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PASIGRAPHY—A SUGGESTION.

SEVERAL attempts have been made to create a world-language, a Volapük, a pasiglossy, but all of them have sooner or later proved abortive. Without saying that the scheme is impossible, we recognise that it is confronted with serious difficulties, among which the sundry national and even dialectic idiosyncrasies of pronunciation seem so light and are so grave.¹ Volapük, relatively the greatest success among the world-languages was so differently pronounced in England, France, and Germany that its adherents when visiting their sympathisers abroad had considerable trouble to understand each other.² Critics contend with a great semblance of plausibility that even if a pasiglossy could be generally agreed upon, it would only add one more language to the Babylonian confusion of tongues. This much is sure, that so far, all world-languages have been purely artificial conceits; they were spoken by their inventors and a few of their friends only, and the several failures of this great ideal might almost be taken for an indication that the scheme is either unfeasible or premature.

The case is different with pasigraphy, that is, a writing that could be read by people of different nationalities. Pasigraphy, that is, an "all-script," would consist of symbols denoting the *meaning* of language, not its sounds, nor even its words: and such an attempt, so far as the writer knows, has not as yet been made for any practical purpose, for the pasigraphy of logicians (such as

¹ The very word "Volapük" is unpronounceable to the average Englishman who will say either "Volapyook" or "Volapeek."

² This statement has been challenged by M. Leau, with whom I had some correspondence on the subject.

proposed by Ernst Schröder of Karlsruhe¹) consists of logical symbols invented to describe logical relations, and had better be called in Schröder's own nomenclature the "algebra of logic." It serves theoretical purposes only.

The idea of a pasigraphy was suggested to the writer by his study of Chinese. The Chinese script is, among all written languages, the only one that in its way may be called a pasigraphy. The Chinese script may be read by every one in his own language: the Japanese read it in Japanese and the several provinces of the Chinese Empire are inhabited by nationalities which are more varied than the nationalities of Europe; and yet all of them use the same script, and every educated person of the Chinese Empire reads the Chinese script in his own way. This is possible because the Chinese symbols are ideograms; they represent ideas, the meaning of words and not the sounds of speech.²

It may seem that the Chinese script being actually in existence might be introduced as a pasigraphy for the whole world, but there are some serious objections. The Chinese script, though in its elements ideogrammatic, is after all conditioned by the Chinese spoken language, for it reproduces its many idiomatic and grammatical expressions and cannot be understood without a close study of the significance of compound words, phrases, clauses, etc., which contain innumerable allusions to Chinese modes of thought that have become established by tradition. Moreover, the Chinese script is extremely difficult to write, and a good calligraphy is a rare accomplishment in the Celestial Empire. A practical pasigraphy ought to be simple in every respect; its symbols ought to be easily written, easily remembered, and easily understood.

We may mention that all kinds of writing were originally pasigraphic. The invention of the alphabet is a comparatively late

¹ See Ernst Schröder's article "On Pasigraphy" in *The Monist*, Vol. IX., No. 1. Compare Charles S. Peirce's ingenious article "The Logic of Relatives," *ibid.*, Vol. VII, No. 2, pp. 161-217.

² The sound sometimes determines the shape of a Chinese character, but even then it remains an ideogram. The transcription of Sanscrit and other foreign words into Chinese is a peculiar case and an exception, which need not detain us here.

step on the line of human progress. The North American Indians at the time of the arrival of the white man were still in the habit of employing an ideographic script; and the hieroglyphic inscriptions of Egypt still show traces of it. There we find words spelled out according to their sounds, but at the same time accompanied with ideograms,—a practice which offered considerable help in the decipherment of these venerable monuments. It seems to be but natural that mankind should return to a pasigraphy, the utility of which is obvious, and it would only abolish itself when in the course of historical progress all the languages are swallowed up in one common human speech,—a result which may very well be accomplished in the long run through the establishment of a common and universal civilisation, according to the law of the survival of the fittest.

