

Croatian Fonts for Users of L^AT_EX

Darko Žubrinić

Published as *Croatian Fonts* in TUGboat, Vol 17, No 1, March 1996, here corrected and extended (2010)

The original 1996 article is available at www.tug.org/TUGboat/Articles/tb17-1/tb50zubr.pdf

The aim of this note is to inform the users of L^AT_EX about the possibility of obtaining several new fonts: Croatian Glagolitic (round, angular, Baška Tablet, quickscript, ligatures, the Baromić broken ligatures, caligraphic), Croatian Cyrillic, stećak ornaments and Croatian interlace patterns.

Having in mind that the Croatian Glagolitic Script has a long history of at least 11 centuries (from 9th to 20th), it is not surprising that there exists a large variety of its handwritten and printed versions. The author has created several major types of this Script.

• The so called “round type”, together with the corresponding numerical values, is the following:

†	A	1	Ǿ	O	80
𐌆	B	2	𐌑	P	90
𐌇	V	3	𐌒	R	100
𐌈	G	4	𐌓	S	200
𐌉	D	5	𐌔	T	300
𐌊	E	6	𐌕	U	400
𐌋	Ž	7	𐌖	F	500
𐌌	Dz	8	𐌗	H	600
𐌍	Z	9	𐌘	ω	700
𐌎	Ĭ	10	𐌙	Šć, Ć	800
𐌏	I	20	𐌚	C	900
𐌐	Đ, J	30	𐌛	Č	1000
𐌑	K	40	𐌜	Š	2000
𐌒	L	50	𐌝, 𐌞	semivowels	
𐌓	M	60	𐌟	Ja, Je	
𐌔	N	70	𐌠	Ju	

In some documents there appear additional versions of letters, like e.g. the “spider-like h” 𐌗. It is

interesting that, contrary to the Glagolitic Script, the numerical values corresponding to the letters of the old Cyrillic Script are rather inconsistent, since the natural numbering of letters in tables is ruined. The reason is that the Cyrillic Script is essentially a Greek Script from the 9th century, and its natural numbering was ruined by some letters introduced from the Glagolitic Script for Slavic sounds that do not exist in the Greek language.

• The font of the Baška stone Tablet (carved in around A.D. 1100 on the island of Krk):

†, 𐌆	A	1	𐌇, 𐌈	O	80
𐌆	B	2	𐌉	P	90
𐌇, 𐌈	V	3	𐌊	R	100
𐌈	G	4	𐌋	S	200
𐌉	D	5	𐌌, 𐌍	T	300
𐌊	E	6	𐌎	U	400
𐌋	Ž	7	–	F	500
–	Dz	8	𐌏	H	600
𐌌	Z	9	–	ω	700
𐌍	Ĭ	10	𐌐	Šć, Ć	800
𐌎, 𐌏	I	20	𐌑	C	900
–	Đ, J	30	𐌒, 𐌓	Č	1000
𐌏	K	40	𐌔	Š	2000
𐌐	L	50	𐌕, 𐌖	semivowels	
𐌑, 𐌒	M	60	𐌗	Ja, Je	
𐌒, 𐌓	N	70	𐌘	Ju	
			𐌙	Jest-je	

The Baška Tablet is one of our most important cultural monuments (2 × 1 m²). The reason is that it was written in the Croatian language (with the elements of the Church Slavonic) as early as in the 11th century. Its text comprises more than

400 letters and contains the earliest mention of a Croatian king written in the Croatian vernacular: Z"v"nimir", kral" hr"vat"sk"i (Hrvatska = Croatia), i.e. *Zvonimir, the Croatian king*, or in the Glagolitic:



There are also earlier monuments from the 9th century that mention Croatian kings and dukes, but written in the Latin Script and in the Latin language.

The reader will notice that several Latin and(or) Cyrillic letters appear on the table: O, I, M, N, T, E (= V). This is only one among numerous proofs of the parallel use of three Scripts (Glagolitic, Latin, Cyrillic) and three languages (Croatian, Church Slavonic and Latin) in Croatia. The three-scriptural and three-language character of the Croatian Middle Ages is a unique phenomenon in the history of European culture.

• Since the 12th century the Glagolitic Script survived only on the Croatian soil. Until that time it existed also in some other regions, like in Bulgaria, Macedonia, Roumania and Ukraine, when it was replaced by the Cyrillic Script. In Croatia there developed the so called *angular form* of the Glagolitic.

