

Toward Disambiguating the Term "Roman"

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The term "roman," when it is used for describing characters of written languages, can be confusing because it is overloaded with four different meanings. This paper distinguishes among these four meanings and suggests alternative terms for each of them. For a character derived from the alphabet originally used for the Latin language, it suggests the term "Roman/Latin." For a character that is not sloped, it suggests the term "upright." For a character having one of a certain group of basic shapes, it suggests the term "Roman-shaped." For a character having details of shape that are based on certain Roman monumental inscriptions, it suggests the term "trajanized." These alternative terms are offered in the hope that they can be used, when necessary, to help us avoid confusion when we are discussing the characters of written languages.

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The problem

When the word “roman” is used for describing characters of written languages, it can traditionally have any of four meanings:

- 1) It can mean that a character belongs to the set of characters which was originally developed for writing the Latin language.
- 2) It can mean that a character has a vertical orientation, i.e. that its non-horizontal main axis is vertical.
- 3) It can mean that a character has a certain kind of basic shape.
- 4) It can mean that certain details of a character’s shape are modeled on the characters of certain Roman monumental inscriptions.

These four meanings are illustrated in *figure 1*. In the first row, a roman character contrasts with Cyrillic and Devanagari characters. In the second row, a roman character contrasts with a character that has a non-horizontal main axis which is not vertical. In the third row, a roman character contrasts with a character that represents the same letter but has a non-roman basic shape. In the fourth row, a roman character contrasts with characters that lack some of its details of shape. (The meaning of “roman” illustrated in the third row applies only to single characters; its other three meanings ordinarily apply to entire texts or entire words or entire typefaces.)

These four meanings of the word “roman” do not always define the same set of characters: a character that is “roman” according one of them is not necessarily “roman” according to another of them. This ambiguity of the term “roman” occasionally results in statements that are incongruous, as when the characters shown in *figure 2* are said to be “sloped, roman, and cyrillic.”

When we need to use the word “roman” in such a confusing context, or when we need to use it without a context that can show which meaning

	"roman"	"non-roman"
1)	R	Ш 𑂔
2)	h	h
3)	a	a
4)	P	𑂔 P P

Figure 1. Characters illustrating four meanings of "roman" and "non-roman."

АБВГДЕЖЗ
ИКЛМНОПР
СТУФХЦЧЯ

Figure 2. Examples of "sloped, roman, cyrillic" characters.

it has, it will be very helpful if we have available a list of synonymous, alternative terms for all of these meanings of "roman." The existence of these alternative terms will not, of course, prevent us from using the word "roman" whenever its meaning is obvious; they will simply be available for our use, as replacements or as supplements, whenever we need them in order to make our meaning clear.¹

I would hope that many of us who work with the characters of written language will also feel that such a list of distinctive, alternative terms would be a good thing to have, but I am not so hopeful that we will readily agree on what those alternative terms should be. Such a list and its acceptance will take time to evolve. But as we come to realize how many difficulties are caused by the different meanings of the word "roman," and as we become aware of how useful it will be to have alternative terms such as these available, a list of such terms may gradually become an accepted addition to our professional vocabulary. I would therefore like to suggest a list of such alternative terms in the hope that a discussion of them may lead toward a consensus.

The "Roman/Latin script"

The characters exemplified by the "roman" character in the first row of *figure 1* are sometimes called "latin" characters. The terms "roman" and "latin," when used for describing written languages, both have several meanings. "Roman" has the meanings illustrated above. "Latin," in addition to meaning the "roman" characters exemplified in the first row of *figure 1*, can mean the set of 21 characters (or 23, after Y and Z were added) that were once used for writing the Latin language, and it can mean sets consisting of some or all of

these characters along with others that have been used for writing other languages. (The word "latin" also occurs in the names of some typefaces which try to imitate stylistic features of certain inscriptions in the Latin language.)