An ideal pasigraphy would be a symbolical writing of meanings, which with little or scarcely any trouble or study should be readily understood by people of any speech. The fewest possible rules should cover the greatest possible ground, and the symbols should be so obvious in their meaning as to be easily remembered, or even easily guessed.

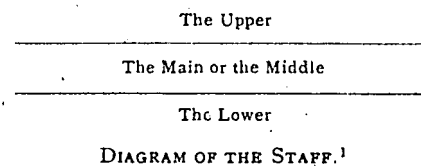
The grandest beginning that has so far been made in the direction of a truly perfect pasigraphy is the Arabic numeral system which in the simplest possible way by mere position of ten cyphers denotes sums of any description, fractions and proportions with unsurpassable precision. It is fully equaled by the symbols of musical notes and to some extent also by the method of chemical denotation, which, however, is confronted with the difficulty of requiring familiarity with the facts upon which the science is based.

It is the purpose of the present article to offer a suggestion how a pasigraphy which would meet all reasonable demands could be established; and we have devoted special care to the grammatical relations, including prepositions as well as other particles of speech, and the logical interrelation of the ideas that constitute sentences. They being established, the meaning of a sentence could easily be determined even if the principal words,—the subject of the sentence, the predicate, or the object, perhaps all three,—were

to be expressed in the writing of the writer's own language. The difficulty of understanding a foreign tongue rises less from a lack of our knowledge of the vocabulary than our inability of determining the grammar. If the construction of a sentence is unequivocal we can easily and quickly make up for our lack of knowledge with the use of a dictionary. Moreover, in a correspondence between the inhabitants of different countries, which deals with definite commercial transactions, the subject nouns of a communication are nearly always determined by well-known conditions, they being either the goods to be bartered, or their quality, or their value.

We will now submit a brief synopsis of the methods and symbols proposed for pasigraphy.

The writing of the symbols is arranged on a staff in the same order as our script from the left to the right. The staff is divided into three horizontal partitions, the Middle or Main, the Upper, and the Lower. The Main is utilised for root signs, while the Upper shall contain symbols for further specification. The Lower remains reserved for the writer's own language and is supererogatory, but may sometimes serve as a help and will let the recipient of a letter know the writer's meaning as he would express it in his own vernacular.



RADICALS.²

The ultimate elements from which symbols are constructed are called "Radicals," and it goes without saying that they ought

¹ Beginners might use paper in which the three lines of the staff are marked, but they should be very lightly printed, or merely dotted, or printed in a light color. They are as redundant as the lines in the caligraphical copy books of children.

² The symbols have been devised, first of all, to make them handy for writing by hand, and the first draft of them was made by the author with this special purpose in view. As they here appear in the text they have been adapted to the printed

to be simple and easy to remember. It will be advisable to utilise mathematical and other signs to which a great part of mankind has become accustomed, and having accepted a radical we must utilise it to the utmost and modify its sense by slight changes or such simple additions as are quickly understood.

We propose a few radicals as working material for our examples:

ARTICLES AND SOME OTHER GENERAL CONCEPTS.

One item, symbol of noun.	- The symbol of a verb.
↑ Male gender, definite masculine article. ¹	= Equality.
γ Female gender, definite feminine article. ²	Parallelity, agreement.
Definite neuter article.	∞ Similarity.
† Person, personality. ³	: Relation.
§ Plural, plurality. ⁴	+ Addition.
∪ Any. ⁵	∞ Infinitude.
∩ Some (i. e., a definite determination). ⁶	? Query, to ask a question.
ω Possible, (i. e., one in any).	= Equality.
∩ Choice, (i. e., one in some).	< Sign of the past.
∩ Probable, (i. e., some in any).	∇ Sign of the present.
∩ All, universality. ⁷	> Sign of the future.
	∩ Any of two, either.
	∩ One of two chances, or.

style and according to a standard measure. The drawing has been executed with great accuracy by the skillful hand of Mr. Teitaro Suzuki.

¹ The lance (in ancient Babylonia the emblem of Marduk, in Greece and Rome of Mars) is commonly used as a symbol of masculinity.