𐀀	A	1	𐀁	O	80
𐀂	B	2	𐀃	P	90
𐀄	V	3	𐀅	R	100
𐀆	G	4	𐀇	S	200
𐀈	D	5	𐀉	T	300
𐀊	E	6	𐀋	U	400
𐀌	Ž	7	𐀍	F	500
𐀎	Dz	8	𐀏	H	600
𐀐	Z	9	𐀑	ω	700
𐀒	ĭ	10	𐀓	Šć, Ć	800
𐀔	I	20	𐀕	C	900
𐀖, 𐀗	Đ, J	30	𐀘, 𐀙	Č	1000
𐀚	K	40	𐀛	Š	2000
𐀜	L	50	𐀝	ı	semivowel
𐀞, 𐀟	M	60	𐀠	Ja, Je	
𐀡	N	70	𐀢	Ju	

Its golden period falls between the 12th and the 16th century: After that a decline of this Script ensued, as a result of the penetration of the Ottoman Empire. Let us mention by the way that this penetration lead to massive displacements of the Croats. Its consequence is that even today one of the most widespread surnames in Hungary and Slovenia is *Horvath*, whose meaning is simply – Croat.

• The Croatian Glagolitic has hundreds of interesting ligatures. Their quantity represents an infallible indication of a very broad usage of our national Script. Let us present some of them:

	𐀀	jur	𐀁	no	𐀂	ti	
𐀃	am	𐀄	jutr	𐀅	ol	𐀆	tl
𐀇	bl	𐀈	ko	𐀉	oli	𐀊	to
𐀋	bo	𐀌	li	𐀍	olju	𐀎	tr
𐀏	br	𐀐	lo	𐀑	ot	𐀒	tv
𐀓	go	𐀔	lt	𐀕	pl	𐀖	tvo
𐀗	gr	𐀘	lv	𐀙	po	𐀚	tvr
𐀛	ho	𐀜	li	𐀝	pod	𐀞	vd
𐀟	hr	𐀠	lju	𐀡	pot	𐀢	vl
𐀣	il	𐀤	ljud	𐀥	poto	𐀦	vo
𐀧	ili	𐀨	ml	𐀩	potr	𐀪	vod
𐀬	it	𐀭	mlč	𐀮	povr	𐀯	vr
𐀰	iže	𐀱	mo	𐀲	pr	𐀳	vt
𐀵	jaže	𐀶	ms	𐀷	prv	𐀸	zl
𐀺	jeje	𐀻	mž	𐀼	pt	𐀽	zo
𐀿	ježe	𐁀	mīl	𐁁	so	𐁂	zr

It is striking that a *printed* Glagolitic book, the *Brozić breviary* from 1561 (1081 pages), has as many as 250 ligatures.

• A unique creation in the history of European printing are the so called *Baromić broken ligatures*. The idea was to add one half of a letter (say h of 𐀀) to another (say 𐀂), to obtain a broken ligature (𐀃 – ba). Other combinations are also possible

with Ъ (Ѣ, D), Ҁ (Ѧ, Ž), ҂ (Ѩ, L), ҄ (Ѭ, V), ҆ (Ѯ, T). As an exercise, try to read the following well known name, the creator of T_EX:

ѠѡѢѣѤѥ ѦѧѨѩѪѫѬѭѮѯѰѱѲѳѴѵѶѷѸѹѺѻѼѽ

Broken ligatures were used in the *Baromić Missal*, the incunabulum printed in the Croatian city of Senj in 1494 (in 1994 we celebrated its 500th anniversary). Only three samples are preserved: one in the Saltykov Ščedrin Library in St.Petersburg (Russia), one and the only complete copy in the Szecezyń Library in Budapest (Hungary), and one in Croatia on the island of Cres. When looking at the Baromić broken ligatures, one has the impression as if this incunabula was handwritten.

At this point I would be free to warn the interested reader, who will probably start to dig in some encyclopedias to obtain more information, against some typical mistakes. The renowned Encyclopaedia Britannica claims that the Croatian Glagolitic has no ligatures at all, that its golden period falls in the 16th and 17th century and that even today the Glagolitic liturgy is in use among the Croats in some parts of Montenegro. The same mistakes appear in the monographies of the well known paleographer David Diringer. The French Encyclopaedia states that the Glagolitic Script was simplified during the centuries and became the Cyrillic. It would be more precise to say that the Cyrillic Script is essentially a Greek Script, into which several Glagolitic letters (or letters analogous to Glagolitic) were introduced for sounds that do not exist in the Greek language, like č, ž, š (ш), dj, lj, nj, ja, ju, je etc. The voluminous Spanish Encyclopaedia mentions the *Vinodol Code* (1288) written in the Glagolitic, but not the nation to which it belongs. In some encyclopedias it is wrongly stated that the *Glagolita Clozianus* from 11th century (or *Kločev glagoljaš*, as we call it) is of the Bulgarian origin. This beautiful book from the 11th century was written in the Croatian recension of the Church Slavonic language, using round type Glagolitic, and had 512 pages. It was in the possession of Croatian nobility of the Frankapan family until the 15th century. After the death of the prince Ivan Frankapan in 1468, who kept it as the most precious value, the book arrived in Venice. Only 14 pages remained to these days: 12 are held in Trento (Italy) and 2 in Innsbruck (Austria). The book was named after

an Austrian count Cloz (19th century), one of the proprietors of its sad remainings.