It seems, however, that the characters exemplified in the first row of *figure 1* are the only things which are called by both the names "roman" and "latin." The terms "Roman/Latin script" or "Latin/Roman script," possibly written with "=" or "-or-" or "i.e." as the divider instead of the virgule, are possible terms for designating these characters.² These terms are rather long, but they should be unambiguous, and perhaps no simpler terms could be understood as readily. The several meanings of both "roman" and "latin" are well known, and a compound term which includes both of them should clearly indicate that it has the one meaning which they share.

When referring to the Roman/Latin script, we will sometimes have to distinguish between two historical stages of its development. As it was originally used for writing the Latin language, the Roman/Latin script was written in many styles, but each style had only one kind of character for each letter. Then, as this script developed over the centuries and as it was finally embodied in printer's type, it came to have several sets of characters, with each set having one kind of character for each letter, and with the characters of each set sharing certain features of shape. The Roman/Latin script came to have at least four such sets of characters: upper-case upright, lower-case upright, upper-case sloped and lower-case sloped. For some typefaces, it also has a fifth set of shorter upright characters of upper-case shape, and since the advent of computerized typography it may have a sixth set of shorter sloped characters of upper-case shape. If necessary, we can refer to the earlier form of this script with only one kind of character per

letter as the “original Roman/Latin script” and to its later form with four or more kinds of character per letter as the “present-day Roman/Latin script.” These terms are long, but they should be unambiguous and their meanings should be readily evident.

One usage which I hope we can avoid, because it is especially likely to lead to confusion, is to refer to the characters of the Roman/Latin script as the “Latin alphabet.” Although the word “alphabet” can mean merely a collection of characters, it has the strong implication that it means the characters of a particular language, arranged in their conventional order; coupled with the word “Latin,” it presumably means the ordered inventory of 21 or 23 letters used for writing the classical Latin language. In order to avoid this possibility of confusion, I have referred to these Roman/Latin characters as a “script” rather than an “alphabet.”

“Italic” characters

The term “italic,” when it is used for describing written characters, can be confusing because the non-roman characters shown in both the second and the third rows of *figure 1* can be called “italic.” This confusion arises because the term “italic” is used in two different ways by those who deal with letters as parts of written texts and by those who describe letter shapes.³ To editors and other people who work with written texts, the term “italic” ordinarily means characters of a kind used for showing that certain words in a text are to be emphasized, or are foreign words, or are titles of literary works, or are to be distinguished in some other special way; “italic” characters are what these people expect to have printed when they underline words in a manuscript. However, to students of letter shapes, the term “italic” ordinarily refers

aefg

a) Gill's list of "essentially italic" basic shapes.

bgiklvwy

b) Some other basic shapes often thought of as "italic."

Figure 3. Gill's "italic" basic shapes and some others that are usually called "italic."

Alabama

Alabama

khanjar

khanjar

le lac
supérieur

*le lac
supérieur*

a) Characters that have "italic" basic shapes but are not sloped.

b) Characters that are sloped but do not have "italic" basic shapes.

Figure 4. Characters that are italic in one way and non-italic in another.

to certain basic shapes of letters. This is the meaning that Gill (1936: 59) gives it when he says that printing in the English language uses three alphabets: a "roman alphabet of capital letters," a "roman lower-case alphabet," and an "alphabet called italic." Gill's illustration of his "essentially italic" letters is reproduced in *figure 3*, along with some other letter shapes that are usually thought of as typically "italic."

These two meanings of the term "italic" often coincide, but they sometimes do not, and therein lies the ambiguity of this term. *Figure 4* shows some characters which have italic basic shapes but are not sloped and some which are sloped but do not have italic basic shapes.

