



### Introduction

Thanks to the work of different groups within the  $T_EX$  world we may occasionally welcome new fonts. In the year of  $T_EX$ 's  $25^{th}$  anniversary we introduce the Latin Modern typefaces as a successor to the familiar Computer Modern typefaces. The development of the Latin Modern was funded by DANTE, GUTENBERG and the NTG.

This booklet ships with the new  $T_EX$  Collection 2003:  $T_EX$  Live 9/2003 and CTAN. It gives an overview of the free outline fonts available in this collection and provides some background information concerning those fonts, their designers and the foundries involved. We dedicate this booklet to Sebastian Rahtz. Without him and his team, most  $T_EX$  documents would still look like they did 25 years ago.

We also use this opportunity to present the new Fourier math font by Michel Bovani. This font is based upon Utopia and can be found in the TEX collection.

Hans Hagen Willi Egger

# FONT SAMPLEF

### Showcase of fonts

We start this booklet with a showcase of character representations. Recognizing a font is not trivial. We hope that this showcase will provide you some insight in the subtle differences between fonts.

# FONT SAMPLER



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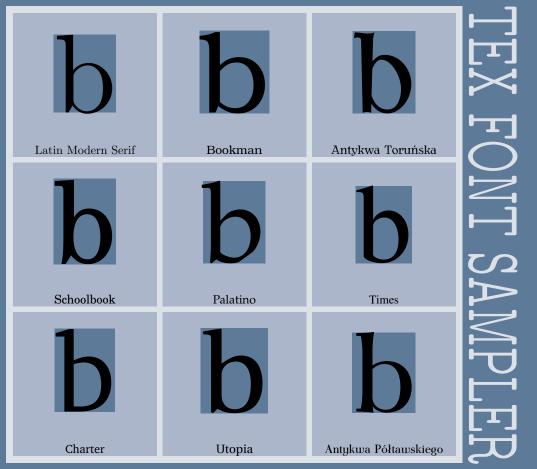






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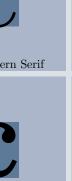
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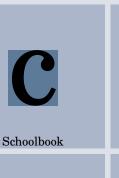


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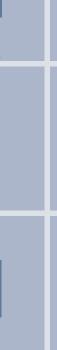
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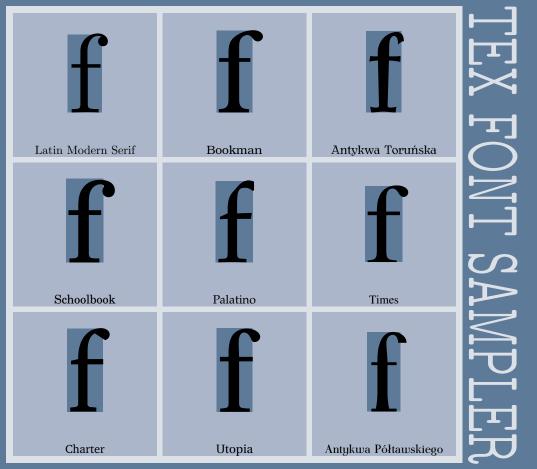
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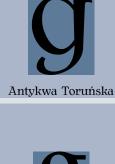
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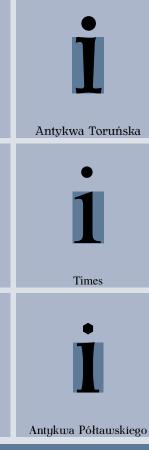
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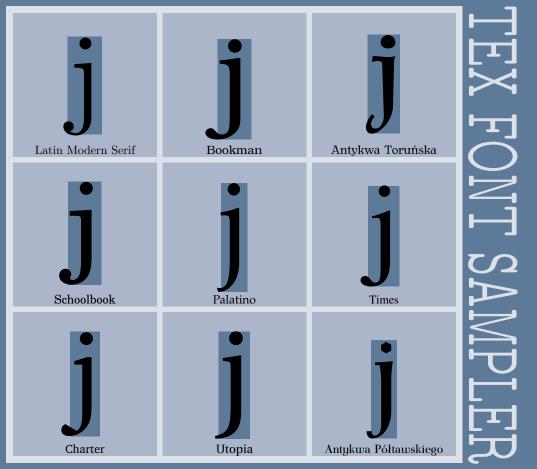
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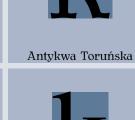


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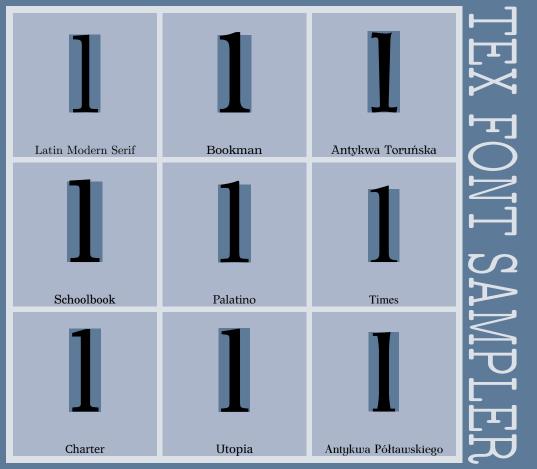




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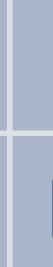
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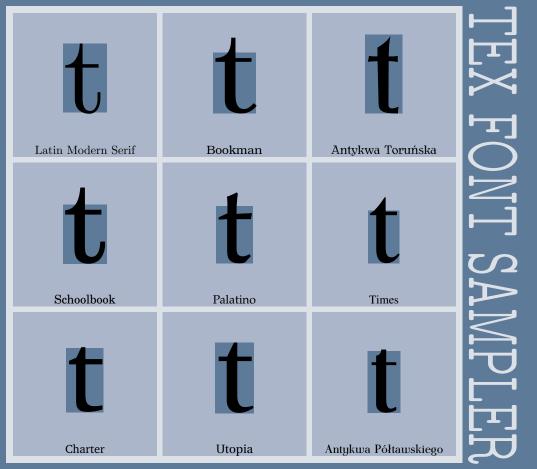
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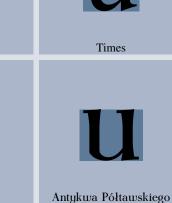
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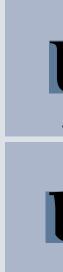






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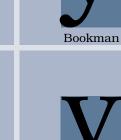