The question of the origins of the Glagolitic Script is still a difficult open problem. There are basically two opposing groups of opinions: a) that it was created by St. Cyrill in the 9th century, and b) that it grew out over a longer period before the 9th century. Indeed, some of its letters are quite close or equal to those appearing in Oriental Scripts (South Semitic, Samaritan, Ethiopian, Armenian, Cypriot, Cretan linear A and B, and even Protoindian): Ѡ, ѡ, Ѣ, ѣ, Ѥ, ѥ, Ѧ, ѧ, Ѩ, ѩ, Ѫ, ѫ, Ѭ, ѭ, Ѯ, ѯ, Ѱ, ѱ, Ѳ, ѳ, Ѵ, ѵ, Ѷ, ѷ, Ѹ, ѹ, Ѻ, ѻ, Ѽ, ѽ, Ѿ, ѿ, ѿ etc. This is also the case with some of the Croatian Cyrillic letters: Ѱ, ѱ, Ѳ, ѳ, Ѵ, ѵ, Ѷ, ѷ, Ѹ, ѹ, Ѻ, ѻ, Ѽ, ѽ, Ѿ, ѿ, ѿ etc. On the other hand, we do not know of any of the Oriental Scripts from which the Glagolitic could be derived as a whole, or at least in a greater part.

Hundreds of Croatian Glagolitic monuments, both handwritten and printed, the oldest from the 12th century, are held in national museums in at least 26 countries: **Austria:** Vienna, Innsbruck, Schwarzau, Linz, Güssing, Graz **Bosnia-Herzegovina:** Sarajevo, Fojnica, Posušje, Humac, Banja Luka, Livno, neighbourhood of Jajce, **Bulgaria:** Sofia, **Czechia:** Praha, Sazava **Denmark:** Kopenhagen, **Germany:** Berlin, Weimar, Wertheim, Stuttgart, Magdeburg, München, Frankfurt am Main, Trier, Tübingen, Bamberg, **France:** Paris, Tours, Reims, **Great Britain:** London, Cambridge, Oxford, **Hungary:** Budapest, **Italy:** Rome, Trento, Padova, Firenze, Sienna, Trieste, Aquileia, Cividale, Gorizia, **The Netherlands:** Delft, **Norway:** Oslo, **Poland:** Krakow, Holesnica, Wroclaw, **Portugal:** Porto, **Roumania:** Sibiu, **Russia:** Moscow, St.Peterburg, **Serbia:** Belgrade, **Slovakia:** Martin, **Slovenia:** Ljubljana, Mojstrana, Hrastovlje, Kopar, Novo Mesto, **Spain:** Madrid, Salamanca, Palma de Mallorca, **Sweden:** Stockholm, Uppsala, **Switzerland:** Basel, **Turkie:** Constantinople, **Ukraine:** Kiiv, Odessa, **USA:** New York, Washington, Princeton, and **the Vatican**. I would like to take the opportunity to send an appeal to those readers who maybe know of any of the Croatian Glagolitic documents held in private possession to inform me.

The reader living in New York can see the beautiful Croatian Missal from around 1410 in the Pierpont Morgan Library, called *The New York Missal* (reprinted by the Martin Sagner Verlag, Munich,

1976). In the Congress Library in Washington you can see a sample of the first Croatian incunabula printed in 1483 (about 70 years before the first Russian printed book). Six copies are in Croatia, two in the Vatican Library, one in the National Library in Vienna (Austria) and one in the Saltykov Ščedrin Library in St.Petersburg (Russia). It was the first missal in the history of European printing that was not printed in the Latin characters, as well as the first one not printed in the Latin language.

Probably the most valuable Croatian Glagolitic book is the *Missal of Hrvoje* (1404), held in the Library of Turkish sultans (Topkapi Saray) in Constantinople. Unfortunately, many of the Glagolitic documents dating after the 12th century (and hence without any doubt of the Croatian origin), held in national libraries in France (Paris, Tours, Reims), Great Britain (London, Oxford, Cambridge) and elsewhere, have a fairly imprecise signature: Code Slave. It is interesting that George de Slavonie (or de Corvatie, 14th century), a professor at Sorbonne in Paris, left us several valuable Glagolitic manuscripts written by his hand, held today in the Municipal Library in Reims.