In order to make unambiguous statements about characters such as these, we need to have separate pairs of terms for these two ways of making the distinction between "roman" and "italic." For the meanings of "roman" and "non-roman" exemplified in the second row of *figure 2*, we can simply use the terms "upright" and "sloped." But for the meanings of "roman" and "non-roman" exemplified in the third row of *figure 2*, it may be most convenient if we devise new, and therefore unambiguous, terms for the basic shapes of such characters. To make our new terms look familiar, we could call them "Roman-shaped" and "Italic-shaped," capitalizing the terms in order to indicate that they are technical terms with agreed-upon meanings and are not simply descriptive phrases. *Figure 5*, which consists of the word "Futura" printed in a non-sloped version of the Futura typeface, shows how these terms can clarify a typographic description that otherwise could be confusing. We will not have to say that the last character in that word is both "italic" and "non-italic"; we can say that it is "upright" and that it is also "Italic-shaped."

Futura

Figure 5. Example of Futura typeface, illustrating an ambiguity of the term "italic."

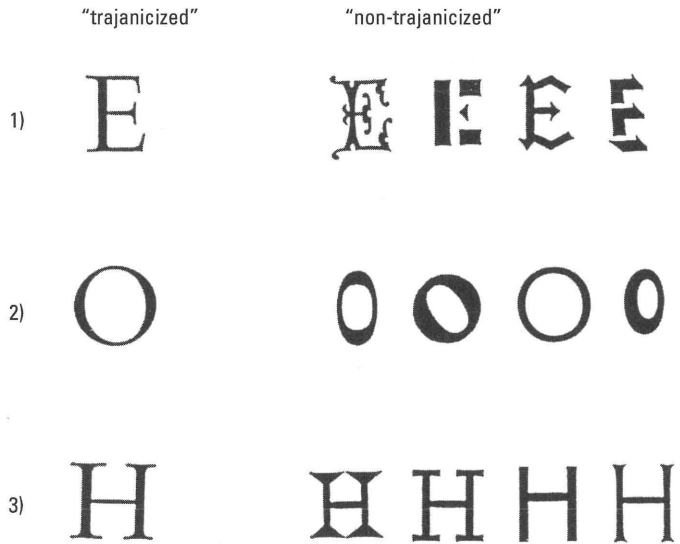


Figure 6. Roman/Latin characters that are not trajanized.

"Trajanicized" characters

In order to define the meaning of "roman" exemplified by the roman character in the fourth row of *figure 2*, we must identify the detailed features of shape which distinguish characters like it. These characters have three such features:

- 1) They are composed of straight lines and smooth curves⁴ that enclose each character's background as economically as possible.
- 2) They have some lines which are thicker than others, and the closer a line's direction is to an axis which lies somewhere between the upper-left-to-lower-right diagonal and the vertical, the thicker the line is (subject to some conditions that apply when a line which is neither vertical nor horizontal meets another line).⁵
- 3) They have serifs at the ends of their lines and, with some exceptions, at the corners where two of their lines meet.⁶

Examples of characters which are Roman/Latin but which lack one or another of these features of shape are shown in *figure 6*.

I would suggest that characters which have these three features of shape can be called "trajanicized" characters. The intended meaning of this term should be evident, because people who work with written language are generally familiar with the inscription on Trajan's column in Rome, shown in *figure 7*. It happens, however, that not all the characters of the present-day Roman/Latin script are modeled completely on the characters in this inscription; this script is actually a combination of two sets of characters which have different, although related, origins. One of these sets is the "capitals," which was widely used for important public inscriptions throughout the Roman Empire during second century A.D.; it is these capitals that appear in the Trajan inscription.⁷ The other set of characters reached its final development during the eighth century A.D. at the court of Charlemagne under the direction of Alcuin of York; it is therefore called the "Carolingian minuscule." Because so many of the styles of writing used in his time for Latin