² The feminine symbol is chosen to be clearly different from the male symbol. While the latter is angular downwards, the former is rounded upwards.

³ In jurisprudence, the essential part of the person is the head. Thus "one" with a head means personality.

⁴ The fact that s is the plural ending in almost all Indo-Germanic languages, is a sufficient justification to adopt for the same purpose a symbol resembling the letter s.

⁵ Resembles a bowl from which any may be selected.

⁶ The symbol "any" turned upside down resembles a chicken-coop which covers a definite number, viz., "some."

⁷ The symbols "one" and "some" and "any" combined.

⊕ Yes or yea. ¹	人 Little.
⊖ No, not or nay. ¹	大 Great. ⁴
⊗ Symbol of time. ²	多 More.
⊗ Symbol of space. ³	少 Less.
VI The present one, this one.	多 Most.
> That one.	廿 A couple, a pair.
VI This person.	卅 A few.
> That person.	卍 Many.
VX Present time, now.	? Who? interrogative.
VX Present space, here.	? What.
^ Much.	谁 Who, relative pronoun. ⁵

PERSONAL PRONOUNS.

↓ I, the person present. ⁶	+ It, the third person, neuter.
+ Thou, the person addressed. ⁷	我们 We.
+ The third or absent person.	+ You.
+ He, the third person, masculine.	+ They.
	+ They, masculine.
+ She, the third person, feminine.	+ They, feminine.
	+ They, neuter.

FURTHER SYMBOLS.

⋈ Event. ⁸	□ Open.
⋈ Cause.	□ Door. ⁹
⋈ Effect.	□ Closed.

¹ Yea, representing parallel lines on an outlined subject, means agreement. Nay, in contrast to it, may be regarded as cancellation.

² The symbol represents an hour-glass.

³ The symbol represents the four quarters of space.

⁴ This symbol agrees pretty closely with the Chinese symbol 大 (ta) great.

⁵ The meaning of this combination will be explained further down. It consists of the symbol "person" on the oblique line over the verbal-symbol (—), indicating that a dependent sentence is to follow.

⁶ The symbol is intended as a combination of "the one" and an abbreviation of the symbol "present."

⁷ The second person "thou" means "the one in front," while the third person means "the one behind."

⁸ The symbol depicts by an involved line an involved process.

⁹ The opening that can be barred.

☐ Dearth, want. ¹	鱼 Fish.
⌋ Hinder, interfere.	鸟 Bird.
⊙ Money.	兽 Animal.
⊙ Price (money determined.)	日 Sun.
△ Protect.	光 Light.
▽ Expose.	☾ Moon.
⊥ Right. ²	★ Star. ¹¹
⊥ Wrong.	日 Day (sun above the horizon).
☺ Good. ³	夜 Night (sun below the horizon).
☹ Bad. ⁴	年 Year (circuit of the sun).
☺ Friendly. ⁵	月 Month (circuit of the moon).
☹ Hostile. ⁶	时 Hour (hour-glass as marked "run off").
⊗ Matter. ⁷	! Temperature. ¹²
⊗ Solid. ⁷	↓ Cold.
⊗ Gas, gaseous state. ⁷	↑ Heat.
⊗ Liquid, or fluid. ⁷	↑ High.
⊗ Ether. ⁷	± Low.
⊗ Locality. ⁷	± Close by, near.
⊗ Goods, merchandise. ⁸	
⊗ Town. ⁹	
⊗ Country. ¹⁰	

¹ An opening with the symbol of nothing in it.

² The symbol represents the right angle, the plumb line on the horizontal.

³ A vault like the sky or heaven.

⁴ The inversion of the symbol "good."

⁵ Open-mindedness.

⁶ Exhibiting a closed front, or a shield.

⁷ The symbol of matter is space filled. Matter tending down is solid. Matter tending up is the gaseous state. Between the two is matter as a fluid, and the initial state of matter before it was solidified, is ether. A locality is a place mapped out in space.