- In the 16th and 17th century there began to appear some caligraphic Glagolitic letters in Croatian printed books:

\mathfrak{A} (A), \mathfrak{V} (V), \mathfrak{D} (D), \mathfrak{Z} (Z), \mathfrak{I} (I),
 \mathfrak{K} (K), \mathfrak{L} (L), \mathfrak{M} (M), \mathfrak{N} (N), \mathfrak{P} (P),
 \mathfrak{R} (R), \mathfrak{S} (S), \mathfrak{H} (H), \mathfrak{C} (Č).

- There are thousands of *Croatian Glagolitic Quickscript* documents, witnessing above all about the Croatian language and its very early use in official documents, and about highly organized civil life in the Middle Ages. Probably the most important is the *Vinodole Code* from 1288. This is the earliest Slav Code after the Russian Pravda, which was written just a little bit earlier: in 1280. Very important is the *Istarski razvod* (Istrian Demarcation), written over a longer period from 1275-1395 in the region of Istria. It was written in three official copies: in the Latin and German languages (in Latin Script), and in the Croatian language (as was expressly stated on more than twenty places within

the 53 pp of its text), using the Glagolitic Script. It defined the borders between different rulers in Istria. Equally important are the city statutes of many Croatian cities written in the Glagolitic, the earliest dating from the 14th century. Here is a variant of the Croatian Glagolitic Quickscript (we provide also the angular type for comparison):

\mathfrak{A}	\mathfrak{A}	A	1	\mathfrak{O}	\mathfrak{O}	O	80
\mathfrak{B}	\mathfrak{B}	B	2	\mathfrak{P}	\mathfrak{P}	P	90
\mathfrak{V}	\mathfrak{V}	V	3	\mathfrak{R}	\mathfrak{R}	R	100
\mathfrak{G}	\mathfrak{G}	G	4	\mathfrak{S}	\mathfrak{S}	S	200
\mathfrak{D}	\mathfrak{D}	D	5	\mathfrak{T}	\mathfrak{T}	T	300
\mathfrak{E}	\mathfrak{E}	E	6	\mathfrak{U}	\mathfrak{U}	U	400
\mathfrak{Z}	\mathfrak{Z}	Z	7	\mathfrak{F}	\mathfrak{F}	F	500
\mathfrak{I}	\mathfrak{I}	I	8	\mathfrak{H}	\mathfrak{H}	H	600
\mathfrak{Z}	\mathfrak{Z}	Z	9	\mathfrak{W}	\mathfrak{W}	W	700
\mathfrak{I}	\mathfrak{I}	I	10	\mathfrak{C}	\mathfrak{C}	Č, Ć	800
\mathfrak{I}	\mathfrak{I}	I	20	\mathfrak{C}	\mathfrak{C}	C	900
\mathfrak{J}	\mathfrak{J}	J	30	\mathfrak{C}	\mathfrak{C}	Č	1000
\mathfrak{K}	\mathfrak{K}	K	40	\mathfrak{S}	\mathfrak{S}	Š	2000
\mathfrak{L}	\mathfrak{L}	L	50	\mathfrak{Ja}	\mathfrak{Ja}	Ja, Je	
\mathfrak{M}	\mathfrak{M}	M	60	\mathfrak{Ju}	\mathfrak{Ju}	Ju	
\mathfrak{N}	\mathfrak{N}	N	70				

Let us illustrate it with two examples:

\mathfrak{D} \mathfrak{B} \mathfrak{g} \mathfrak{r} \mathfrak{h} \mathfrak{s} \mathfrak{o} \mathfrak{o} \mathfrak{b} \mathfrak{z} \mathfrak{p} \mathfrak{o} \mathfrak{o} \mathfrak{f} , the creator of $\mathfrak{T}_{\mathfrak{E}}\mathfrak{X}$, and
 \mathfrak{D} \mathfrak{b} \mathfrak{h} \mathfrak{b} \mathfrak{z} \mathfrak{g} \mathfrak{o} \mathfrak{o} \mathfrak{b} \mathfrak{m} \mathfrak{b} \mathfrak{o} \mathfrak{r} \mathfrak{o} \mathfrak{v} \mathfrak{y} , the author of this article.

- *Croatian Cyrillic* (also called Bosančica) was quite widespread in Bosnia and in the Dalmatian part of Croatia. Its development can be traced from the 12th to 19th century. According to the Austrian palegraph Thorvi Eckhardt, this Script shows the greatest independence among all the variants of the Cyrillic Scripts. Here it is:

