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**PARADIGM OF DIGITAL COMMUNICATION: THE POTENTIAL OF
MULTIPLE SCIENCE SCRIPT**

**PARADIGMA DIGITALNE KOMUNIKACIJE: POTENCIJAL PISMA
VIŠESTRUKÉ ZNAKOVNOSTI**

ABSTRACT

The information age is characterized by interactivity in the production and consumption of digital information, leading to the dominance of interactive media, which have been developing at an increasingly high speed and introducing new communication rules, strategies and routines. Due to fast exchange of information, messages have become shorter and new communication signs have been developed (e.g. emoticons), thus making communication even faster. By designating the Glagolitic script as intangible cultural heritage (Decision of the Ministry of Culture dated 7 February 2014), it officially became the medium of "other media", i.e. the source of creative ideas for both science and art. Based on the above, the authors of this paper examine the semiotic potential of the Glagolitic script categorising it: a) as the potential of the script which conveyed three messages (graphemic, numeric and symbolic) with a single sign, b) as the potential of the script, which, in itself, is "the script with a message" (of Christianity). The authors have proposed the hypothesis that the Glagolitic script holds a certain media potential that could be interesting to the modern media as a source of new cultural products (literature, music, movies, etc.) or a source of communication experiences for introducing new digital media communication trends. The aim of this paper is to identify the characteristics of the Glagolitic script, as intangible cultural heritage, on which the information age media (and thus communication) can rely as a source.

Keywords: *Glagolitic script, media, mediamatics, information age, communication, emoticons, product of cultural industry*

SAŽETAK

Informacijsko doba odlikuje interaktivnost u stvaranju i konzumiranju informacija proizvedenih digitalnom tehnologijom. Upravo zbog ove osobine dominiraju interaktivni mediji koji se (tehnološki) razvijaju sve brže i donose nova komunikacijska pravila, strategije i rutine. Zbog brzine razmjene informacija skraćuju se dužine odaslatih poruka, usustavljaju se novi komunikacijski znakovi (npr. osjećajnici) i na taj se način dodatno ubrzava komunikacija. S druge strane, proglašavanjem glagoljice nematerijalnim kulturnim dobrom (7. 2. 2014. po Rješenju Ministarstva kulture), glagoljica je i službeno postala medij „drugih medija“, odnosno, izvoriste za crpljenje kreativnih ideja kako u znanosti tako i u umjetnosti. Polazeći od navedenog, autori ovoga rada razmatraju semiotički potencijal glagoljičkog pisma te ga raščlanjuju dvovrsno: a) kao potencijal pisma koje je jednim znakom prenosilo tri poruke (slovnu, brojevnju, simboličku), b) kao potencijal pisma koje je samo po sebi „pismo s porukom“ (kršćanstva). Autori postavljaju hipotezu kako je glagoljica pismo koje posjeduje medijski potencijal atraktivan medijima novog doba bilo da je korišteno kao izvoriste novih kulturnih proizvoda (književnih, glazbenih, filmskih itd.) bilo da je korišteno kao izvoriste komunikacijskih iskustava kojima se inoviraju komunikacijski trendovi digitalnih medija. Cilj rada jest iznaći one karakteristike glagoljice – nematerijalnog kulturnog dobra – na koje se u svojstvu izvorišta mogu nasloniti mediji (a time i komunikacija) informacijskog doba.

Ključne riječi: glagoljica, mediji, medijamatika, informacijsko doba, komunikacija, osjećajnici, proizvodi kulturne industrije

1. Introduction

The onset of the information age is associated with the digital revolution, which began in the late 20th century with the invention of microprocessor. It has affected all segments of society, in terms of manufacturing and any other aspect as supported by Marshall McLuhan's assertion that: 'The American stake in literacy as a technology or uniformity applied to every level of education, government, industry, and social life is totally threatened by the electric technology.' (McLuhan 2008: 21)

Throughout 5,000 years of human literacy, the alphabet system has developed from pictograms and ideograms to the contemporary system of Latin letters. The simplification of primary pictograms and their transformation to ideograms followed the major goal of written communication – to transmit thoughts and ideas. Besides, written communication has enabled preservation of knowledge, and that has generated the expansion of information and its availability today.

The authors of this paper have examined the Glagolitic script (designated as Croatian cultural heritage) as a medium of the information age. In doing so, they have taken into account that communication is two-sided and that the media are an integral part of communication. The authors have observed the media as 'transmitters' of communication processes, i.e. a means for conveying messages and the basis for mediation between communication partners. Written expressions are today the most intensive and subtlest form of marketing communication aimed at creating the desired associations and experiences in target market groups (Cvitić et al. 2014: 42). According to Tavassoli and Han (2001), the script is the fundamental and the commonest identity and identification component of marketing communication.

A group of authors (Nadrljanski et al. 2007: 529) examined the media in a broader context as important institutions of society and listed their characteristics as follows:

- Media are not merely communication channels suitable for transmitting a system of signs. They are also organizations, i.e. 'functional social systems', and indeed quite complex. These systems have had a great impact on all social strata. 'They are also institutions that play a role within a social system'.
- 'For a communication process to be implemented there needs to be a medium, i.e. representation of linguistic signs being conveyed. The media format depends on the type of the system of signs being used as well as the type of social contact between communication partners'.

Rapid development of the communication media suggests that the haphazard nature of this evolution will need subsequent explaining. The above is supported by McLuhan's reflection highlighting the need to have knowledge of the old media. 'A cool medium like hieroglyphic or ideogrammic written characters has very different effects from the hot and explosive medium of the phonetic alphabet. The alphabet, when pushed to a high degree of abstract visual intensity, became typography. The printed word with its specialist intensity burst the bonds of medieval corporate guilds and monasteries, creating extreme individualist patterns of enterprise and monopoly. But the typical reversal occurred when extremes of monopoly brought back the corporation, with its impersonal empire over many lives. The hotting-up of the medium of writing to repeatable print intensity led to nationalism and the religious wars of the sixteenth century. The heavy and unwieldy media, such as stone, are time binders. Used for writing, they are very cool indeed, and serve to unify the ages; whereas paper is a hot medium that serves to unify spaces horizontally, both in political and entertainment empires. Any hot medium allows of less participation than a cool one, as a lecture makes for less participation than a seminar, and a book for less than dialogue. With print many earlier forms were excluded from life and art, and many were given strange new intensity. But our own time is crowded with examples of the principle that the hot form excludes, and the cool one includes.' (McLuhan 2008: 25-26) Ivaš and Zaja (2003) claim that, in principle, the new media do not suppress, but rather include the old media. In view of that claim, they see the Internet as a new medium, which primarily includes the old medium of script, inheriting its linearity, but losing the feature of simultaneousness and globality of speech.

The aim of this paper is to identify the characteristics of the Glagolitic script, as intangible cultural heritage, on which the information age media (and thus communication) can rely as a source. The assumption is that, in its communication structure, the Glagolitic script conveyed three messages (graphemic, numeric, and symbolic one) with a single sign, and that, in itself, it was 'the script with the message' (of Christianity). The reason why the authors of this paper have decided to revisit this script as a source can be found in McLuhan's premise according to which '... the man in a literate and homogenized society ceases to be sensitive to the diverse and discontinuous life of forms. He acquires the illusion of the third dimension and the 'private point of view' as part of his Narcissus fixation, and is quite shut off from Blake's awareness or that of the Psalmist, that we become what we behold. Today when we want to get our bearings in our own culture, and have need to stand aside from the bias and pressure exerted by any technical form of human expression, we have only to visit a society where that particular form has not been felt, or a historical period in which it was unknown.' (McLuhan 2008: 23)

Taking the above into account, the authors will consider briefly the cultural context of the Glagolitic script to identify those elements that hold a certain media potential, which could be interesting to the modern media as a source of new cultural products (literature, music,

movies, etc.) or a source of communication experiences for introducing new digital media communication trends.

2. Mediamatics – Communication System of the Digital Age

In the digital age, new digital media emerge every day. Using them requires new communication rules based on resolving communication disputes. In this paper, digital media are understood to be electronic media used for the transmission of digital information (Nadrljanski et al., 2007: 528), and communication disputes are examined in the context of new technologies. Information and communication technologies have been developing at twice the rate of the global economy development over the last decade (Nadrljanski et. al., 2007: 540). The largest growth rate has been recorded in the field of international computer-mediated communication. Computer has become the universal medium of our time, which is used as a computer, a mobile phone, and a television set at the same time. Figure 1 shows the impressive (daily) consumption data for selected media.

Figure 1: (Daily) consumption statistics for selected media

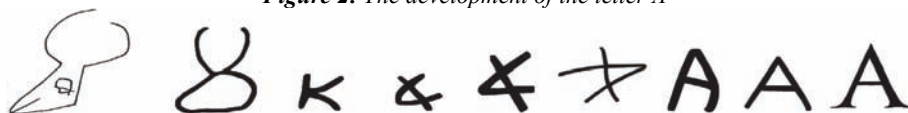
SOCIETY & MEDIA	
815,286	New book titles published this year
442,715,506	Newspapers circulated today
576,632	TV sets sold worldwide today
4,442,826	Cellular phones sold today
\$ 161,391,726	Money spent on videogames today
2,963,371,531	Internet users in the world
181,738,131,108	Emails sent today
3,037,003	Blog posts written today
526,456,920	Tweets sent today
3,325,424,573	Google searches today

Source: <http://www.worldometers.info/hr/> (accessed on 30 April 2014)

Plenković (2012) notes that the present level of development of the global society in terms of media and communications is such that more than 400 million people have direct broadband Internet access (from 10 Mbps up to 100 Mbps) capable of delivering new media content with high-tech resolution (720p or 1080p).

Each phase in the development of a script of different nations and cultures included some preliminary stages (Frances, 1906) involving long-lasting selection of ideograms, phonograms⁶ and signs to represent particular sounds. The transition from pictorial scripts to phonetic alphabets led to the reduction of signs, and thus faster and more efficient use of writing space. For example, instead of drawing the entire ox head (the meaning of the letter A, i.e. *alefa*), in time, people began to draw only its outline (Figure 2) (Danesi, 2004). Eventually, writing became faster, making it possible to record more and more content. Consequently, the shapes evolved and were further simplified. Over time, the strokes were separating and shifting; they were becoming shorter, longer or disappeared; they curved and connected with the next stroke. This caused the change, i.e. resulted in different shapes of a sign representing the same image (Yardeni, 2003).

