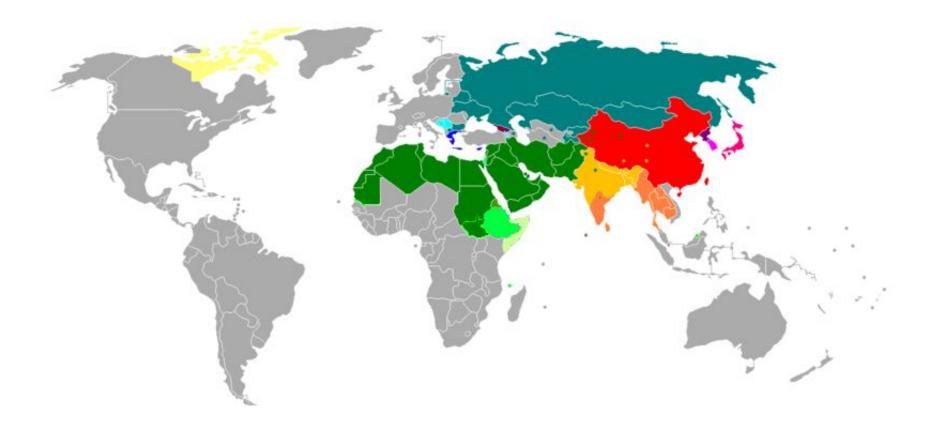
	0	1	2	3	4	5	6	7	8	9	Ĥ	в	С	D	Ε	F
0																
1																
2		•	••	#	\$	%	æ	•	()	×	+	,	_	-	1
3	0	1	2	3	4	5	ó	7	8	9	:	;	<	=	>	?
4	Q	Ĥ	В	C	D	Ε	F	G	Н	Ι	J	К	L	М	М	0
5	Р	Q	R	S	Т	U	Ų	W	Х	Y	Ζ]	١]	^	_
6	•	а	b	С	d	е	f	g	h	i	j	k	1	m	n	0
- 7	р	q	r	5	t	u	V	ω	х	y	z	{	Ι	}	\sim	
8																
9		"	,													
Ĥ		÷	¢	£	¥	¥	1	§	••	C	a	~~	٦	_	B	_
В	ο	± Á	2	3	,	μ		-		1	<u>o</u>	>>	4	¥	\mathbf{X}	ż
C	À	Á	Â	Ã	Ä	Â	Æ	С	È	É	Ê	Ë	Ì	Í	Î	Î
D	Ð	Ñ	Ō	Ó	Ö	õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
Ε	à	á	â	ã	ä	å	æ	Ç	è	é	ê	ë	ì		î	ï
F	ð	ñ	ò	ó	ô	õ	ö	÷	Ø	ù	ú	û	ü	ý	þ	

MS Windows[®]

ISO 8859-1 West European languages (Latin-1) ISO 8859-2 Central and East European languages (Latin-2) ISO 8859-3 Southeast European and miscellaneous languages (Latin-3) ISO 8859-4 Scandinavian/Baltic languages (Latin-4) ISO 8859-5 Latin/Cyrillic ISO 8859-6 Latin/Arabic ISO 8859-7 Latin/Greek ISO 8859-8 Latin/Hebrew ISO 8859-9 Latin-1 modification for Turkish (Latin-5) ISO 8859-10 Lappish/Nordic/Eskimo languages (Latin-6) ISO 8859-11 Latin/Thai ISO 8859-13 Baltic Rim languages (Latin-7) ISO 8859-14 Celtic (Latin-8) ISO 8859-15 West European languages (Latin-9) ISO 8859-16 Romanian (Latin-10)

ASCII Extensions & ISO Charsets

Alphabets of the World



Armenian, Cyrillic, Georgian, Greek, Latin, Latin (and Arabic), Latin and Cyrillic; Abjads: Arabic, Hebrew; Abugidas: North Indic, South Indic, Ge'ez, Tāna, Canadian Syllabic and Latin; Logographic+syllabic: Pure logographic, Mixed logographic and syllabaries, Featural-alphabetic syllabary + limited logographic, Featural-alphabetic syllabary

Alphabet & Writing Systems

All alphabets are writing systems, but not all writing systems are alphabets.

Writing systems can include alphabets, syllabarys, logographic, pictographic, semanto-phonetic systems...

What About Glyphs?

πЯ音æ∞



UTF-32, UTF-16, UTF-8

(b, **(b**, **(b**, **(b**, **(b**, **(c)**, · [, □, □, □, □, □, ¬, ¬, ¬, ¬, ¬, └, └, └, └, └, ┘, ┙, ┘, ┙, ├, ┝, ┝, ┟, ┟, ┝, ┢, ┢, ┤, ┥, ┤╷┧╷┨╷┩╷┪╷┫╷┼╷┽╷┮╷┯╷┰╷┱╷┲╷┳╷┴╷┵╷┶╷┷╷┸╷┹╷┺╷┻╷┼╷┽╷┾╷┿╷╀╷ ┼, ┼, ╃, ╄, ╅, ╆, ╇, ╈, ╉, ╊, ╋, ╌, ┉, ╎,╏, ═, ║, ╒, ╓, ╔,╕,╖,╗,╘,╙,╚,╛,╜,╝,╞,╟, **」**, **」**, **Ⅰ**, **□**, **□**, **□**, **□**, **Ⅲ**, **Ⅲ**, **Ⅲ**, **∞**, **∅**, **∞**, **∞**, **∞**, **∞**, **□**, **Ⅰ**, **□**, **√**, **△**, **▲**, △, **▲**, △, **▶**, **▷**, **▶**, **▷**, **▶**, **▷**, **▼**, **▼**, ▽, ▾, ▽, ◀, ◁, ▾, ◁, ◀, ◁, ♦, ◊, ◈, ◉, ◊, ○, ○, ◎, ◎, ●, €, ❶, ⊖, ⊖, ○, ∘, ヾ, ▸, ¤, ⊠, ≅, ⊵, ╯, `, ∠, ∖, ^, ∠, ⊿, ▶, ♥, ₹, ○, □, □, □, ℤ, ℤ, □, △, △, △, ○, 巴, ⊡, ⊡, ⊡, ⊙, ⊙, ⊙, ⊙, ⊘, ∨, ∖, ⊾, □, ■, □, ■, ⊿, ☀, ♣, ♈, ė, Ė, ć, ★, ☆, <, к, ☉, Ω, ೮, ♂, ♂, ☎, ☎, ⊡, ☑, ⊠, X, ÷, 늘, ∩, ੈ, ♣, *, ◄, ѭ, ☜, ⓑ, ☞, , , Z, ☎, ᄫ, ♥, ₮, ₽, ₱, ₽, ↑, ⊕, ⓒ, ⑭, ⋬, ↗, ⊕, ♀, ☰, ☱, ☲, ☳, ☴, ☵, ☶, ☷, ₡, ☺, ☺, ♥, 卒,)), ((, 爻, ♀, ゎ, ♂, ੫, ħ, ♅, Ψ, ₽, ♈, ४, Ⅱ, ♋, ብ, ♍, ♎, ♏, ↗, 以, ㅉ, Ħ, 當, 幽, 邕, 魚, 白, 土, **, 世, 邕, 夏, 物, 圭, ♠, ♡, ◇, ♣, ♤, ♥, ♦, ♧, ♨, ⅃, ♪, ♫, ♬, ♭, ㅂ, ♯, ャ, ャ, ㉓, ♤, ゑ, ゑ, Δ, Δ, Δ, Δ, Δ, Δ, Δ, Φ, Θ, Θ, Θ, δ, ⊡, ⊡, ⊠, ⊠, ⊠, Θ, Θ, Θ, Φ, Δ, _, _, =, =, =, =, =, P, P, *, ±, ×, *, ∞, ≈, ♀, ♥, Ť, *, *, Δ, ۶, ♀, ঔ, ダ, ダ, ♂, ♡, ₺, ∽, Ο, ●, ο, ∞, οο, οο, ♥, ♥, ♀, ♡, ≻, ≻, ≫<, ∅, ④, ≁, ∞, ∅, ∞, ∞, ∞, ∞, ∞, ✓, ✓, ×, ×, ×, ×, +, +, +, +, +, †, †, †, ⊕, ¢, +, ÷, *, *, *, +, +, *, *, *, *, *, 0, □, □, □, □, ◊, Ι, Ι, Ι, •, °, •, ♥, ¶, *, *, ♥, ▷, ♥, ▷, (,), (,

Unicode tester: http://mudcu.be/labs/ucpp/ Visual Unicode Database: http://www.charbase.com/



U+1F63D: KISSING CAT FACE WITH CLOSED EYES



U+1F46F: WOMAN WITH BUNNY EARS



U+1F4FC proposed VIDEOCASSETTE

Considerations in Typography

- Form & Function: construction and design
- Style & Expressivity: hip or prestigious, know your fonts
- Readability & Legibility: cognition and communication
- Harmony & Weight: layout, alignment, spacing Usability & Interoperability: easy application in practice, encodings, systems

Aim of Typography

"Make every word tell"

"Omit needless words."

(Strunk, William (1918); The Elements of Style)

Aim of Typography

"Make every element tell"

"Omit needless elements."