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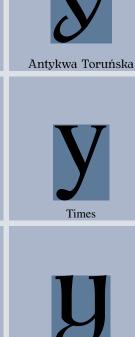
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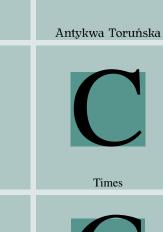
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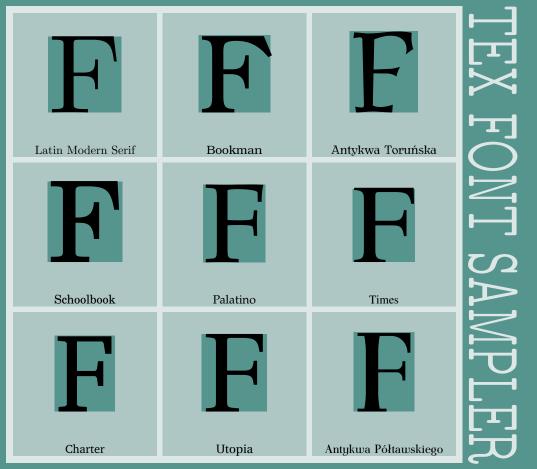
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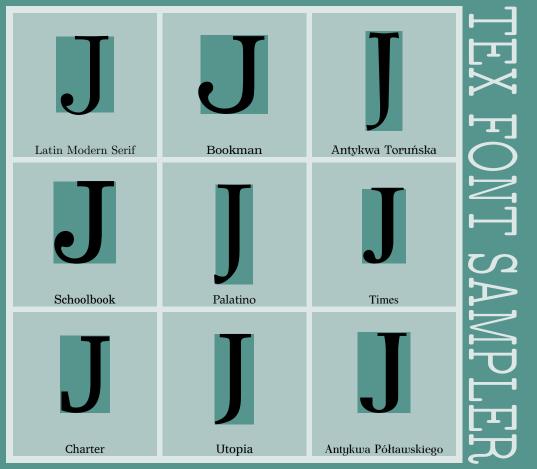
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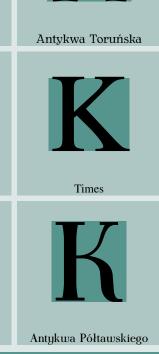
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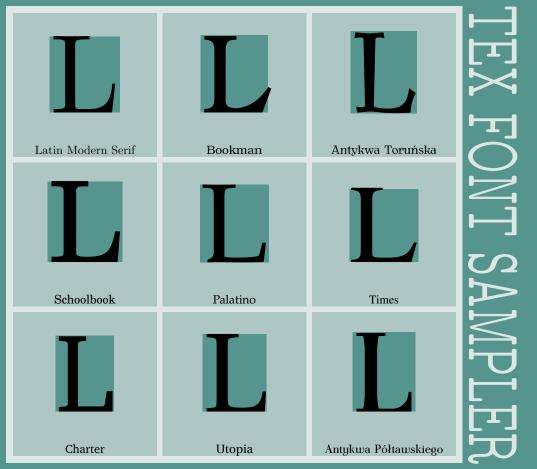
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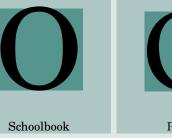


















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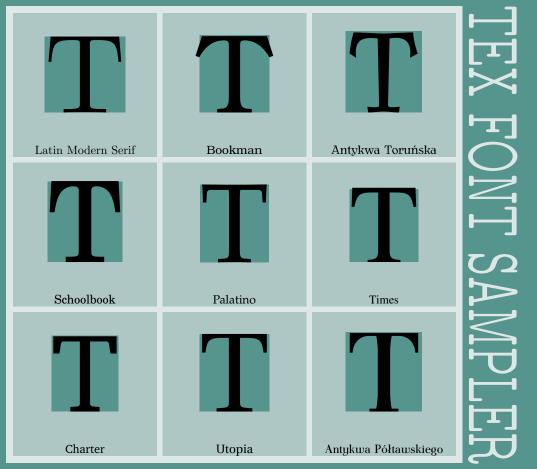


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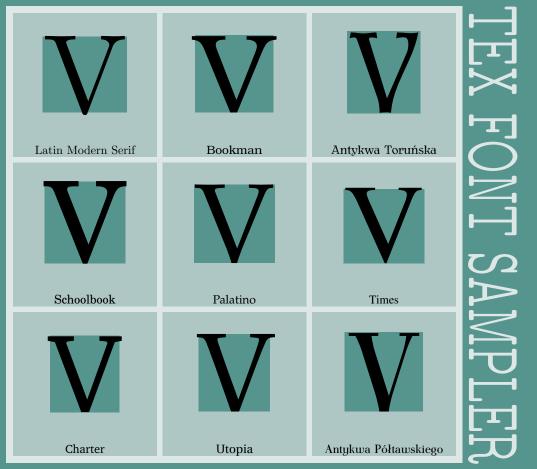
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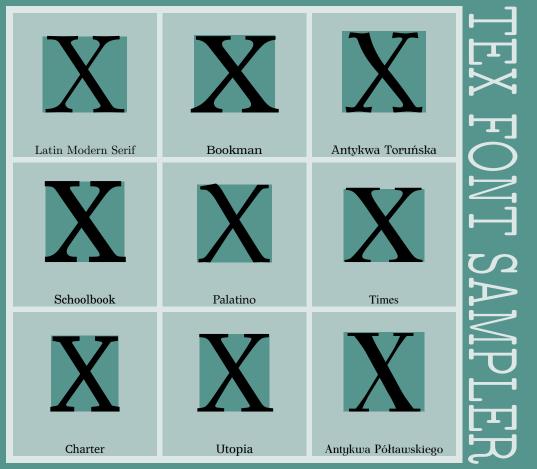




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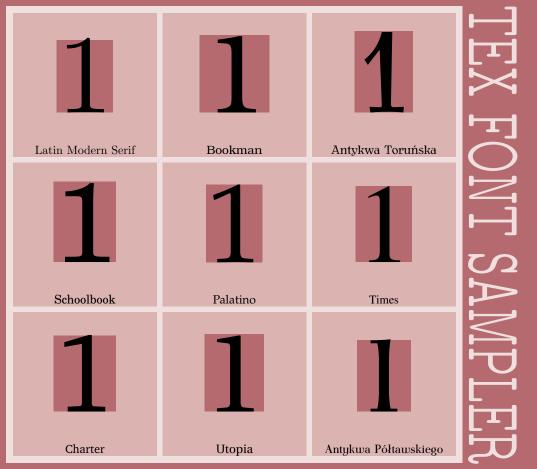
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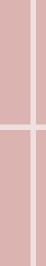
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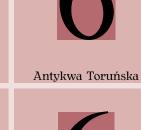
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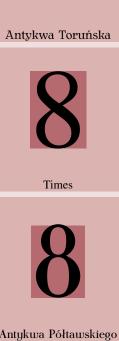
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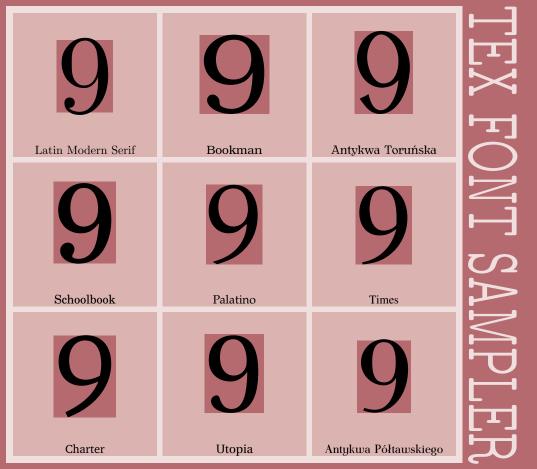


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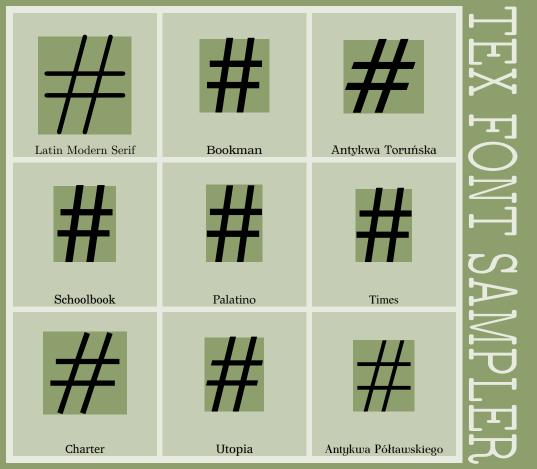








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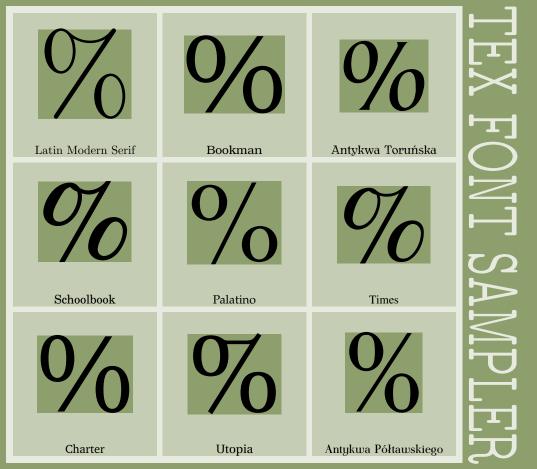
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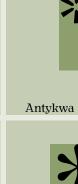


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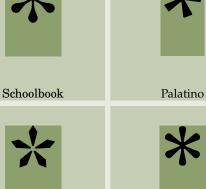




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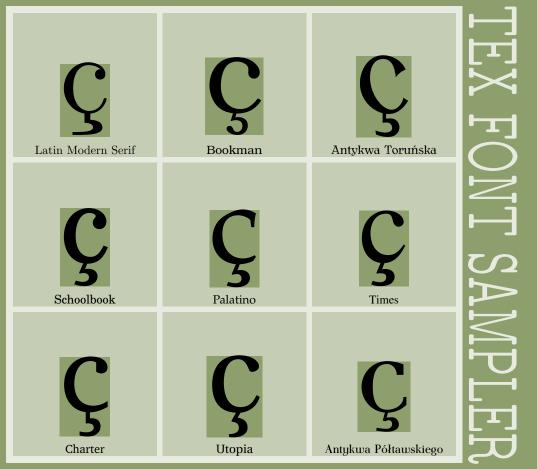






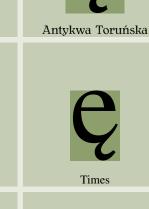






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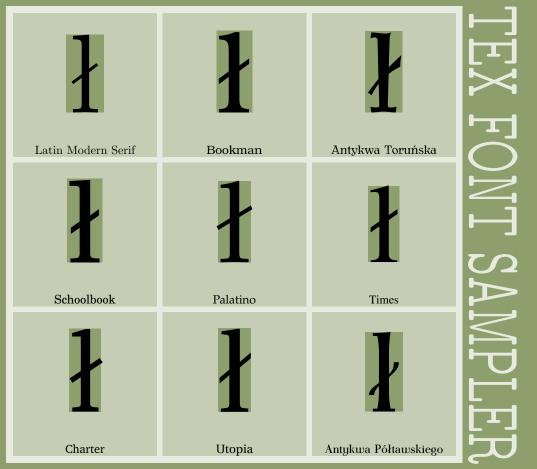




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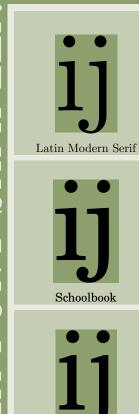


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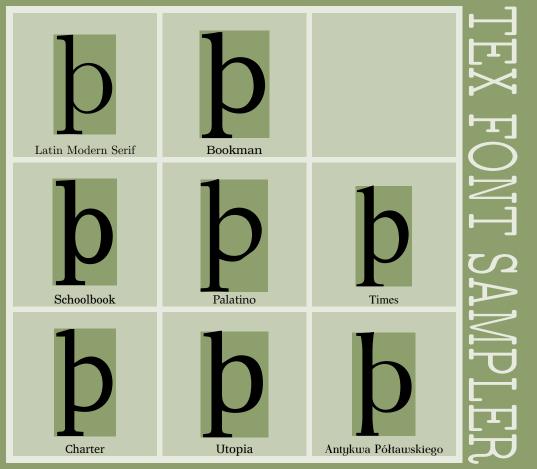










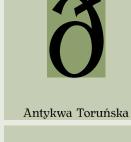




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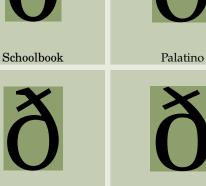




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# FONT SAMPLER

## Sample texts

The next pages show you some text typeset in the same fonts that we introduced on the previous pages. In addition, we show Latin Modern Sans, Latin Modern Variable, Helvetica and Courier.

The first quotation is taken from an article by Hermann Zapf: "About micro-typography and the hz-program", published in Electronic Publishing, volume 6/3, pages 283–288, September 1993.

The second quotation is taken from "The Life and Death of Planet Earth" by Peter D. Ward and Donald Brownlee, Henry Holt and Company, LLC, 2001.

Coming back to the use of typefaces in electronic publishing: many of the new typographers receive their knowledge and information about the rules of typography from books, from computer magazines or the instruction manuals which they get with the purchase of a PC or software. There is not so much basic instruction, as of now, as there was in the old days, showing the differences between good and bad typographic design. Many people are just fascinated by their PC's tricks, and think that a widely-praised program, called up on the screen, will make everything automatic from now on.

Hermann Zapf

The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact. It would be happening whether humans has ever evolved or not. But our presence is like the effect of an old-age patient who smokes many packs of cigarettes per day — and we humans are the cigarettes. Peter D. Ward

# Latin Modern Serif

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# Latin Modern Sans

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# Latin Modern Mono

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Peter D. Ward

## Latin Modern Variable

Coming back to the use of typefaces in electronic publishing: many of the new typographers receive their knowledge and information about the rules of typography from books, from computer magazines or the instruction manuals which they get with the purchase of a PC or software. There is not so much basic instruction, as of now, as there was in the old days, showing the differences between good and bad typographic design. Many people are just fascinated by their PC's tricks, and think that a widely-praised program, called up on the screen, will make everything automatic from now Hermann Zapf on. The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact. It would be happening whether humans has ever evolved or not. But our presence is like the effect of an old-age patient who smokes many packs of cigarettes per day — and we humans are the cigarettes. Peter D. Ward Antykwa Toruńska

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# Antykwa Półtawskiego

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Bookman

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Chancery

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Utopia

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# Schoolbook

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Charter

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Times

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Helvetica

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Courier

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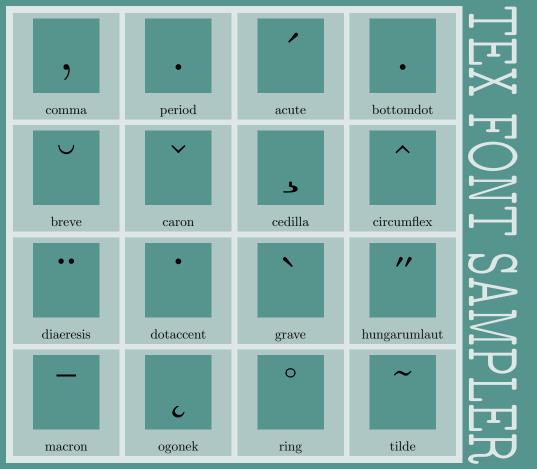
Peter D. Ward

Palatino

## Special characters

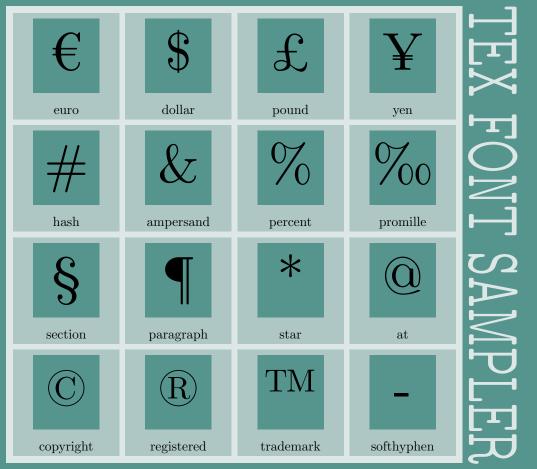
TEX is well known for its ability to typeset most of the languages of the world, and also math. We don't have the room to show all possible variants and combinations of character representations, so we stick to showing a few familiar glyphs.