Figure 2: The development of the letter A



Source: Sack, D., *Letter Perfect, The Marvelous History of our Alphabet from A to Z* (2003)

One of the biggest controversies of the digital age is the collapse of communications oligopolies primarily because mobile telephone service has become a field of convergence and (in)directly nestled itself in the production of computers, television sets, and many other digital products. Even the reality itself, both 'real' and 'virtual', is shared by communication strategies which bring about communication disputes that can be considered the result of the following: '...electric speed mingles the cultures of prehistory with the dregs of industrial marketers, the nonliterate with the semiliterate and the postliterate. Mental breakdown of varying degrees is the very common result of uprooting and inundation with new information and endless new patterns of information.' (McLuhan 2008: 20)

























Undoubtedly, Latin letters are codes that have been successfully used to express ideas and thoughts for millennia. The meanings of the letters have changed together with the new social and cultural trends and the Latin alphabet is still developing. In a world of global capital, new signs, derived from the Latin alphabet, are being created. Efforts to convey as much information as possible in a shortest possible period are a result of new communication features and technologies (Cvitić et al, 2014: 52).

At the same time the 'mental breakdown' occurred, a new communication system called *mediamatics* emerged on the world scene as a result of technical, economic and political trends of digitization, liberalization, convergence and globalization of the communications industry. Nadrljanski et al. (2007: 540) note that 'within Europe, at various national levels, strategies and policy measures have been designed to further the development of the information society. This primarily concerns the liberalisation of telecommunications, establishment of a clear legal framework for e-commerce and support for research and development in key industries. The key objectives of *eEurope* initiative are *to bring every citizen, home and school, every business and every administration into the digital age and online and thus create a digitally literate Europe and ensure that the whole process is socially inclusive* (Council of Europe, 2000).'

In addition to the fact that almost every form of communication is taking place via the media (with the exception of traditional 'face to face' communication), the communication itself has become more complex as a result of globalization propelled by the Internet. This is supported by the fact that new systems of symbols are created and permeate the communication space almost on a daily basis. Emoticons are just one example of such complexity resulting from the need to make a message as short as possible, and thus sent faster. The development of emoticons is associated with the advent of computer-mediated communication and their basic characteristic is the intention to convey a message using non-alphabetic characters on a keyboard, i.e. punctuation marks such as :-) and :- (.

The number and complexity of emoticons have been constantly growing, both in terms of the scope of their application and their complexity, as supported by one of emoticon browsers providing this publicly accessible list (Figure 3).

Figure 3: List of emoticonsⁱ

To send this:	Type this:		
 Smile	:-) or :)	 Open-mouthed	:D or :d
 Surprised	:O or :o	 Tongue out	:P or :p
 Wink	;-) or ;)	 Sad	:-(or :{(
 Confused	:S or :s	 Disappointed	: or :
 Crying	:( Embarrassed	:-\$ or :\$
 Hot	(H) or (h)	 Angry	:-@ or :@
 Angel	(A) or (a)	 Devil	(6)
 Don't tell anyone	:-#	 Baring teeth	8o
 Nerd	8-	 Sarcastic	^o)
 Secret telling	:-*	 Sick	+o(
 I don't know	:^)	 Thinking	*-)
 Party	<:o)	 Eye-rolling	8-)

Source: <http://cool-smileys.com/secret-emoticons-for-msn-messenger> (accessed on 1 March 2014)

Viewing emoticons as a communication syndrome of the new media is in line with McLuhan's reflection that '...any medium has the power of imposing its own assumption on the unwary. Prediction and control consist in avoiding this subliminal state of Narcissus trance. But the greatest aid to this end is simply in knowing that the spell can occur immediately upon contact, as in the first bars of a melody.' (McLuhan, 2008: 19) In other words, new communication media have been following the trend of creating new signs and emoticon dictionaries – or 'pictionaries' (similar to alphabet books used for teaching the alphabet).

As indicated earlier, these emoticon dictionaries can be found, as expected, on the digital media. Evidently, the modern age has been seeking to find a communication system in which one sign (in the case of emoticons a punctuation sign) conveys multiple messages. According to Cvitić at al. (2014: 52) *companies create new signs in response to the challenges brought by new technologies and thus new forms of communication. Considering Zipf's Law (Danesi, 2004) and a growing number of meanings that have been attached to letters, there is a possibility that the current alphabet system will develop into a more complex communication code in which letters will not be just an abstract representation of the sound. In addition to that, they will acquire symbolic meanings adapted to the current time, which will be used and modified by the consumer depending on the needs he/she wants to meet.* In view of the proposed hypothesis, the authors of this paper turn to the Glagolitic script, dating back to the 9th century AD, which conveyed three messages (graphemic, numeric and symbolic one) with a single sign. By examining the semiotic potential of the Glagolitic script, the authors will contemplate it as a medium.