⁸ The symbol of merchandise represents a bale.

⁹ This is the Egyptian hieroglyph denoting "town." It represents an enclosed space of streets.

¹⁰ The divisions represent the districts of a country.

¹¹ The Egyptians represent the star with five rays.

¹² Temperature is represented by a thermometer. The thermometer, if marked low, means "cold," and if marked high, means "heat."

⊥ Distant, far.	→ For (purpose.)
└ This side.	↳ From.
┐ The other side, yonder.	⊙ Into.
└ Long.	⊙ Out of.
└ Short.	÷ Between.
└ Quick.	÷ Through.
└ Slow.	山 Mountain. ²
⊙ Eat.	⌒ House.
⊙ Drink.	⌒ Church.
└ Lips.	⌒ Temple.
└ Mouth.	♡ Heart.
└ Tongue.	⊙ Apple.
⊙ Speak. ¹	⌒ Use. ³
⊙ Teeth.	⌒ Abuse.
⊙ Eye.	⌒ Gain. ⁴
⊙ Weep.	⌒ Waste.
⊙ See.	⌒ Salary. ⁵
⊙ Watch.	⌒ Interest, rent. ⁶
⊙ Ear.	⌒ Bribe. ⁵
⊙ Hear.	⌒ Loss of money.
⊙ Listen.	⌒ Standard, norm. ⁷
⊙ Within, inside.	⌒ Join.
⊙ Without, outside.	⌒ Separate. ⁸
⌒ Above.	⌒ Book.
⌒ Below.	⌒ Write.
⌒ Before.	⌒ Read.
⌒ Behind, after.	⌒ Machine. ⁹

¹ The verbal sign underneath means "action of tongue."

² This is the Chinese symbol for mountain.

³ The line of transaction turned upward.

⁴ The symbol "gain" is turned "toward." The symbols "abuse" and "waste" are the opposites of "use" and "gain."

⁵ "Salary" is "gain" with money; "bribe" is "abuse" with money, etc.

⁶ Compound root, consisting of the symbols "merchandise" and "house."

⁷ Picture of a flag.

⁸ "Separate" is "space between two lines."

⁹ The symbol represents a wheel and a crank.

♫ Music.	⊗ Assumption, thinking upward.
⚡ Fire.	⊗ Planning, devising. ²
⋈ Water.	⊗ Bearing in mind. ²
⚡ Lightning.	⊗ Hope, anticipating good.
⚡ Electricity.	⊗ Fear, anticipating evil.
⊗ Wheel.	⊗ Expect, anticipate.
⊗ Wagon.	⊗ Recollect.
⊗ Ship.	⊗ Fiction.
⊗ Sail.	⊗ Generalise. ³
⊗ Sleigh.	⊗ Subject, subjectivity, feeling.
⊗ Battle.	⊗ Object, objectivity, ⁴ concrete bodily reality.
⌒ Ascend.	⊗ Wish, feeling going out.
⌒ Descend.	⊗ Resistance.
⌒ Advance.	⊗ Will, intention (feeling directed).
⌒ Return.	⊗ Opposition (purposive resistance).
⌒ Precede.	⊗ Exertion, labor.
⌒ Follow.	⊗ Success (resistance overcome).
⌒ Give, grant.	⊗ Satisfaction (the object wished, obtained).
⌒ Take.	⊗ Pain (feeling cut).
⌒ Sell. ¹	⊗ Energy, force, resistance of object overcome.
⌒ Buy. ¹	⊗ Experience, friz., compre-
⊗ Barter.	
⊗ Trade.	
⊗ Forethought, thinking forward.	
⊗ Memory, thinking backward.	
⊗ Conclusion, thinking downward.	

¹ "Sell" is "to give," "buy" is "to take"; the former has added "money received," the latter "money left."

² Here, as elsewhere, the discriminating marks are mere dots, to denote "anything."

³ The symbol denotes "thinking upward to universals."