The font we use is the Latin Modern Roman. This font is a successor to the Computer Modern Roman and has all glyphs needed to typeset most of the languages of Europe. Notice the subtle differences in placement of the diaeresis and umlaut.



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# FONT SAMPLEF

# Fonts compared

Once you have decided to mix fonts, you run into the problem of design sizes. The next few pages demonstrate what happens when you mix fonts without taking the design size into account. Each sample is typeset with the respective font at 8 points. The interline space is 11.5 points. The Earth, as a habitat for animal life, is in old age and has a fatal illness. Several, in fact. It would be happening whether humans has ever evolved or not. But our presence is like the effect of an old-age patient who smokes many packs of cigarettes per day — and we humans are the cigarettes.

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# Fonts and languages

Each language has its own special characters. In many cases, these are composed of the 26 alphabetic characters and accents or some kind of extension. Some languages use more than 26 characters and shapes.

The next pages demonstrate how the Latin Modern Roman font can be used for typesetting in many languages. This font is based upon Donald Knuth's Computer Modern Roman family which is the default font in most  $T_{\rm E}X$  distributions.

We have taken the sample text from The Declarations on Human Rights. This document can be found in many languages at:

http://www.unhchr.ch/udhr/index.htm

### Universele verklaring van de rechten van de mens

Artikel 2 Een ieder heeft aanspraak op alle rechten en vrijheden, in deze Verklaring opgesomd, zonder enig onderscheid van welke aard ook, zoals ras, kleur, geslacht, taal, godsdienst, politieke of andere overtuiging, nationale of maatschappelijke afkomst, eigendom, geboorte of andere status.

Verder zal geen onderscheid worden gemaakt naar de politieke, juridische of internationale status van het land of gebied, waartoe iemand behoort, onverschillig of het een onafhankelijk, trust-, of niet-zelfbesturend gebied betreft, dan wel of er een andere beperking van de soevereiniteit bestaat.

Artikel 19 Een ieder heeft recht op vrijheid van mening en meningsuiting. Dit recht omvat de vrijheid om zonder inmenging een mening te koesteren en om door alle middelen en ongeacht grenzen inlichtingen en denkbeelden op te sporen, te ontvangen en door te geven.

NL

### Universal Declaration of Human Rights

Article 2 Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status.

Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.

Article 19 Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

EN

### Allgemeine Erklärung der Menschenrechte

**Artikel 2** Jeder hat Anspruch auf die in dieser Erklärung verkündeten Rechte und Freiheiten ohne irgendeinen Unterschied, etwa nach Rasse, Hautfarbe, Geschlecht, Sprache, Religion, politischer oder sonstiger Überzeugung, nationaler oder sozialer Herkunft, Vermögen, Geburt oder sonstigem Stand.

Des weiteren darf kein Unterschied gemacht werden auf Grund der politischen, rechtlichen oder internationalen Stellung des Landes oder Gebiets, dem eine Person angehört, gleichgültig ob dieses unabhängig ist, unter Treuhandschaft steht, keine Selbstregierung besitzt oder sonst in seiner Souveränität eingeschränkt ist.

Artikel 19 Jeder hat das Recht auf Meinungsfreiheit und freie Meinungsäußerung; dieses Recht schließt die Freiheit ein, Meinungen ungehindert anzuhängen sowie über Medien jeder Art und ohne Rücksicht auf Grenzen Informationen und Gedankengut zu suchen, zu empfangen und zu verbreiten.

DE

### Déclaration universelle des droits de l'homme

Article 2 Chacun peut se prévaloir de tous les droits et de toutes les libertés proclamés dans la présente Déclaration, sans distinction aucune, notamment de race, de couleur, de sexe, de langue, de religion, d'opinion politique ou de toute autre opinion, d'origine nationale ou sociale, de fortune, de naissance ou de toute autre situation.

De plus, il ne sera fait aucune distinction fondée sur le statut politique, juridique ou international du pays ou du territoire dont une personne est ressortissante, que ce pays ou territoire soit indépendant, sous tutelle, non autonome ou soumis à une limitation quelconque de souveraineté.

Article 19 Tout individu a droit à la liberté d'opinion et d'expression, ce qui implique le droit de ne pas être inquiété pour ses opinions et celui de chercher, de recevoir et de répandre, sans considérations de frontières, les informations et les idées par quelque moyen d'expression que ce soit.

FR

### Dichiarazione universale dei diritti umani

Articolo 2 Ad ogni individuo spettano tutti i diritti e tutte le libertà enunciate nella presente Dichiarazione, senza distinzione alcuna, per ragioni di razza, di colore, di sesso, di lingua, di religione, di opinione politica o di altro genere, di origine nazionale o sociale, di ricchezza, di nascita o di altra condizione.

Nessuna distinzione sarà inoltre stabilita sulla base dello statuto politico, giuridico o internazionale del paese o del territorio cui una persona appartiene, sia indipendente, o sottoposto ad amministrazione fiduciaria o non autonomo, o soggetto a qualsiasi limitazione di sovranità.

Articolo 19 Ogni individuo ha diritto alla libertà di opinione e di espressione incluso il diritto di non essere molestato per la propria opinione e quello di cercare, ricevere e diffondere informazioni e idee attraverso ogni mezzo e senza riguardo a frontiere.

IT

### Powszechna deklaracja praw czlowieka

Artykuł 2 Każdy człowiek posiada wszystkie prawa i wolności zawarte w niniejszej Deklaracji bez względu na jakiekolwiek różnice rasy, koloru, płci, języka, wyznania, poglądów politycznych i innych, narodowości, pochodzenia społecznego, majątku, urodzenia lub jakiegokolwiek innego stanu.

Nie wolno ponadto czynić żadnej różnicy w zależności od sytuacji politycznej, prawnej lub międzynarodowej kraju lub obszaru, do którego dana osoba przynależy, bez względu na to, czy dany kraj lub obszar jest niepodległy, czy też podlega systemowi powiernictwa, nie rządzi się samodzielnie lub jest w jakikolwiek sposób ograniczony w swej niepodległości.

Artykuł 19 Każdy człowiek ma prawo wolności opinii i wyrażania jej; prawo to obejmuje swobodę posiadania niezależnej opinii, poszukiwania, otrzymywania i rozpowszechniania informacji i poglądów wszelkimi środkami, bez względu na granice.

### Declaração Universal dos Direitos Humanos

Artigo 2° Todos os seres humanos podem invocar os direitos e as liberdades proclamados na presente Declaração, sem distinção alguma, nomeadamente de raça, de cor, de sexo, de língua, de religião, de opinião política ou outra, de origem nacional ou social, de fortuna, de nascimento ou de qualquer outra situação. Além disso, não será feita nenhuma distinção fundada no estatuto político, jurídico ou internacional do país ou do território da naturalidade da pessoa, seja esse país ou território independente, sob tutela, autônomo ou sujeito a alguma limitação de soberania.

**Artigo 19**° Todo o indivíduo tem direito á liberdade de opinião e de expressão, o que implica o direito de não ser inquietado pelas suas opiniões e o de procurar, receber e difundir, sem consideração de fronteiras, informações e idéias por qualquer meio de expressão.