3. Semiotic potential of the Glagolitic script (script as a medium)

The medium is the message.
Marshall McLuhan

Since 7 February 2014, the art of reading, writing and printing in the Glagolitic script has had the status of intangible cultural heritage of the Republic of Croatia. The relevant decision, issued by the Ministry of Culture, reads as follows: 'The Glagolitic culture has left a

significant mark on literacy in medieval Croatia, in a variety of civilizational aspects, such as liturgy, law, art and private lives. The Glagolitic script is the oldest Slavic script, which, in the opinion of most scholars, was created by Constantine the Philosopher for the purpose of Christianisation of Moravian Slavs in the late 9th century. The Glagolitic script spread throughout Slavic territories owing to liturgical and biblical books written in Old Church Slavonic. Croats first came into contact with the Glagolitic script in the 9th century in the Byzantine Dalmatia, through which 1150 years ago (in 863) brothers Constantine Cyril (827 - 869) and Methodius (815 - 885) travelled on their way from Constantinople to Thessaloniki via Durres and further to Venice by sea, from where they took the Amber Road to Moravia. The next encounter with the Glagolitic script occurred in 874 when their disciples were fleeing to that area after the collapse of the Slavic mission in Pannonia. Croats encountered the teachings of the Holy Bishop Methodius in the Byzantine territories when he travelled to Constantinople in 882. After Methodius' death, his teaching was spread by his disciples in exile. The Old Church Slavonic liturgical books were considered inferior to the Latin liturgical books, and as a result, vanished from Slavic countries by the 12th century, except in Croatia. In the 14th century, Croatian Glagolitic priests were invited to the Czech monastery Emmaus to revitalize the Glagolitic tradition, which was then transposed to the Polish Holy Cross Monastery, where it was upheld until the end of the 15th century.'

It is clear from the above Decision that the Glagolitic script was devised for the purpose of Christianization of predominantly illiterate people. This leads to the conclusion that the Glagolitic script had two communication objectives:

- a) introducing literacy through conversion (to Christianity)
- b) Christianization by means of introducing literacy

This *perpetuum mobile* of the semiotic communication using the Glagolitic script (Lukić and Horvat, 2013) confirms McLuhan's assertion that 'the medium is the message' (McLuhan, 2008: 13), which clarifies that one is 'in the world of the structure and of configuration' at 'the moment that sequence yields to the simultaneous' and that happens when 'specialized segments of attention have shifted to total field and one can now say quite naturally: The medium is the message.' (McLuhan, 2008: 17).

It should therefore be pointed out that it was the Glagolitic script, and some other ancient scripts (e.g. Hebrew and Greek), that had the ability to convey three messages at the same time. More specifically, each Glagolitic sign represented a grapheme, a number and a symbol in parallel and, as in the case of emoticons, users of the script were able to express themselves in several ways with a single sign. Scheme 1 shows the basic characteristics of the Glagolitic script that clarify the above premise.

Scheme 1: Basic characteristics of the Glagolitic script (angular Glagolitic script)

Graphic form of the sign	Numerical value of the sign	Name of the sign (symbol)	Pronunciation	Meaning of the symbol
a	1	azъ	a	azъ, mene, mbnê <i>pron.</i> – I
b	2	buky	b	buky, bukъve <i>f</i> – letter; reading, written text, handwritten charter (God)
v	3	vêdê	v	vêdъ, -i <i>f</i> – knowledge vêdê v. vêdêti, vêdênie, -ê s – knowledge vêdêti, vêmъ (vêdê), vési, vêstъ – know, have knowledge of, be aware of
g	4	glagoljъ	g	glagolъ, -a <i>m</i> – word; speech, conversation; thing; event glagolati, ljъ, -leši – speak, talk; call, liho glagolati – chat; glagolati na kogo – speak against sb., complain about sb.; vъprêky protivъ glagolati – object to, oppose; prêzde glagolati – predict; strъmъ glagolati – talk in a quarrelsome, uncompromising manner; maly glъgolati – reticent, sparing of words
d	5	dobrê	d	dobrê <i>adv.</i> – well
e	6	estъ	e/je	estъ – <i>present</i> , 3 p. <i>sing.</i> of the verb to be byti (<i>impf</i>)
ž	7	živêti	ž	živêti, vljъ, -viši – live; cf. - exist
&	8	žêlo	dz	žêlo <i>adv.</i> – very (honorably)
z	9	zemli	z	zemlê, -e <i>f</i> – earth, land, ground
·	10	îze	i/j/ji	îze, êze, eze <i>pron.</i> Accusative case of singular masculine gender i – which; who; whichever; whatever; îze ače – whoever, whichever; imъže obrazomъ – how; îze itъ – which also
i	20	(i)	i	i conj – and; also i, ê, e <i>pron.</i> after preposition always comes with prefix n- (отъ nego, k nemu); Nominative case of singular masculine gender is not confirmed – this; that; which; cf. îze, êze, eze
j	30	đerv	j	-
k	40	kako	k	kako <i>adv.</i> – how, as; isn't it; kako ... kako li – as... so... kakovъ, kakova, kakovo / kakъ, kaka, kako <i>pron</i> – which, that; some
l	50	ljudie	l/lj	ljudie – ii <i>m, pl</i> – people; cf. čovêkъ
m	60	myslite	m	mysliti, mysljъ, myslîši – think, reflect, intend myslъ, i <i>f</i> – thought, consciousness, mind, reason; intention myslъnъ <i>adj.</i> – meant; soulful, reasonable, clever, spiritual
n	70	našъ	n/nj	našъ, naša, naše <i>pron</i> – our
o	80	onъ	o	onъ, ona, ono <i>third-person pronouns</i> – he, she, it; onъ polъ – the other (opposite) bank
p	90	pokoî	p	pokoî, -ê <i>m.</i> – peace, rest
r	100	гъci	r/ri	reči, rekъ, rečeši, <i>imp.</i> гъci, гъcête – say, mention; reči na kogo – accuse (sb); blago reči – praise; reči sъ – call oneself
s	200	slovo	s	slovo, slovese, slovesi <i>s.</i> – word, speech, reason; Holy Bible, homily
t	300	tvъrdo	t	tvъrdo <i>adv.</i> – firmly, consistently, reliably, safely; tvъrdo besêdovati – claim, assert
u	400	ukъ	u	
f	500	гътъ	f	
h	600	hêrъ	h	
w	700	otъ	o	otъ <i>prep.</i> with genitive case – from, because of
č	800	šta	št/šč/č	
c	900	ci	c	
č	1000	čгъvъ	č	čгъvъ, -i <i>m</i> – worm
š	2000	ša	š	