⁴ The two symbols, "subject" and "object," represent the former, the boundary of the subject or the bosom of a sentient being, the other the boundary of the object or the surface of concrete things opposed to the subject.

hension, knowledge, the ob-	Y† Old age.
ject grasped by the sub-	Store. ¹
ject.	Beautiful.
≡ Skill.	Ugly.
☆ Orderly arrangement.	Pleasant.
† Life.	Unpleasant.
† Youth, ascending life.	

The root-symbol of a word is called a Root, and roots are placed in the Main.

The space in the Main at the beginning of a word is called the Initial, at the end, the Terminal. In order to separate the words clearly from each other, the Initial is left free and the Terminal is marked by a dot.

THE INDICATOR AND DETERMINANT.

The space above the Initial is used to indicate what part of speech a word belongs to and thus we call it the Indicator.

The Indicator of a noun may be the definite or any other article (the, a, any, some,) or, if none of them is needed, a vertical line (|).

The Indicator of a verb is any personal pronoun, or, if none of them be needed, a horizontal line (—).

The Indicator of an adjective, which for convenience sake we will call an "ad-noun," is a dot before a vertical line (·|).

The Indicator of an adverb is a dot with a horizontal line (·—).

The Indicator of an interjection is a vertical line over a dot (!).

With the help of indicators, we can easily make of the same root a verb or a noun, or an adjective, or an adverb, or an interjection, and thus the use of our symbols is greatly increased by a very simple method with the use of a few signs, all of which are easily remembered.

The place above the Terminal is reserved for the Determinant.

The Determinant of a word determines its nature and corresponds to what in classical languages (Latin and Greek) finds ex-

¹ A compound root, meaning "merchandise house."

pression in endings. In verbs it determines the tense and in nouns the character of a noun.

DETERMINANTS OF NOUNS AND ADJECTIVES.

□ Property (for adjectives it means "holding," or "filled with").	⌋ Psychological state, feeling, sentiment.
□ Essence or quality (for adjectives it means "like," corresponding to the endings -ly, -some, etc.).	⌋ Concrete things, objects.
⌋ Action, or activity.	⌋ Knowledge, science.
⌋ State, or condition.	⌋ Skill, faculty.
⌋ Habit, function.	⌋ Personality.
	⌋ Animal.
	⌋ Any abstract thought.
	⌋ Imaginary things, fiction.
	⌋ Locality.

EXAMPLES OF NOUNS.

† Life, viz., the act of living.

† Life as a biological function.

† Vivacity.

† Biology, the science of life.

EXAMPLES OF ADJECTIVES.

† Alive.

† Living, participle present.

† Lively, possessing the essence characteristic of life.

† Vivacious.

THE MODIFIER.

The number of roots can be multiplied by inserting above the root some symbol that should modify its sense, which is called the "Modifier." The sign "general" placed over a definite root generalises its sense. For instance, if it is placed above the symbol "apple," it will change the sense to "fruit." The symbol "figurative" or "similar" ~ indicates that the root over which it stands

should be interpreted in a figurative sense. Thus it will change the meaning of the symbol "heart" into ♡ "love."

Indicator	Modifier	Determinant
Root		

THE POSITION OF SYMBOLS IN THE STAFF.

THE VERB.

It is of special importance to recognise the verb, which serves as the predicate of sentences; hence verbs are indicated by lines which are placed either below or above the roots. A line below the root indicates the active, and a line above, the passive voice. The former, the active line runs along the boundary of the Main and Lower; the latter, the passive line, lies between the Main and the Upper, and both lines serve as the reflexive mood, corresponding to the Greek "medium."

The pronouns of a verb, whenever needed, are placed above the Initial, and the determinations of tense, which are expressed by any of the three symbols "Past," "Present," and "Future," above the Terminal.

Pronoun		Tense	
Passive line	Initial (Free space)	Root	Terminal (A dot)
Active line			

STAFF OF THE VERB.

EXAMPLES.

Imperative forms are determined by an exclamation sign which takes the place of the tense symbol.

∨
∨ I advance.