PT

### Universal-deklaratioun vun de mënscherechter

Artikel 2 Jidderee kann all déi Rechter an all déi Fräiheten, déi an dëser Deklaratioun proklaméiert sin, fir sech verlaangen an dat ouni Ënnerscheed sief et vu Rass, Hautfaarf, Geschlecht, Sprooch, Relioun, politesche odder anerer Iwwerzegong, nationalem odder zozialem Urspronk, Verméigen, Gebuurt odder soss enger Situatioun.

Et duerf do dernieft och keen Ennerscheed gemat gin, dee mam politeschen, rechtlechen odder internationale statut vun deem Land odder deem Gebitt begrënnt gët, aus deem eng Persoun hierstaamt, egal ob dëst Land odder dëst Gebitt onofhängeg, ënner engem Mandat, nët autonom odder séng Souveränitéit an irgendenger Form begrenzt as.

Artikel 19 All Mënsch huet d'Recht op eng fräi Menong a fir se fräi auszedrécken, an deem och d'Recht mat dran as op eng Menong fräi vu Fuurcht an dat Recht fir Informatiounen an Iddiën ze sichen, ze kréien an ze verbrede mat all dene Mëttele fir sech auszedrécken, déi et gët an ouni sech mussen u Grenze vu Länner ze halen.

LU

# Universele verklaring van menseregte

Artikel 2 Elke persoon het die reg tot al die regte en vryhede soos in die Verklaring vervat is, sonder uitsondering van enige aard soos op grond van ras, geslag, kleur, taal, godsdiens, geboorte of enige ander status.

Daarbenewens sal geen onderskeid op grond van politieke, geregtelike of internasionale status van die land of gebied waartoe 'n persoon behoort gemaak word nie, hetsy dit 'n onafhanklike trust, nie-selfregerend of onder enige ander beperking van soewereiniteit is.

Artikel 19 Elkeen het die reg tot vryheid van opinie en uitdrukking; hierdie reg sluit die vryheid in om opinies sonder inmenging te lug en om inligting en idees te vra, te ontvang en te deel deur middel van enige medium ten spyte van grense.

AF

### İnsan hakları evrensel beyannamesi

Madde 2 Herkes, ırk, renk, cinsiyet, dil, din, siyasi veya diğer herhangi bir akide, milli veya içtimai menşe, servet, doğuş veya herhangi diğer bir fark gözetilmeksizin işbu Beyannamede ilan olunan tekmil haklardan ve bütün hürriyetlerden istifade edebilir.

Bundan başka, bağımsız memleket uyruğu olsun, vesayet altında bulunan, gayri muhtar veya sair bir egemenlik kayıtlamasına tabi ülke uyruğu olsun, bir şahıs hakkında, uyruğu bulunduğu memleket veya ülkenin siyasi, hukuki veya milletlerarası statüsü bakımından hiçbir ayrılık gözetilmeyecektir.

Madde 19 Her ferdin fikir ve fikirlerini açıklamak hürriyetine hakkı vardır. Bu hak fikirlerinden ötürü rahatsız edilmemek, memleket sınırları mevzubahis olmaksızın malümat ve fikirleri her vasıta ile aramak, elde etmek veya yaymak hakkını içerir.

# Všeobecná deklarace lidských práv

Článek 2 Každý má všechna práva a všechny svobody, stanovené touto deklarací, bez jakéhokoli rozlišování, zejména podle rasy, barvy, pohlaví, jazyka, nábozenství, politického nebo jiného smýšlení, národnostního nebo sociálního původu, majetku, rodu nebo jiného postavení.

Žádný rozdíl nebude dále činěn z důvodu politického, právního nebo mezinárodního postavení země nebo území, k nimž určitá osoba přísluší, at' jde o zemi nebo území nezávislé nebo pod poručenstvím, nesamosprávné nebo podrobené jakémukoli jinému omezení suverenity.

Článek 19 Každý má právo na svobodu přesvědčení a projevu; toto právo nepřipouští, aby někdo trpěl újmu pro své přesvědčení, a zahrnuje právo vyhledávat, přijímat a rozšiřovat informace a myšlenky jakýmikoli prostředky a bez ohledu na hranice.

CZ

### Universele ferklearring fan de rjochten fan de minske

Kêst 2 Elk hat oanspraak op alle rjochten en frijheden yn dizze Ferklearring opneamd, sûnder hokker ûnderskie ek mar lykas ras, kleur, slachte, taal, godstsjinst, politike of oare oertsjûging, nasjonaal of maatskiplik komôf, eigendom, berte of oare status.

Fierder sil gjin ûnderskie makke wurde nei politike, juridyske of ynternasjonale status fan it lân of gebiet, dêr't immen ta heart, likefolle as it om in ûnôfhinklik, trust- of net selsbestjoerend gebiet giet of as der in oare beheining fan 'e sûvereiniteit bestiet.

Kêst 19 Elk hat rjocht op frijheid fan miening en mieningsutering. Dat rjocht hâldt de frijheid yn om sûnder ynminging in miening te hawwen en om troch alle middels en sûnder grinzen acht te slaan, ynljochtings en tinkbylden op te spoaren, te ûntfangen en troch te jaan.

### Declarația universală drepturilor omului

Articolul 2 Fiecare om se poate prevala de toate drepturile și libertățile proclamate în prezenta Declarație fără nici un fel de deosebire ca, de pildă, deosebirea de rasă, culoare, sex, limbă, religie, opinie politică sau orice altă opinie, de origine națională sau socială, avere, naștere sau orice alte împrejurări.

În afarăde aceasta, nu se va face nici o deosebire după statutul politic, juridic sau internat,ional al țării sau al teritoriului de care ține o persoană, fie că această țară sau teritoriu sînt independente, sub tutelă, neautonome sau supuse vreunei alte limitări a suveranităte.

Articolul 19 Orice om are dreptul la libertatea opiniilor și exprimării; acest drept include libertatea de a avea opinii fără fără imixtiune din afară, precum și libertatea de a căuta, de a primi și de a răspîndi informații și idei prin orice mijloace si independent de frontierele de stat.

RO

### Az emberi jogok egyetemes nyilatkozata

2. cikk Mindenki, bármely megkülönböztetésre, nevezetesen fajra, színre, nemre, nyelvre, vallásra, politikai vagy bármely más véleményre, nemzeti vagy társadalmi eredetre, vagyonra, születésre, vagy bármely más körülményre való tekintet nélkül hivatkozhat a jelen Nyilatkozatban kinyilvánított összes jogokra és szabadságokra.

Ezenfelül nem lehet semmiféle megkülönböztetést tenni annak az országnak, vagy területnek politikai, jogi vagy nemzetközi helyzete alapján sem, amelynek a személy állampolgára, aszerint, hogy az illető ország vagy terület független, gyámság alatt áll, nem autonóm vagy szuverenitása bármely vonatkozásban korlátozott.

19. cikk Minden személynek joga van a vélemény és a kifejezés szabadságához, amely magában foglalja azt a jogot, hogy véleménye miatt ne szenvedjen zaklatást és hogy határokra való tekintet nélkül kutathasson, átvihessen és terjeszthessen híreket és eszméket bármilyen kifejezési módon.

HU

# FONT SAMPLER

# Math

We cannot talk about  $T_E X$  and not show math. The next page shows four alternatives. Computer Modern is well known to all  $T_E X$  users because it is the default in all macro packages.

In journals and books you will often find Times Roman because publishers like this font. There are different implementations; here we show the free alternative.