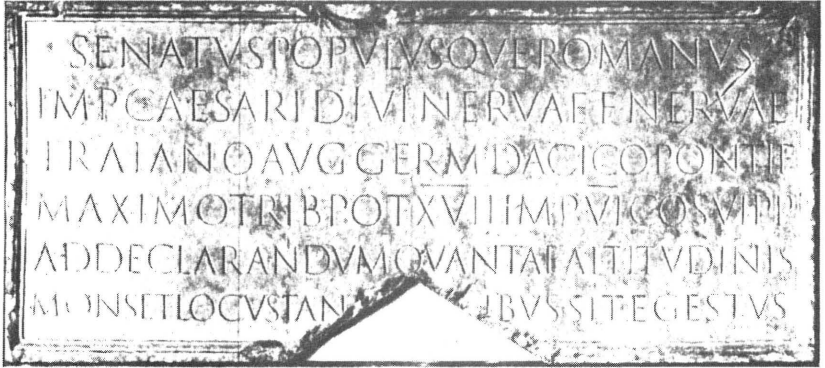


Figure 7. The inscription on Trajan's column.

were nearly illegible, Charlemagne encouraged the recopying, in the clear Carolingian minuscule, of the surviving works of classical literature (Nesbitt, 1957: 65).

Moreover, there was a medieval custom, derived from a similar Roman practice, that in formal writing the initial lines of texts and the initial characters of words should be written in a larger and grander style than the following parts of the texts or words. When the early Italian humanists in the 14th century A.D. looked back toward antiquity to find out how Latin had been (and so, they thought, how it should be) written, they also unconsciously looked for two styles of characters, one larger and one smaller, which would fit their idea of how formal writing should be done. What they found were the second-century Roman capitals, still visible on many inscribed monuments and in the initial lines of some manuscripts, and the eighth-century Carolingian minuscules, still visible in many

surviving manuscripts, including those of classical literature which had been recopied in it. They took these to be the two styles they were looking for, and they combined them to create their own humanistic writing. It is this combination of Roman capitals and Carolingian minuscules which has become our present-day Roman/Latin script.

“The classic capitals were combined with [the Carolingian minuscule] to form a dual alphabet.... The scribes noticed that the capitals and small letters did not fit together very well; so they performed a styling job of adding serifs and finishing strokes to the latter, in order to suit them to the capitals. By the time the craft of printing was introduced into Italy, the Humanistic writing afforded a fully developed basis for the type style we call roman.... When ... the [minuscule] letters were worked over by the type designers much more styling was done to suit them to the capitals.” (Nesbitt, 1957: 66)

“The marriage of inscriptional capitals and pen-made small letters... is not a perfectly happy one.... At first there was doubt as to which should be the dominant partner and impose its idiom on the other. However, Jenson to a large extent and Aldus completely laid down a pattern of consortium preserving the purity of the antique capitals and making the lower-case conform with them as best it could.” (Carter, 1969:46-47)

The upper-case capitals of the Roman/Latin script are presumably the only parts of that script which can accurately be called “trajanic”; but because they are characterized by their features of shape, and because the Roman/Latin lower-case characters have been adapted so that they will also show the same features of shape, it seems appropriate to describe all the characters of the Roman/Latin script as “trajanicized.” There are other scripts which have had their characters adapted to the style used in the Trajan inscriptions, and they can also be called “trajanicized.”

The Roman inscriptional characters such as those on Trajan's column owe some of the details of their features of shape to the tools with which they were produced: they were first drawn onto the stone with a wide, flat brush (Catich, 1968), and they were then carved into the stone with a chisel. The brush with which they were drawn was typically held with its edge slightly turned in a counterclockwise direction from the horizontal and the marks which it drew were therefore typically widest when the brush was drawn in a diagonal direction from upper left toward lower right. Catich (1968) has also shown how the use of this wide, flat brush resulted in the characters having serifs. Then, after the characters were drawn, they were carved with a chisel and the act of cutting them into the stone with that tool had its own effect on the shapes that resulted.

Among the world's writing systems, there are other examples of characters' shapes which have been defined by the tools used for producing them, but we have no general term for describing a group of written characters that have had their shapes affected in such a way, and I would suggest that we can use for this purpose the Greek word for a tool, which is "ergaleion." The trajanicized style of characters can therefore be called an ergaleion.⁸

Trajanicized characters institutionalized in other writing systems

Although trajanicized characters were first devised for writing the Latin language and have evolved largely within the Roman/Latin script, they have been systematically incorporated into the Cyrillic, Hellenic, Armenian and Sequoyah scripts, though sometimes with different functions.