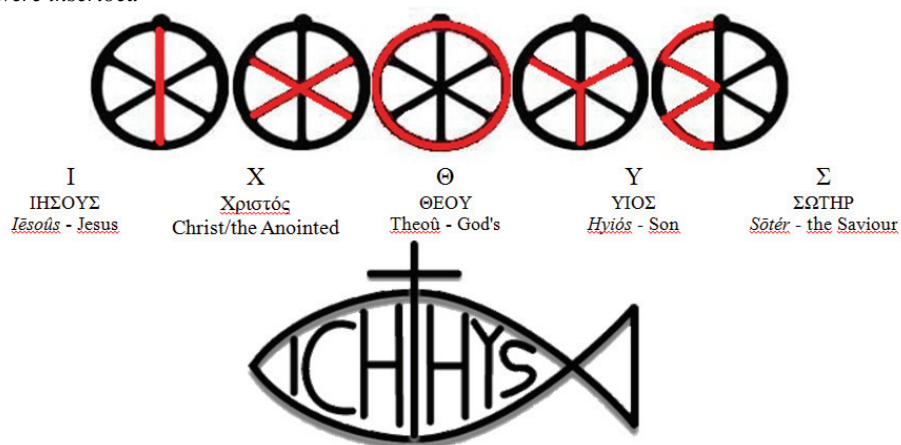
Source: Scheme created based on Damjanović et al (2004), Mali staroslavensko-hrvatski rječnik, Zagreb (Short Old Church Slavonic – Croatian dictionary), Matica Hrvatska.

The first nine letters of the Glagolitic script (azbuka), by George of Slavonia could be interpreted as follow:

1, A	Me (Christian)
2, B	Letter
3, V	Know
4, G	Talk
5, D	Well
6, E	Is
7, Ž	Live
8, □	Very
9, Z	Earth

Besides communicating by means of the shape of graphemes (letter/sign), the Glagolitic script also communicated by means of a letter module – the shape from which graphemes are created. In this case, the module has a shape of a rosette, i.e. a circle, divided into eight equal sections, which, for centuries, had been considered to be the monogram of Christ used during the persecution of Christians in the Roman Empire, as a recognition symbol, the same as that of a fish. The monogram of Christ is actually ‘an acronym of the Greek word fish, which both symbolically (a sketch of a fish) and according to letters composing it stood for the Chris.’ (Žagar, 2013: 110)

Figure 4: Symbolic meaning of a rosette – letter module into which Glagolitic graphemes were inscribed



Source: authors

The same author states about this form: ‘Although dating back to pre-Christian times, it has been consistent in symbolizing God’s and human values. It was found etched on the ruins of Ephesus, and it is assumed that it was used to mark the places where Christians gathered. It is interesting that there is a mosaic of the same shape in front of the parish church in Vrbnik, on the island of Krk, which had a strong Glagolitic tradition.’ (Žagar, 2013: 110)

By correlating the above-mentioned characteristics of the Glagolitic script, the authors have concluded that it holds a semiotic potential, which has been observed in the following:

- a) one sign conveys three messages (graphemic, numeric, and symbolic one)

- b) the script conveys ‘the message’ of Christianity by means of:
 - a. the letter module in the form of a rosette, i.e. a circle with eight sections (just like a fish, a rosette has been a symbol for identifying early Christians);
 - b. symbolic meanings of signs – with their order and different variations, signs convey the message of the gospel;
 - c. the graphic form of signs that integrate Christian iconography;
 - d. the symbolism of numbers associated with each sign.

Communication efficiency of semiotics integrated in this manner is confirmed by the long existence of the Glagolitic script, helping it to remain on the Croatian cultural scene until the 19th century as the dominant script in the area. The Glagolitic script engendered an entire culture that incorporated the philosophy of its spirituality into the script with which a large (and ever-growing) number of literate people identified. The above is supported by McLuhan who explains why ‘the pleasure of being in a crowd is a mysterious expression of delight in the multiplication of number’ (McLuhan 2008: 100). McLuhan has acknowledged that ‘...The statistical aggregation or crowding of numbers yields the current cave-drawings or finger-paintings of the statisticians’ charts. In every sense, the amassing of numbers statistically gives man a new influx of primitive intuition and magically subconscious awareness, whether of public taste or feeling.’ (McLuhan 2008: 100)

4. The Glagolitic script and the media of the information age

The content of any medium is another medium.