If you want your documents to look less  $T_{\underline{E}}X$ -like, consider using Palatino or Fourier. As you can see, these alternatives also take less space. The Palatino font is quite suitable for screen documents.

$$\int \frac{1}{a+b\,x^2}\,\mathrm{d}x = \frac{1}{2\sqrt{-ab}}\log\left(\frac{a+x\sqrt{-ab}}{a-x\sqrt{-ab}}\right) \vee \frac{1}{\sqrt{-ab}}\tanh^{-1}\!\left(\frac{x\sqrt{-ab}}{a}\right)$$

$$\int \frac{1}{a+b x^2} dx = \frac{1}{2\sqrt{-ab}} \log \left( \frac{a+x\sqrt{-ab}}{a-x\sqrt{-ab}} \right) \vee \frac{1}{\sqrt{-ab}} \tanh^{-1} \left( \frac{x\sqrt{-ab}}{a} \right)$$

Times Roman

$$\int \frac{1}{a+bx^2} dx = \frac{1}{2\sqrt{-ab}} \log \left( \frac{a+x\sqrt{-ab}}{a-x\sqrt{-ab}} \right) \vee \frac{1}{\sqrt{-ab}} \tanh^{-1} \left( \frac{x\sqrt{-ab}}{a} \right)$$

Palatino

$$\int \frac{1}{a+b x^2} dx = \frac{1}{2\sqrt{-ab}} \log \left( \frac{a+x\sqrt{-ab}}{a-x\sqrt{-ab}} \right) \vee \frac{1}{\sqrt{-ab}} \tanh^{-1} \left( \frac{x\sqrt{-ab}}{a} \right)$$

$$\forall x \in \mathbb{R} \left| e^{-x} = 1 - x + \frac{x^2}{2!} - \frac{x^3}{3!} + \dots + (-1)^n \frac{x^n}{n!} + \dots \right|$$

$$\forall x \in \mathbb{R} \left| e^{-x} = 1 - x + \frac{x^2}{2!} - \frac{x^3}{3!} + \dots + (-1)^n \frac{x^n}{n!} + \dots \right|$$

### Times Roman

$$\forall x \in \mathbb{R} \left| e^{-x} = 1 - x + \frac{x^2}{2!} - \frac{x^3}{3!} + \dots + (-1)^n \frac{x^n}{n!} + \dots \right|$$

### Palatino

$$\forall x \in \mathbb{R} \left| e^{-x} = 1 - x + \frac{x^2}{2!} - \frac{x^3}{3!} + \dots + (-1)^n \frac{x^n}{n!} + \dots \right|$$

$$\forall \triangle ABC \begin{vmatrix} a^2 \left( b^2 + c^2 - 2bc \cos \alpha \right) \\ b^2 \left( a^2 + c^2 - 2ac \cos \beta \right) \\ c^2 \left( a^2 + b^2 - 2ab \cos \gamma \right) \end{vmatrix}$$

$$\forall \triangle ABC \begin{vmatrix} a^2 \left( b^2 + c^2 - 2bc \cos \alpha \right) \\ b^2 \left( a^2 + c^2 - 2ac \cos \beta \right) \\ c^2 \left( a^2 + b^2 - 2ab \cos \gamma \right) \end{vmatrix}$$

### Times Roman

$$\forall \triangle ABC \begin{vmatrix} a^{2} \left( b^{2} + c^{2} - 2bc \cos \alpha \right) \\ b^{2} \left( a^{2} + c^{2} - 2ac \cos \beta \right) \\ c^{2} \left( a^{2} + b^{2} - 2ab \cos \gamma \right) \end{vmatrix}$$

### Palatino

$$\forall \triangle ABC \begin{vmatrix} a^{2} (b^{2} + c^{2} - 2bc \cos \alpha) \\ b^{2} (a^{2} + c^{2} - 2ac \cos \beta) \\ c^{2} (a^{2} + b^{2} - 2ab \cos \gamma) \end{vmatrix}$$

$$\sigma(x) \approx \sqrt{\frac{\sum (x_i - \overline{x})^2}{n-1}}$$

$$\sigma(x) \approx \sqrt{\frac{\sum (x_i - \overline{x})^2}{n-1}}$$

Times Roman

$$\sigma(x) \approx \sqrt{\frac{\sum (x_i - \overline{x})^2}{n-1}}$$

Palatino

$$\sigma(x) \approx \sqrt{\frac{\sum (x_i - \overline{x})^2}{n-1}}$$

$$\sigma(x)^2 \approx \overline{(x_i - \overline{x})^2} = \frac{1}{n-1} \sum_{i=1}^{n} (x_i - \overline{x})^2$$

$$\sigma(x)^2 \approx \overline{(x_i - \overline{x})^2} = \frac{1}{n-1} \sum_{i=1}^n (x_i - \overline{x})^2$$

Times Roman

$$\sigma(x)^2 \approx \overline{(x_i - \overline{x})^2} = \frac{1}{n-1} \sum_{i=1}^n (x_i - \overline{x})^2$$

Palatino

$$\sigma(x)^2 \approx \overline{(x_i - \overline{x})^2} = \frac{1}{n-1} \sum_{i=1}^n (x_i - \overline{x})^2$$

$$\frac{\mathrm{d}(\frac{u}{v})}{\mathrm{d}x} = \frac{v\,\frac{\mathrm{d}u}{\mathrm{d}x} - u\,\frac{\mathrm{d}v}{\mathrm{d}x}}{v^2} = \frac{1}{v}\,\frac{\mathrm{d}u}{\mathrm{d}x} - \frac{1}{u}\,\frac{\mathrm{d}v}{\mathrm{d}x}$$

$$\frac{\mathrm{d}\left(\frac{u}{v}\right)}{\mathrm{d}x} = \frac{v\frac{\mathrm{d}u}{\mathrm{d}x} - u\frac{\mathrm{d}v}{\mathrm{d}x}}{v^2} = \frac{1}{v}\frac{\mathrm{d}u}{\mathrm{d}x} - \frac{1}{u}\frac{\mathrm{d}v}{\mathrm{d}x}$$

Times Roman

$$\frac{\mathrm{d}\left(\frac{u}{v}\right)}{\mathrm{d}x} = \frac{v\,\frac{\mathrm{d}u}{\mathrm{d}x} - u\,\frac{\mathrm{d}v}{\mathrm{d}x}}{v^2} = \frac{1}{v}\,\frac{\mathrm{d}u}{\mathrm{d}x} - \frac{1}{u}\,\frac{\mathrm{d}v}{\mathrm{d}x}$$

Palatino

$$\frac{\mathrm{d}\left(\frac{u}{v}\right)}{\mathrm{d}x} = \frac{v\frac{\mathrm{d}u}{\mathrm{d}x} - u\frac{\mathrm{d}v}{\mathrm{d}x}}{v^2} = \frac{1}{v}\frac{\mathrm{d}u}{\mathrm{d}x} - \frac{1}{u}\frac{\mathrm{d}v}{\mathrm{d}x}$$

# FOM H SAMPLEF

# Historical notes

Gathering historical information on the Internet is not always easy, but with the knowledge of the TEX community more pieces of the puzzle could be brought together. We would like to thank Nelson H.F. Beebe for his extensive list of references and summary of historical data. Information gathered about designers is derived from different Web sites. You will find pointers to those locations at the end of this booklet.

# Nimbus Sans (Helvetica)

Name : Nimbus Sans L

Designer : URW Studio, Max Miedinger

Year : 1957 onwards

Owner : Stempel , Linotype

Copyright: URW Software: 1992, 1994 URW++: 1999

The Nimbus Sans is based on the Helvetica fonts which were designed by Max Miedinger.