+
+ It is lifted up.

+s
+s They (these things) have been sold.

VERBAL ROOTS.

- | | |
|--|--|
| □ To have, to hold, to contain, to possess. | △ To act, to do, to be active. |
| □ To be contained in, to be subsumed under, to be. | ▽ To be passive, designating any state or condition. |
| └ To start, to try. | → To move, motion. |
| ┐ To be started, to begin. | ↗ To be moved, movement. |
| ┘ To complete, to finish. | ≡ To do again, to repeat. |
| └ To be completed, to attain full growth, to develop into. | ≡ To be in the habit of doing, function. |

Semitic scholars know, how by a clever modification of the root a series of new verbal forms are evolved in Hebrew, Arabic, and kindred languages, the Piel, Pual, Niphal, Hiphil, etc. The Aryan languages possess similar formations in a limited degree. Thus the verb "fall" acquires a causative meaning by a weakening of the *a* to *e*, in the verb *fell*, "to cause to fall." In the same way the causative of "to sit" is "to set," which means "to cause to sit." The verbal symbols quoted above enable us to imitate, or even surpass, the Semitic languages in their elegant formation of moods. They will in the simplest way perform the function of auxiliary verbs.

The following examples will explain:

AUXILIARY VERBS.

- | | |
|--|--------------------------|
| ≡ To have a choice, the auxiliary "may." | ≡ To have the wish. |
| ≡ To be determined, the auxiliary "must." Also analogous to "is to." | ≡ To have the intention. |
| ≡ To deem right. | ≡ To be sorry. |
| ≡ To be deemed right, ought. | ≡ To compel, to force. |
| ≡ To feel like, to like. | ≡ To exert one's self. |
| | ≡ To cause, to make. |
| | ≡ To be skilled in. |

A few special symbols are needed for the coördinate conjunctions such as "and," "also," "but," "however," etc. The sim-

plest ones need no Indicator. Their symbols are "&" for "and," and "+" for "in addition". Other simple coördinate conjunctions are "either... or," "on this side... on the other side," "on the one hand... on the other hand." If for any special reason more complicated word-forms should be used as coördinate conjunctions, they must be marked as such in the Upper by a cross as their indicator.

COMPOUNDS.

Two or several roots may be combined into compounds, as is customary in all languages. Thus the root part of the words "steam engine," "steamship," "gas meter," etc. would show a simple succession of the two radicals.

Other methods of compounding words would be by joining the two roots either with the symbol of the Saxon genitive, or by symbols that mean "made of" or "serving the purpose of" etc., e. g., "road-made of-iron," imitating the French "*chemin de fer*."

THE POSSESSIVE CASE.

The Chinese have a peculiar sign 之 pronounced *che*, which somewhat looks like a capital Z and may sometimes be translated by the Saxon genitive, for instance, 天之道, "Heaven's Reason," and 人之道, "man's reason." We propose to utilise this sign in a simplified form in the same sense, analogous to the Saxon genitive, and produce with its assistance all the possessive pronouns, thus:

My, mine; gen. of "me."	Ours.
Thy, thine.	Yours.
His.	Theirs, masculine.
Hers.	Theirs, feminine.
Its.	Theirs, neuter.

THE OBLIQUE.

The Oblique is a symbol consisting of a slanting line which will be found useful not only to denote what Latin grammarians call the "oblique cases" (*casus obliqui*) of a noun, but all oblique relations including dependent sentences which are introduced by conjunctions and relative pronouns.

The objective case, commonly called "accusative," is marked by a simple Oblique with a noun sign.

The other oblique cases, genitive and dative, are formed after the same pattern by adding either the genitive symbol or the dative symbol (the latter being the mathematical sign of relation used in proportions). On these principles we decline the nouns.

DECLENSION.

⌞^c || The ship (nominative.)

⌞^c || The ship (accusative.)

⌞^c || Of the ship.

⌞^c || To the ship.

⌞^c || By the ship (ablative case, i. e., through the instrumentality of a ship).