Marshall McLuhan

The media of the information age (television, the Internet, mobile media, etc.) have changed the production of information, their distribution, and decoding (Torlak 2013), and, on a wider social platform, have led to the creation of new communication systems such as mediamatics. Marshall McLuhan noted that the invention of typography provided the first uniformly repeatable commodity, and the first mass-production of the press allowed the first uniform and repeatable product and the first mass production (McLuhan, 1964), but also that ‘the content of any medium is always another medium’ (McLuhan, 2008: 13). McLuhan asserts that the content of writing is speech, the content of print is the written word, and the content of the telegraph is print.

If the hypothesis that *the content of any medium is always another medium* is not rejected, this leads to a new research question: to what extent do today's scripts contain the experience of the ancient scripts (as media)? In other words, the question is whether it is possible to fill the ‘semiotic gap’ in the Latin alphabet, in which a letter represents only a letter (‘A’, for example, is just an ‘a’), with additional meanings following the example of well-known scripts that have been proven to function. This research question could be formulated as follows: *If the content of any medium is always another medium, can one learn from the experience of the older media?*

In this instance, the term ‘older media’ means both language and script. Lozić and Tomelić (2006) use the term *language* to mean ‘a generally accepted system of signs’ pointing out that each language is an important ‘type of relationship called mimology. It implies the notion that there is a relation of reflective analogy between ‘word’ and ‘thing’ that motivates, or justifies, the choice of a particular word instead of another. In the same way, a script can be conceived as an imitation of objects that it denotes.’ (Lozić and Tomelić 2006: 177)

The creation (and the existence) of emoticons and other communication signs of the digital age, hints at a mimology in the process of using the new media, which is the result of creating new communication signs. Scientific understanding of this mimology happens subsequently and is often subordinate to the dominant role of producers of new media; the process of ‘learning’ from ‘the old media’ is for the most part absent, and, as a result, communication complexity threatens to become a barrier to global understanding. Due to the speed of communication, new signs are created, along with controversies for which McLuhan states: ‘... we have confused reason with literacy, and rationalism with a single technology. Thus in the electric age man seems to the conventional West to become irrational.’ (McLuhan, 2008: 19)

As a result, the authors of this paper are of the opinion that it is important to gain an insight into and shed some light on the experience of ‘the old media’ (such as the Glagolitic script) in the context of new communication horizons. They also find that the contribution of ‘the old media’ cannot be integrated into today’s communication experiences straightforwardly, but rather through a multidisciplinary scientific dialogue by evoking (their communication features), testing (the capacity of each sign individually and all the signs in a particular sequence to communicate multiple messages) and adapting (the potential of the modern age media).

It was indicated in the Decision of the Ministry of Culture (2014) that ‘many associations, institutions, cultural events and activities foster the Glagolitic heritage. Inspired by the Glagolitic culture, a significant number of entrepreneurs, designers and artists promote the Glagolitic script, i.e. the Glagolitic component of the Croatian culture, with their products, clothing, music, etc.’ The Decision listed only some of them (Table 1):

Table 1: *Examples and methods of promoting the Glagolitic script and culture*

Method of promoting the Glagolitic script	Name of the person promoting the Glagolitic script	Personal information
Clothing	Nenad Bach	Croatian rock musician, singer-songwriter who lives and works in New York City
The novel ‘Az’	Jasna Horvat	university professor, Croatian writer and theoretician of culture
Clothing and souvenirs	Vesna Milković	designer, owner of Mara ethnic boutique
Font	Filip Cvitić	M.A. in Design, author of the project ‘Fabula Croatica’
St Peter’s Glagolitic path	Svetko Ušalj	designer of the <i>Park Glagoljice</i> (Park of the Glagolitic script) in Gabonjin on the island of Krk
Furniture	Ksenija Tomić	architect, furniture designer
Glagolitic letters	Verica Kovač	painter and ceramicist
Clothing, scarves, Glagolitic alphabet books, greeting cards, prayers, etc.	Julija Vojković	Layout editor and designer
Paintings	Zlatko Kovač	painter who uses Glagolitic letters as a motif
Paintings	Vjera Reiser	painter
Glagolitic singing	Katarina Livljanić	musicologist, singer

Method of promoting the Glagolitic script	Name of the person promoting the Glagolitic script	Personal information
Clothing	Ivica Kostelić	Croatian alpine skiing champion
Publishing	Tatjana Sabljak	publisher of Villa Sybilla (paintings, booklets on the Glagolitic script, flyers, postcards, castings, interior design)
Unicode	Erasmus Naklada d.o.o.	Glagolitic script became part of the Unicode standard (standard for exchange of data on character representation across multiple languages, computer programs or platforms)

Source: created and extended by authors based on the Decision of the Croatian Ministry of Culture

5. The potential of semiotical communication in the Information Age

As opposed to the Glagolitic script – created in the 9th century for the purpose of Christianization and the spreading of literacy (Lukić and Horvat, 2013) and whose creator, purpose and mission are known, the Latin scriptⁱⁱ is a much older script whose character order is called *alfabet*, and which, in its most distant form, often unknown to those who use the script in everyday life, is the story of a bull (alef) and his qualities.