АБВГДЕЖ
 ЗИКЛМНО
 ПРСТУФХ
 ЦЧШЩЪЬ
 ЫЭЮЯ

*АБВГДЕЖ
 ЗИКЛМНО
 ПРСТУФХ
 ЦЧШЩЪЬ
 ЫЭЮЯ*

абвгдежзик
 лмнопрстуф
 хцчщъьэюя

*абвгдежзик
 лмнопрстуф
 хцчщъьэюя*

Figure 8. A modern-day Cyrillic typeface with its four kinds of characters.

When Tsar Peter the Great was trying to westernize Russia and its culture, he saw that trajanized type was used by printers for most western European languages, and he ordered that the printed Russian language should be given the same kind of appearance (see Kaldor 1969-70). During the following centuries the shapes of Cyrillic letters were therefore trajanized, and Russian printers developed the present-day Cyrillic script which imitates the present-day Roman/Latin script in having upper-case upright, lower-case upright, upper-case sloped and lower-case sloped characters for all of its letters. *Figure 8* shows examples of these four kinds of characters from a typical present-day Cyrillic typeface.⁹

The present-day Hellenic script¹⁰ has both upper-case and lower-case characters. Almost all of its typefaces which are not sans serif combine a trajanized upper-case with a non-trajanized lower-case. *Figure 9* shows the characters of one such typeface commonly used in English-speaking countries for printing scholarly books, and it also shows some lines from a book that was printed in Greece about

forty years ago using another such typeface. There are a few Hellenic typefaces which have both upper-case and lower-case trajanicized characters; *figure 9* also shows the characters of such a typeface designed by Eric Gill (1936: 39).

The Hellenic, Cyrillic and Roman/Latin scripts are, of course, historically related. The Cyrillic script was based on ninth-century versions of the Hellenic script, and the Hellenic and Roman/Latin scripts were derived, respectively, from eastern and western versions of the writing system which the Greeks borrowed from the Phoenicians. These three scripts therefore share the shapes of many of their characters, and when their upper-case characters are trajanicized, they often become indistinguishable from one another. Several titling fonts of upper-case Hellenic type have been created from titling fonts of upper-case Roman/Latin type by cutting only the Hellenic characters which do not have identical counterparts in the Roman/Latin type; *figure 9* shows two such titling fonts by Hermann Zapf.¹¹

The Armenian script, like the Roman/Latin script, has one set of characters that are used for the ordinary parts of texts and another that are used for the parts of texts which are emphasized or are otherwise specially marked. The characters of one of these sets are trajanicized; but for the Armenian script, unlike the Roman/Latin script, the trajanicized characters are used for the specially marked words in a text. The characters used for the ordinary words in an Armenian text are not trajanicized: they are typically sloped, with thick and thin strokes and without serifs. *Figure 10* shows two extracts from a book printed in the Armenian script; the specially marked words are those in trajanicized characters in the first line of the first extract and in the first, fourth and last lines of the second extract. (In the first

ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ
 αβγδεζηθικλμνξοπρστυφχψω

a) Example of a typical face with
 trajanized upper case and non-
 trajanized lower case.

γάλο πληθος. Πελάτης δέν μπαίνει στο μαγαζί. Ἡ μαρίδα—
 τὰ παιδάκια—ξετρελαίνονται για τὸ γαϊδουράκι ! Οἱ γυναῖκες
 πετοὺν λουλούδια, καὶ κάποιες καὶ λεφτά, στοὺς ἀπεργοὺς ποὺ
 πήγαιναν πίσω ἀπ' τὸ πουλάρι μὲ νταμπέλες στοὺς στῆθος, ΘΕ-
 ΛΟΥΜΕ ΟΧΤΑΩΡΟ, καὶ τοὺς χειροκροτᾷ τὸ πληθος καὶ
 βλέπει ἀγριεμένο πρὸς τὸ μαγαζί. Κι ἕνας ἀπὸ κάποιο δόγμα,

b) Typical example of printing done in
 Greece.

ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ
 αβγδεζηθικλμνξοπρστυφχψω

c) Gill's typeface with upper case and lower
 case both trajanized.

A B C D E F G H I
 J K L M N O P Q R
 S T U V W X Y Z

Α Β Γ Δ Ε Ζ Η Θ Ι
 Κ Λ Μ Ν Ξ Ο Π Ρ
 Σ Τ Υ Φ Χ Ψ Ω

d) Zapf's Roman/Latin "Michelangelo" and
 Hellenic "Phidias" titling fonts.

Figure 9. Examples of type for
 printing the Hellenic script.

րեւմուտք տարածուեցաւ, շեշտուեցաւ Միհրի պաշտամունքը, իբրեւ լոյսի, ճշմարտութեան, եւ արեւի աստուածութիւնը: Հռովմէական բանականերու մէջ եւ այլուր Միհրի պաշտամունքը իր խենեշ եւ յաճախ խորհրդաւոր

Այլ խօսքով պատմական դէպքի մը իմաստը դտած կ'ըլլանք եթէ կարենանք ցոյց տալ թէ ի՞նչպէս այդ մասնաւոր դէպքին հետեւը պահուած հոգեկան զսպանակները զսպանակներն են տրուած համայնքին ամբողջ պատմութեան: Քանզի այն մղիչ ուժերը, որոնք կերտած են մեր անցեալը, սահմանուած են կերտելու նաեւ մեր ապագան: Այսպէսով անոնք կ'ըլլան ժամանակի թելին վրայ իրարմէ հետու տեղաւորուած դէպքերու «կեդրոնը»: Անոնց միութեան մէջ մեր պատմութիւնը կը վերածուի իրարմէ բըղխող երեւոյթներու կաղմակերպեալ յաջորդականութեան մը եւ կ'ըլլայ հասկնալի:

Figure 10. Examples of type for printing the Armenian script.

extract, the trajanized word in the first line and the non-trajanized first word in the last line are the same word.)

The Sequoyah script, which is used for writing the Cherokee language, was devised in North America during the fourth decade of the nineteenth century. Its development is an example of stimulus diffusion – the spread from one culture to another of the idea that a certain thing can be done, followed by the devising within the second culture of a way of doing that thing, without borrowing the first culture's way of doing it. Sequoyah, a native speaker of the Cherokee language, devised a system of characters for writing his own language¹² after observing that

5 ปี แห่งความภาคภูมิใจ
รอยัลปรินเซส กรุงเทพฯ

Trajanicized characters in the banner at the top of an advertisement for a new, expensive hotel in Bangkok; the first line means '5 years of pride'; in the second line, the first word is the name of the hotel and the second word is the name of the city.

รอยัลปรินเซส

The name of the hotel printed in usual, non-trajanicized Thai characters, taken from the same advertisement.

ทรายี่ห้อ เดียวเท่านั้น
ที่มีสมองทล หรือ CPU หลายตัวใน 2 ตู้

Trajanicized characters in the banner at the top of an advertisement for a computer-ized private switchboard for telephones.

ที่มีสมองทล หรือ CPU หลายตัวใน 1 ตู้

A line from the same advertisement, containing four of the same Thai words printed in usual, non-trajanicized Thai characters.

Figure 12. Examples of type for printing the Thai script.

One comes from an 1828 issue of the *Cherokee Phoenix*, the official newspaper of the Cherokee Nation, and shows the newspaper's name in both Cherokee and English; the other comes from a broadside prepared by missionaries to show the script.