Helvetica is an efficient typeface for everyday use. Professional typographers using Helvetica can produce superbly coherent and pleasing visual results. Even poor layouts with an amateur markup will remain legible. It takes some colossal typographical distortion to make Helvetica illegible, which is not a trivial design achievement.

Forty years after its introduction, there are still developments of additional fonts for the Helvetica family.

# Century Schoolbook

Name : Century Schoolbook L Designer : Morris Fuller Benton

Year : 1924

Owner : Kingsley/ATF Copyright : URW++, 1999

The Century Schoolbook font family exists in several variations. The original design was made by Morris Fuller Benton. In 1924, Morris Fuller Benton designed a new variant for ATF of his father's design, Century Oldstyle.

Century Schoolbook has become a synonym for readability.

### Palatino

Name : URW Palladio L Designer : Hermann Zapf

Year : 1948

Owner : Stempel

Copyright: URW++, 1999

Palladio L is the name of the Palatino font variation at URW.

The original Palatino is the work of Hermann Zapf and became available in the late 1950's from D. Stempel AG in Frankfurt am Main. Zapf named the font after Giambattista Palatino, a master of scripts from the time of Leonardo da Vinci. Zapf optimized Palatino's design for legibility.

Young Ryu has prepared math symbols and extensions and made them available for  $T_{\hbox{\footnotesize{E}}}X$  users.

# Times Roman

Name : Nimbus Roman N<sup>o</sup>9 L

Designer : Stanley Morison, Victor Lardent

Year : 1931–1935 Owner : The Times

Copyright: URW++, 1999

Nimbus Roman N<sup>o</sup>9 L exhibits the characteristics of the Times (New) Roman design of Stanley Morison.

Young Ryu has prepared math symbols and extensions and made them available for the T<sub>F</sub>X users.

# Zapf Chancery

Name : URW Chancery L

Designer : Herman Zapf

Year : 1979 Owner : ITC

Copyright: URW++, 1999

Zapf Chancery is a distinctive calligraphic typeface design by Hermann Zapf. The roman fonts create a highly sensitive calligraphic flavor without relying on alternate letterforms.

# Antykwa Toruńska & Półtawskiego

Name : Antykwa Toruńska

Designer : Zygfryd Gardzielewski, Janusz M. Nowacki

Year : 1997

Owner : —

Copyright: Polish TEX Users Group GUST

Name : Antykwa Półtawskiego

Designer : Zygfryd Gardzielewski, Janusz M. Nowacki

Year : 1997

Owner : —

Copyright: Polish TEX Users Group GUST

These fonts are digitized by Janusz Nowacki and Bogusław Jackowski, who also reworked the Computer Modern type-faces.

### Fourier

Name : Fourier (math)

Designer : Michel Bovani inspired by Adobe Utopia

Year : 2003

Owner : lppl license

Copyright: GUTenberg, 2003

These fonts extend the Utopia font with math symbols and extensions. The fonts are named after the mathematician Joseph Fourier (1768–1830) and the utopist philosopher Charles Fourier (1772–1837).

The original idea was to design a complete font collection for Cahiers GUTenberg. Utopia was chosen as the base font rather than Minion or Adobe Garamond. The licence status of Utopia allows GUTenberg to make the font set accessible to everybody.

# Courier

Name : Nimbus Mono L

Designer : —

Year : -

Owner : —

Copyright: URW++, 1999

Nimbus is an implementation of Courier. Everyone recognizes Courier as the face originally designed for use on typewriters. A typical characteristic of older typewriters is that all characters are given the same amount of space regardless of their width. Hence, an 'i' receives just as much room as an 'm', even though it is narrower. This principle defined the look of Courier. A line in this typeface has 'gaps' in what would otherwise be a homogeneous look. Due to its origins, Courier is associated with office and telegram-like text. It is often seen in advertisements, especially when the subject deals with messages, telegrams and alike.

# Utopia

Name : Utopia

Designer : Robert Slimbach

Year : 1992

Owner : —

Copyright: Adobe Systems Inc., 1989, 1991

Utopia was intended to solve a number of typographic problems related to office correspondence. Office environments demand versatility, so Slimbach created a font family with cuts for text as well as titles. He also provided an extra bold variant for headlines, small caps, all caps with numerals, oldstyle numerals, fractions, ligatures and scientific markings.

# Charter

Name : Bitstream Charter Designer : Matthew Carter

Year : 1987 Owner : ITC

Copyright: unpublished work by Bitstream Inc., 1987-1990

The typeface was designed with the limitations of low- and middle-resolution output devices in mind. The serifs are squared and lack excessive diagonals and curves. The design, however, became an instant success on its own merits. It is an excellent everyday typeface for a wide variety of uses including books and technical manuals.

Bitstream offers small-cap, extension, and alternate typgrapher sets that help to make Charter more versatile and functional. ITC bought the Charter designs in 1993. Bitstream retains the right to sell the original designs.

# Bookman Light

Name : URW Bookman L

Designer : Chauncey H. Griffith, Alexander Phemister

Year : 1936

Owner : Kingsley/ATF Copyright : URW++, 1999

The Bookman font is designed after Alexander Phemister's Antique Old Style, a font introduced as a textface at the end of the  $19^{\rm th}$  century.

Bookman L is a little lighter than the original.

# Type foundries

### Adobe

When Adobe began digitizing fonts in the early 1980's, they took many existing designs, licensed them from the original vendors (Monotype, Linotype, and others), and created Type 1 font file representations thereof.

Later, Adobe did its own font designs: Stone and Myriad are two nice examples that have been used for their own books, and also for some books in the TEX community (e.g., the LATEX Graphics Companion is set in Adobe Janson).

Many of these fonts have been tweaked over the years, with tiny changes in shapes, and unfortunately, also in metrics (the afm files). This means that documents that do not embed fonts might not be exactly displayable with their original appearance.

In most cases, the changes are small, and probably not noticeable on the screen on printed page, but sometimes, additional

glyphs may have been added, so a newer document that uses such glyphs might not print correctly on an older printer with built-in fonts missing those new glyphs. The most famous addition has been the Euro symbol, but there are likely others.

### Bitstream

Bitstream was founded in 1981. Bitstream is the first digital font foundry. In 1999, Bitstream created MyFonts.com, Inc., a website for finding, trying, and buying fonts online.

Like Adobe, Bitstream has prepared digital representations of existing fonts and designed new ones.

## URW

Another well known font-foundry is URW (Unternehmensberatung Rubow Weber), later renamed to URW++. URW was founded by Gerhard Rubow and Rudolf Weber in 1971, joined in 1972 by Peter Karow, who has written several books about font design and font technology. Their website offers a useful font search resource.

# ITC

ITC (International Typeface Corporation) was founded in 1970 by New York advertising designer Aaron Burns, type designer Herb Lubalin, and Ed Rondthaler. It established its reputation with a series of new advertising designs which were distributed through all the major typesetter manufacturers.

ITC now has a digital type library of more than 1000 original designs, many of which are licensed to other companies, and releases more than 100 new typefaces each year. In 2000 ITC was acquired by Agfa-Monotype.

# Kingsley/ATF

In 1892 twenty-three companies merged into American Type Founders. In the 1920's ATF became the dominant American type foundry and main player in the world's printing equipment market.

This strong position did not last, due to the ever-changing nature of the printing industry. Kingsley, a manufacturer of imprinting and marking equipment, acquired ATF in 1986, and the type division became Kingsley/ATF Type Corporation. The foundry closed in 1993.