Alphabet, a system of written characters (letters) in which one character is assigned to one sound (phoneme). The fundamental principles of the alphabet were established in the 3rd millennium BC in Ebla (today's Tel-Mardih in Northern Syria), on the basis of Mesopotamian syllabic cuneiform script. The script has developed from syllabic, through alphabetic syllabic and consonant syllabic to the true alphabet. It seems that prototype characters were a schematic graphic of a consonant type, and that the West Semitic alphabet appeared in the beginning of the 2nd millennium and that it derived from some cuneiform characters with some added characters. The script spread quickly, and since there were no strong political and cultural ties among city-states, variations of the proto-alphabet were created. There were two groups of scripts in XVI/XV centuries BC: South Semitic and North Semitic. In the XVth century BC the Ugaritic script was created on the basis of the North Semitic script. In the XIIIth century BC, due to changes in the phonological system in northern central languages, there appeared a markedly simpler Phoenician script. Since it is generally accepted that the Greek script has derived from the Phoenician script, the Phoenician script would then be the source of all alphabetic scripts in the world, except Korean, Armenian and Georgian (the latter two are adapted from Aramaic and Greek; the Glagolitic script and Cyrillic script are also derived from the Greek script). However, it is thought that the Greek script did not derive directly from the Phoenician script and that there were many influences, such as interactions with the alphabets of Asia Minor, which have also derived from Semitic alphabets. From the Greek script also sprung the Etruscan script and some other scripts of ancient Italy, and from the Etruscan script arose the Latin script. The Aramaic script is a branch of West Semitic scripts. From it - in the Vth century BC – the Hebrew script arose, as well as the Middle Persian script Pehlevi, Farsi, Sogdian, Khwarezmian and other scripts. From the Aramaic script sprung the Indian script Brahmi which gave birth to other Indian scripts. The Arabic script is also of Aramaic origin.ⁱⁱⁱ

Thus today's letter *a* initially represented the head of a bull (aleph^{iv}), which has been reshaped over the course of time and laid sideways (α – alpha) to be finally turned upside down and put ‘on its horns’ in the Latin script (A), but the knowledge of its origins is lost and today's spelling books commonly match it with a picture of an automobile or an airplane. In light of what has been said, a need arises for a comparison of communication qualities of the Glagolitic azbuka and Latin alphabet to establish whether the communication basis of a letter system has changed. We should bear in mind that the Glagolitic azbuka is ‘older’^v than the Latin alphabet and could in itself have corrected possible deficiencies of the Latin alphabet.

Table 2: *Comparison of communication qualities of Glagolitic and Latin scripts*

	Glagolitic script	Latin script
Background story	The story of God Christ.	The story of the bull god.
Familiarity of the story	Extreme	Rare
Communicativeness		
Of the letter module	Extreme	Nonexistent
Of the letter code	Extreme	(forgotten)
Of the number code	Extreme	Nonexistent or imbalanced
Of the symbolic code	Extreme	In formation

Source: authors

Without going into a broader discussion, and on the basis of what we see in Table 2, it is possible to conclude that the Latin alphabet, when compared to the Glagolitic azbuka, contains fewer active communication transgenerators. For the purpose of quick adoption and further dissemination, the Glagolitic script has used ‘the story of God Christ’ which was, as shown, imprinted in its letter module and all three communication codes of Glagolitic graphemes (letter, numeral, and symbolic). The Latin alphabet of today does not use any of the mechanisms (except the letter code) that were initially present in old scripts. With that being said, we are inclined towards the conclusion that the communication potential of the Latin script is not being sufficiently used, which in turn opens up a space for future multidisciplinary discussions.

The Information Age brings new rules of communication and simultaneously creates new symbols which influence the efficacy of the communication process. New symbols (eg. emoticons) that have been studied in this work show that in their combining of text and picture (eg. when communicating on Facebook, ICQ and other platforms for social networking and communication) there are «similarities to some earlier ways of combining symbols of different meaning systems. In ‘serious’ or elite communication this is exemplified by poetic calligrams, while in mass and popular communication we have comics and rebuses. If we look deeper in the past, we find similarities in early endeavours to record messages in less transient mediums than speech. The first scripts, pictograms, were sequences (comics) of schematized pictures in which a natural (motivated) connection between a designator and designated was still strong, but in the course of time, and further schematization, that connection became weaker and conventionality took over. This led to a type of script – ideograms – and gradually to syllabic and, finally, phonemic script. However, the image of historical ‘development’ is disturbed by periodical renovations of old solutions in new media (Ivas and Žaja, 2003: 90).

The Glagolitic characters (graphemes) with their variations in arrangement within a meaningful unit, as opposed to letters of the Latin script, also realize communication through their position by forming ‘a symbolic sentence’ (by an arrangement assigned to them in a

character sequence) and by their graphemic-phonemic meaning when they are read and interpreted as a 'word' which is a constitutive part of a language. In this way, Glagolitic characters distinguish themselves among old scripts, especially compared to the Latin script, and affirm once again that a 'new medium quickly replaced old ones' but 'with usual communication contents and old communication solutions. This process of usualization of the unusual was followed by the process of unusualization, which derived mainly from the particularity of a new medium'. (Ivas and Žaja, 2003: 91)

No matter the technological advancements that occur in science, communication among individuals is imperative to progress in science. The field of communication has always emphasized the future. In an attractive and challenging piece of research the authors designate communication solutions and actions similar to those of older media which are included in the new medium, but which also possess elements of innovation.