Trajanicized characters used for their cultural implications

Just as Tsar Peter the Great trajanicized Russian printing as a part of his effort to give all of Russia a western appearance, a number of other languages have developed trajanicized versions of their own writing systems which can suggest that they, or the things associated with them, are westernized and are therefore modernized. The Thai and Hebrew languages provide two very different examples of how this can be done.

The Thai language, as it is printed in advertisements in Thailand, often contains characters that are trajanicized, apparently to show that the things being advertised are modern and technologically advanced. *Figure 12* shows several examples of such printing, with comments on the words that are trajanicized and on the things that are advertised.

When the Hebrew language was revived as a language for everyday use at the end of the nineteenth century, the resulting Modern Hebrew language retained the grammar of Biblical Hebrew, but its vocabulary was expanded so that it could function as the language of a modern, technologically advanced nation. Modern Hebrew also retained the typographical conventions of Biblical Hebrew, except for the addition of some monoline typefaces; it has only one (or two) basic shapes for each letter,¹³ and for its typefaces which are not monoline, the axes of greatest width are horizontal.



Trajanicized book face:

a) upright upper case

b) upright lower case

c) sloped upper case

d) sloped lower case*

Trajanicized upright fat face:

e) upper case

f) lower case

Upright monoline face:

g) upper case

h) lower case

*as is the case for many Roman/Latin typefaces, the sloped lower-case characters are less trajanized than the others.

Figure 13. Six letters in their upper and lower-case versions from four of Schonfield's Hebrew typefaces.

However, there was once a proposal (Schonfield 1932) that the Modern Hebrew language should be provided with a typography which would be trajanicized and which would have upper-case and lower-case letters, both upright and sloped, so that it would look and could function like the typographies used for Western European languages. The author of this proposal stated his belief that, without such a change, the Hebrew writing system would serve as a brake on the development of the Modern Hebrew language and the literature and society which used it.¹⁴ (His purpose in trying to give printed Hebrew a westernized appearance was therefore the same as Peter the Great's purpose in revising the typography of Russian.) Schonfield designed upper-case and lower-case basic shapes for each Hebrew letter, he chose several body and display typefaces of the Roman/Latin script as his models, and for each of those typefaces he designed characters having his basic shapes. All of the typefaces which he designed (except for those that were monoline) were trajanicized. The first six letters for four of his typefaces are shown in *figure 13* in both their upper-case and lower-case versions. Although Schonfield's proposal failed to be popularly accepted, it provides an example of how the entire writing system of a language can be systematically trajanicized.

Summary

The term "roman," when it is used for describing characters of written languages, is confusing because it is overloaded with four different meanings. In order to discuss the characters of written languages unambiguously, it will be helpful for us to have synonyms for each of these meanings which we can use when we need to make our meaning clear.

When referring to the set of characters to which it belongs (viz. the alphabet that was originally used for the Latin language and has now evolved into an enlarged system that is also used for writing other languages), a "roman" character can be called "Roman/Latin."

When referring to the angle at which it is written, a "roman" character can be called "upright."

When referring to its basic shape, a "roman" character can be called "Roman-shaped."

When referring to the detailed features of its shape which show that it is modeled after the characters in certain Roman monumental inscriptions, a "roman" character can be called "trajanized."

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References

- Carter, Harry. 1969. *A View of Early Typography*. Oxford: Clarendon Press.
- Catich, Edward M. 1968. *The Origin of the Serif: Brush Writing & Roman Letters*. Davenport, Iowa: The Catfish Press.
- Gill, Eric. 1936. *An Essay on Typography*. 2nd edition. London: Sheed & Ward. (Reprinted 1988 by David R. Godine, Boston.)
- Gray, Nicolette. 1960. *Lettering on Buildings*. New York: Reinhold.
- Kaldor, Ivan L. 1969-1970. "The genesis of the Russian *grazdanskii* schrift or civil type." *Journal of Typographic Research* 3:4,315-344; 4:2,111-138.
- Lawson, Alexander. 1971. *Printing Types: An Introduction*. Boston: Beacon Press.
- Morison, Stanley. 1926. "Towards an ideal italic." *The Fleurion* 5, 93-129.
- Schonfield, Hugh J. 1932. *The New Hebrew Typography*. London: Denis Archer.
- Zapf, Hermann. 1970. *About Alphabets*. Cambridge, Massachusetts: The MIT Press.