⌞^c || In a ship.

The Oblique which introduces a sentence shows underneath on its right side the indicator of a verb, while the Oblique which introduces a noun shows the indicator of a noun. The former represents conjunctions of dependent sentences, the latter prepositions. Relative pronouns introduce sentences, accordingly they exhibit above the Oblique the pronoun symbol, and underneath the verbal indicator.

Here are a few simple sentences which will explain the use of both obliques, prepositions, and conjunctions:

⌞^c ⌞^v ⊕ || I live in the town.

Here the symbol "within" ⊙ over the oblique is accompanied underneath by the symbol of the definite neuter article.

⌞^c ⌞^v ⊙ || I move in a ship.

Here the preposition "in" ⊙ is accompanied by the indefinite article "a" ∘.

⌞^c ⌞^v ⌞^v || While I live, I hope.

The verbal line under the oblique indicates that the symbol "time" demands a verb, and so it introduces a dependent sentence. Accordingly, the symbol means "time as a conjunction," to be translated "so long as," or "while."

During the day time I work.

Here the same symbol "time" is accompanied by the noun-symbol, which proves it to be a preposition and calls for its translation by "during" or "at the time of."

The relative pronoun may be declined in the normal way by prefixing the noun oblique (/) to the verbal oblique (/-); but here an abbreviation may recommend itself, which can easily be introduced by attaching to the left upper corner of the relative-symbol the requisite case symbols, viz., the simple slant (/) for the accusative; the genitive-symbol (Z) for the possessive, and the colon (:) for the dative.

The comparative is formed by attaching as a Determinant to an adjective the symbol "more," the superlative by prefixing the symbol "most."

EXAMPLES.

More painful.

Most energetically.

THE PARTICIPLE.

The participle has not been discussed as a form of the verb because it is an adjective. The participle is derived from a verb but has ceased to be a truly verbal form, it only partakes of the tense and the voice of verbs, and pasigraphy can represent every shade of meaning of any participle without resorting to the invention of new symbols. We must use the adnoun initial and treat it in every respect as an adjective, but add in the Terminal its tense and voice value

For present active participles thus V, e. g., loving, *amans*.

Past passive participles thus Z, e. g., loved, *amatus*.

Future active participles thus ≥, e. g., about to love, *amaturus*.

Future passive participles thus Σ, e. g., to be loved, *amandus*. Participles as adverbs simply change their adnoun indicator to the adverb indicator.

DATES.

The date is expressed by writing first the day in Arabic figures, then the month in Roman numerals, and finally the year again in Arabic figures.

INTERJECTIONS.

Interjections are marked by two exclamation signs, one serving as Indicator and the other as Determinant.

PUNCTUATION.

Since the point has been utilised too much for other purposes, the period cannot be a simple dot but must be replaced by another sign. We propose a double vertical line running from the top to the bottom of the entire staff. Questions will be indicated by the query mark between the two period strokes. In the same way, we introduce the colon and exclamation sign. A simple line will take the place of our comma, and if there be any need of inventing a substitute for the semicolon, we let the simple line be followed by another short vertical stroke.

LIST OF PUNCTUATION MARKS.

?	:				
Query Mark	Colon	Exclamation Sign	Comma	Semicolon	Period

CONCLUSION.

In these few pages we have disposed of the grammar of pasigraphy, symbolising the relations to be described in signs which are both simple to make and easy to remember.

The author does not intend to present in this article a perfect system of pasigraphy. He only offers a suggestion how the scheme might be accomplished. He has presented only enough symbols to explain the methods which he deems advisable to adopt and has purposely abstained from an attempt at making their number com-

plete. He believes that the selection of symbols ought to be the result of a coöperation of many minds, and therefore he would prefer to leave all details of a pasigraphy to a commission of men interested in the subject,—men, who in their own sphere of life stand in need of a pasigraphy and would, for practical reasons, welcome the invention. They will be best fitted for the purpose and more than others prove qualified to devise and choose the most appropriate signs.

EDITOR.

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