6. Discussion

The premise of this paper is contained in McLuhan's dictum *the content of any medium is another medium* 'which draws attention to the practice of any new medium to incorporate an old medium as its content, but also the inability of an interpreter to grasp the meaning of the medium by reading the content' (Peović Vuković 2012). Yet again, the authors turn to McLuhan's reflections on the subject expressed in the following passage to support the above premise: 'Automation or cybernation deals with all the units and components of the industrial and marketing process exactly as radio or TV combine the individuals in the audience into new interprocess. The new kind of interrelation in both industry and entertainment is the result of the electric instant speed. Our new electric technology now extends the instant processing of knowledge by interrelation that has long occurred within our central nervous system. It is that same speed that constitutes 'organic unity' and ends the mechanical age that had gone into high gear with Gutenberg. Automation brings in real 'mass production', not in terms of size, but of an instant inclusive embrace. Such is also the character of 'mass media'. They are an indication, not of the size of their audiences, but of the fact that everybody becomes involved in them at the same time. Thus commodity industries under automation share the same structural character of the entertainment industries in the degree that both approximate the condition of instant information. Automation affects not just production, but every phase of consumption and marketing; for the consumer becomes producer in the automation circuit, quite as much as the reader of the mosaic telegraph press makes his own news, or just is his own news.' (McLuhan 2008: 310)

Media experts create and standardize new communication implementation models for new media technologies.

Marketing communication is a process involving two or more sides, in which messages and ideas are exchanged by targeted exchange of symbols. Cvitić et al. (2014) mentioning some elements of this definition:

- communication is an intentional process (real effort is made by the initiator of the communication process in order to obtain a response from target interlocutors),
- communication is a transaction process (all participants are involved in the process),
- communication is symbolic (words, images, sounds and other stimuli are used for conveying ideas, i.e. messages).

To be successful, modern marketing communication needs original concepts, which will be transformed into symbols that can successfully convey a message or an idea. Torlak notes: 'Considering that human communication has changed over the centuries, it is easy to see that

it is necessary for a language to change in these circumstances. The way language has become simpler is also interesting. Once a complex system of symbols, letters, words, sentences and rules, has been reduced, in some respects, by the print media, radio, TV and the Internet, to what it used to be at the beginnings of literacy: drawing to represent meaning.’ (Torlak 2013: 367). Unlimited social, hardware, software and technological values of communication on these new platforms, available to all, open up and herald new (unpredictable) future of the media. In other words, radio, television, mobile technology, media convergence, pay-per-view, e-learning, internet protocols (IP), information and communication sciences open up new possibilities for implementation of the media and media technology in science, education and daily life (Plenković 2012). The emergence of emoticons is only one signal that the space for sign-mediated communication is expanding and often overlapping, and that communication, due to increasing speed of conveying messages, requires rethinking of the structure of signs.

The scale and speed of changes in communication leaves less and less space for a thorough dialogue that would include science with its communication experiences based on knowledge of ‘the old media’, i.e. scripts that simultaneously communicated at the graphemic, numeric and symbolic level. One of such scripts is the Glagolitic script, a Croatian cultural heritage, whose long existence and communication efficiency have been engraved in many cultural heritage monuments, but also studied and written about in the field of humanities.

Based on the above, the authors of this paper examine the semiotic potential of the Glagolitic script categorising it: a) as the potential of the script to convey three messages (graphemic, numeric and symbolic one) with a single sign, b) as the potential of the script, which is ‘the script with the message’ (of Christianity). The hypothesis of the paper was that the Glagolitic script holds a certain media potential that could be interesting to the modern media. It has been shown that the semiotic potential of this script is attractive for digital communication, and that emoticons (and other pictorial signs) are bringing the sign-mediated communication back to the original characteristics of the Glagolitic script (the ability to convey multiple messages with a single sign and the ability to communicate the main ideas of Christianity by creating signs and combining them). The proposed hypothesis was not rejected as the research confirmed that the Glagolitic script was a medium that communicated simultaneously in different ways, and, as such, it does hold the potential to be ‘the medium of the new media’. Moreover, the Glagolitic script has inspired entrepreneurs, designers, and artists in different ways, thus becoming a medium for promoting the Croatian culture. The authors conclude that an intangible cultural heritage, i.e. the Glagolitic script, is a medium that can be a source for numerous media of the modern age, and thus also for communication in the information age. The authors recommend further multidisciplinary research of the Glagolitic script’s media potential as a basis for new insights in economics, semantics, information sciences, methodology and other disciplines. The work shows that the Glagolitic script successfully realizes semiotical communication, which is why it is observed as a model for a new paradigm of potentials for the Latin script and other written characters in communication processes in the Information Age.

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ⁱ <http://cool-smileys.com/secret-emoticons-for-msn-messenger> (accessed on 1 March 2014)

ⁱⁱ The Latin script 1. General designation for every script derived from ancient Roman Latin script (eg. *Croatian Latin script*). 2. Group designation for all such scripts. (<http://proleksis.lzmk.hr/7885/>, accessed 7. April 2014.)

ⁱⁱⁱ (<http://proleksis.lzmk.hr/7885/>, accessed 7. April 2014.)

^{iv}  - aleph

^v The year 863 AD is thought to be the year of creation of the Glagolitic script.