Endnotes

- ¹ There are some phrases, such as the commonly used one "sloped roman," which include contrastive contexts which make clear the intended meaning of "roman."
- ² In order to save confusion in this paper, I have always referred to these characters as the "Roman/Latin" script, without using any of the possible alternative terms such as "Latin/Roman," "Roman=Latin," "Latin-or-Roman" or "Roman i.e., Latin."
- ³ There is a curious paper by Stanley Morison (1926) titled "Towards an ideal italic" in which he moves from one meaning of this word to the other. He begins by saying that "the quality of slope is no true test of an 'italic'" (95) and ends by saying that "the perfect italic is...a slanted roman" (121).
- ⁴ These characters are drawn so that they appear to be composed of straight lines and smooth curves, even though the lines of which they consist are sometimes not quite straight and the curves are sometimes not quite smooth.
- ⁵ The first printer's type for such characters was made with its widest strokes parallel to an axis rotated counterclockwise from the vertical. This axis of greatest width was subsequently rotated clockwise until it reached the vertical. Because this change of axis occurred gradually, and because typefaces with the original axis of greatest width, the vertical one, and many intermediate ones are now in regular use, characters with all such axes of greatest width can be regarded as characters of this kind.
- ⁶ The first printer's type for such characters was made with tapered, filleted serifs, but in later years, serifs were changed in shape and became narrow, straight lines. Because this change occurred gradually, and because typefaces with tapered, filleted serifs, with narrow, straight serifs and with serifs of many intermediate shapes are now in regular use, characters with all such kinds of serifs can be regarded as characters of this kind.
- ⁷ It should be noted, however, that the capitals were only one of several more-or-less-formal, more-or-less-similar, chisel-carved, pen-written and stylus-scratched styles of writing that were used by the Romans for writing the Latin language (Gray, 1960, 15).

⁸ For the sake of our discussions of printed characters, it may be convenient to define several other ergaleions. Characters of any script written with lines of essentially uniform width would be examples of the “monoline” ergaleion. Characters written as though they were produced with a Chinese writing brush would be examples of the “maobi” ergaleion, from *maobi*, the Chinese name for that brush. Cuneiform characters would belong to another ergaleion. The term “ergaleion” does not have the same meaning as the term “ductus” which has also been used for describing written characters. The characteristic features of a ductus result from how a tool is used, and the same tool may produce more than one ductus; the features of an ergaleion result from the choice of tool itself.

⁹ The present-day Cyrillic script imitates the present-day Roman/Latin script in that its lowercase sloped characters are less trajanized than its others and its uppercase sloped characters are sloped versions of its uppercase upright characters.

¹⁰ The term “Hellenic script,” like the term “Greek language,” refers to several different entities that have existed during different eras. Further study is needed in order to decide which of its stages should be described as different scripts.

¹¹ “As I had already in 1952 designed the supplementary Greek characters to my [Roman/Latin] Michelangelo type, they appeared in 1953 as Phidias.” (Zapf, 1970,48)

¹² Although some Roman/Latin characters may seem to occur in the Sequoyah script, their correspondences to the sounds of Cherokee are completely unlike the correspondences of these characters to the sounds of any European language. Sequoyah apparently used them simply as available shapes.

¹³ In Modern Hebrew, as in Biblical Hebrew, there are five letters, each of which has two basic shapes, one being used at the ends of words and the other being used elsewhere. The orthography proposed in Schonfield 1932 did not have separate basic shapes for use at the end of words.

¹⁴ Schonfield’s book includes a highly approving introduction by Stanley Morison.