Today ATF is only visible in licensing deals with digital foundries such as Bitstream and Adobe.

# Font designers

Morris Fuller Benton (1872–1948)

After graduating in 1896 Morris Fuller Benton joined American Type Founders. In 1900 he became American Type Founders' chief type designer. He spent his entire working life at ATF.

Michel Bovani (1953)

Michel Bovani is French and lives in Tours. He is a math teacher at a high school. In 1995 he entered the T<sub>E</sub>X community.

Mathew Carter (1937)

Matthew Carter is a type designer with more than forty years' experience of typographic technologies ranging from hand-cut punches to computer fonts. After a long association with the Linotype companies he was a co-founder in 1981 of Bitstream Inc. He is now a principal of Carter & Cone Type Inc., in

Cambridge, Massachusetts, designers and producers of original typefaces. Carter & Cone have produced types among others on commission for Apple and Microsoft (the screen fonts Verdana, Tahoma, and Georgia).

# Chauncey H. Griffith (1879–1956)

Griffith started as typesetter and machine compositor. In 1915 he became assistant to the president of Mergenthaler Linotype Company, where he was newspaper typesetting specialist.

In 1936 he moved into the position of vice president of Mergenthaler Linotype with responsibility for typographic development.

# Bogusław Jackowski

Bogusław Jackowski is well known in the  $T_E X$  community for his in-depth knowledge of PostScript and fonts. He has contributed to the revival, development and perfection of Polish fonts as well as to the Latin Modern Typefaces. He is also

the (co)author of several tools for font manipulation and generation.

# Donald Knuth (1938)

Donald E. Knuth is the author of TEX, MetaFont, and the Computer Modern Typeface. The main force behind his development was that he wanted to typeset The Art of Computer Programming in the best traditions of typesetting. He is well known for his excellent publications on math, computer science, automated typesetting and related topics.

Donald Knuth is professor emeritus of Computer Science at Stanford University. The best way to get an impression of his high productivity is to visit his website http://www-cs-faculty.stanford.edu/~knuth.

# Max Miedinger (1910–1980)

In the 1950s the Swiss font designer Miedinger worked as a customer counselor and typeface sales representative for the Haassche Schriftgiesserei (Haas Type Foundry) in Münchenstein near Basle.

In 1956 Eduard Hoffmann, the director of HS, commissioned Miedinger to develop a new sans-serif typeface based on the existing Haas-Grotesk. In 1960 the typeface changed its name from Neue Haas-Grotesk to Helvetica.

In the 1960's Mergenthaler Linotype adopted the Stempel series and further developed it by adding several new members to the Helvetica typeface family. In the meantime Helvetica became one of the best known and most widely used typeface in recorded history, the other one being Times Roman.

# Stanley Morison (1889–1967)

After the First World War the English designer Stanley Morison became the supervisor of design work at Mynell's Pelican Press. He joined the Cloister Press in 1921. In 1923, he became the typographical adviser to the Monotype Corporation as well as to Cambridge University Press. In 1929, Morison became a staff member of The Times as a typographic advisor.

After intensive studies at the Plantin-Moretus museum in Antwerp he dictated the design of Times Roman which was

then drawn by Victor Lardent, a draftsman at the advertising department of The Times.

Times (New) Roman was introduced on October 3, 1932. After one year of exclusive use The Times permitted the release of the typeface for general use.

### Janusz M. Nowacki

Janusz M. Nowacki is the (co)author of the Antikwa fonts. He is a professional stamp producer and has contributed to many font developments in the Polish T<sub>E</sub>X community. He runs his own company.

## Alexander Phemister (1829–1894)

Phemister, a Scottish punchcutter, was active in the revival of oldstyle designs at Miller & Richard in the 1850s. He went to America in 1861 and worked at the Bruce typefoundry for two years. After that he started working for the Dickinson foundry. In 1872 this foundry was ravaged by fire; Phemister was made a partner by its founder Samuel Nelson Dickinson and worked there until his retirement in 1891.

# Young U. Ryu

Young U. Ryu is Associate Professor of Information Systems at the School of Management, The University of Texas at Dallas. He holds a Ph.D. degree in Management Science and Information Systems from the Graduate School of Business, The University of Texas at Austin.

# Robert Slimbach (1956)

After training from 1983 to 1985, he worked as a font designer with Autologic Incorporation. There he received further training, not just as a font designer but also as a calligrapher. Following this he was then self-employed for two years and developed the two fonts ITC Slimbach and ITC Giovanni for the International Typeface Corporation in New York.

In 1987 he joined Adobe Systems. Since then, he has been involved in developing new fonts for the Adobe Originals program. During his time at Adobe Systems, Slimbach went to the Plantin-Moretus museum in Antwerp, Belgium, to study the original Garamond typefaces. These served as the basis for the design of Adobe Garamond.

# Hermann Zapf (1918)

Starting in 1934, Hermann Zapf began a four year training as a retoucher. In 1938 he began to work at Paul Koch's workshop in Frankfurt where he studied printing, punchcutting, and other related skills, and also met August Rosenberger who was a master punchcutter.

With the collaboration of Rosenberger, Zapf produced a book of 25 calligraphic alphabets titled, 'Pen and Graver' which was published by Stempel in 1949. In addition to this, Hermann Zapf published superb material on his favourite subjects of type design, typography and lettering. Titles include: Manuale typographicum (1954); About alphabets, some marginal notes on type design (1960); Typographische Variationen (1963); Hunt Roman, the birth of a type (1965); Orbis Typographicus (1980) and Hermann Zapf and his design Philosophy (1987).

Hermann Zapf designed a large number of fonts. He worked with Donald Knuth on the Euler font family. He is an honorary member of the German language TEX users group DANTE. Part of his revolutionary work on paragraph optimization made it into pdfTEX's paragraph builder.

# FONT SAMPLEF

# Fonts on the internet

http://www.math.utah.edu
/pub/tex/bib/index-table-f.html#font
/pub/tex/bib/index-table-f.html#type
/pub/tex/bib/index-table-f.html#typeset

http://cgm.cs.mcgill.ca/~luc/fonts.html

http://www.adobe.com

http://www.bitstream.com

http://www.fonts.com

http://www.fontshop.de (be)

http://www.fontexplorer.com

http://www.identifont.com

http://www.itcfonts.com

http://www.myfonts.com

http://www.urw.de

# FONT SAMPLEF



 $T_E X$  is a typographical computer language as well as a typesetting engine that can handle that language. With  $T_E X$  you can typeset complex documents, including math formulas.  $T_E X$ 's author is the well-known mathematician and computer scientist, Donald E. Knuth.

DANTE, Deutschsprachige Anwendervereinigung  $T_EX$  e.V. Postfach 10 18 40, D-69008 Heidelberg, Germany www.dante.de – dante@dante.de

GUTENBERG – Groupe francophone des Utilisateurs de T<sub>E</sub>X 2, rue des Boutons-d'or, F-05000 GAP France www.gutenberg.eu.org – secretariat@gutenberg.eu.org

NTG - Nederlandstalige T<sub>E</sub>X Gebruikersgroep Maasstraat 2, 5836 BB Sambeek, The Netherlands www.ntg.nl - ntg-secretary@ntg.nl

TEX Live is by common consensus the easiest way to get up and running with TEX. It provides a ready-to-run TEX system for most types of Unix, MacOS X, and Windows, and includes all major TEX-related programs. It also includes a complete tree of fonts and macros, with support for many languages (from: http://www.tug.org/texlive).