

THE MORSE TELEGRAPH ALPHABET.

CHAPTER XXXIV.

Composition of the American Morse Alphabet—The Alphabet, Numerals, and Punctuation—The Austro-Germanic Alphabet of 1854—European Morse Alphabet of 1859.

COMPOSITION OF THE AMERICAN MORSE ALPHABET.

THE alphabet of the American Morse telegraph is composed of dots, dashes, and spaces, arranged upon mathematical scale. A student of the profession should at the beginning of his studies arrange a scale of measurement of his writing or sound by the telegraph pen. The length of the mark or of the space upon the ribbon paper will be precisely the same as the length of the contact made with the key. If the student will first arrange a scale, determining the style of writing he desires, and place it before him as he manipulates with the key—observing the letter made upon ribbon paper of the register before him—he can in a short time perfect the measurement of his manipulation to the scale adopted.



Fig. 1 represents a coarse hand-writing, and fig. 2 a fine hand. Whether the dots, spaces, and dashes be long or short, they should be uniform; and unless they are thus methodically made, the writing cannot be perfect. In the use of the

foregoing scale, to make an *a*, one of the spaces is used for the dot, one for the space, and two for the dash. For the letter *b*, the first dash occupies two spaces, then follows one for the space, then one for a dot, the next for a space, the next for the dot, the next for a space, and the next for a dot, making $-\dots b$. For the letter *c*, the first space for the dot, the next for a space, the next for a dot, the two next for the space, and the next for the dot. The letter *r* is the reverse of the letter *c*. The letter *t* is composed of a dash occupying two spaces, as the dash of the letter *a*; the letter *l* is a double *t*, or a dash occupying four consecutive spaces; the figure 6 occupies alternate spaces, being six dots and five spaces; the figure 5 is composed of three *t* dashes, each separated by a space; the cipher 0 is composed of three *t* dashes, joined, or six divisions of the scale.

AMERICAN MORSE ALPHABET.

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

NUMERALS.

| | | | |
|---|--------|---|-------|
| 1 | ·--- | 6 | ····· |
| 2 | ····· | 7 | ---· |
| 3 | ····· | 8 | ····· |
| 4 | ····- | 9 | ····- |
| 5 | ------ | 0 | ----- |

PUNCTUATION.

| | | | | | |
|---------------|---|-------|-------------|---|-------|
| Period | . | ····· | Exclamation | ! | ····· |
| Comma | , | ·--- | Apostrophe | ' | ····· |
| Colon | : | ·--- | Paragraph | ¶ | ----- |
| Interrogation | ? | ---· | Italics | | ····· |

In learning to make the alphabet, the student should first make the dots, such as *i*, *s*, *h*, *p*, &c. The spaced letters *c*, *o*, *r*, *y*, and *z*, require much care to make them correctly. In making the *c*, as with the other spaced letters, it is important not to occupy more than two spaces between the last two dots. Between words the space should be equal to three lines, or one third greater than the space used in the spaced letters. If the space in the formation of the letter *c* be too long, it will be received as the separation between two words, and it will be taken as *i e*. In ordinary language the error would at once be detected by the receiving operator, but in the use of cipher terms it would not be. On the other hand, the space must not be too short, or the letter *s* will be received. There was a case of serious importance resulting from an error of this kind. A merchant telegraphed from New-Orleans to his correspondent in New-York, to protect a certain bill of exchange about maturing. In the word "protect," the *c* was received as an *s*, and the word was changed to "protest," and the consequence was very serious to the parties interested.

After the student has succeeded in making the dot and spaced letters, he should proceed in the next place to make single dashes, then the compound dashes, such as *l*, &c. After he is perfect in making the latter, then to unite the dots, spaces and dashes for the formation of letters; it will then be easy to write words and sentences.

The following are practical examples :

AMERICAN ALPHABET EXAMPLES.

I N H O C S I G N O V I N C E S

E N G L A N D E X P E C T S E V E R Y

M A N T O D O H I S D U T Y

H O N O R T H Y F A T H E R A N D

T H Y M O T H E R .

THE UNION NOW AND
 FOR EVER .

THE AUSTRO-GERMANIC MORSE ALPHABET.

The Austro-Germanic alphabet adopted for the Morse system of telegraphing is, with some amendments, in the service of nearly all the governments of Europe, and, in fact, wherever the German or Latin letter is used. It is the same language in all Germany, Denmark, Norway, Sweden, France, the Italian States, Sardinia, Spain, Malta, Corfu, North Africa, &c.

This alphabet differs from the combination of the dots and spaced letters of the American telegraphic alphabet. In the European there are no spaced letters, and there is less liability of error than in the American, though it requires more time to transmit by the former than by the latter.

The Austro-Germanic Alphabet of 1854, herewith presented, has been engraved much larger than the usual letter made in the ordinary telegraphic manipulation in Germany. I have copied the alphabet, as officially published by Prussia, Denmark, and the other German states, as used in 1854. Since then the alphabet has been amended, so as to accommodate special letters, common to other languages on the continent. I have added the new combination, as now used all over Europe under the name of the European Morse Alphabet.

AUSTRO-GERMANIC MORSE ALPHABET OF 1854.

| | | | |
|---|---------|---|---------|
| A | • — | J | • — — — |
| Ä | • — • — | K | — • — |
| B | — • • • | L | • — • • |
| C | — • — • | M | — — |
| D | — • • | N | — • |
| E | • | O | — — — |
| F | • • — • | Ö | — — — • |
| G | — — • • | P | • — — • |
| H | • • • • | Q | — — • — |
| I | • • | R | • — • |

| | | | |
|---|--------|----|-----------|
| S | ••• | W | • — — — |
| T | — | X | — •• — — |
| U | •• — | Y | — • — — — |
| Ü | •• — — | Z | — — •• |
| V | ••• — | Ch | — — — — |

NUMERALS.

| | | | |
|---|-----------|---|-----------|
| 1 | • — — — — | 6 | — •••• |
| 2 | •• — — — | 7 | — — ••• |
| 3 | ••• — — | 8 | — — — •• |
| 4 | •••• — | 9 | — — — — • |
| 5 | ••••• | 0 | — — — — — |

PUNCTUATION.

| | | |
|---------------|---|-------------|
| •••••• | ! | — — •• — — |
| • — — • — — • | = | — •••• — |
| • — — • — — — | , | • — — — — • |
| • — — — ••• | / | — — — — — |
| •• — — •• | ? | ••••• |

EUROPEAN MORSE ALPHABET OF 1859.

| | | | | | |
|----|-----------|---|-----------|----|-----------|
| A | · - - | J | · - - - - | T | - - |
| Ä | · - - - - | K | - · - - | U | · · - - |
| B | - · · · · | L | · - · · · | Û | · · · - - |
| C | - · - - - | M | - - - | V | · · · - - |
| D | - · · · | N | - · - | W | · - - - - |
| E | · - - - | O | - - - - - | X | · - · - - |
| E' | · · - - · | Ö | - - - · · | Y | - · - - - |
| F | · - · - · | P | · - · · · | Z | - · - · · |
| G | - · - · · | Q | - - · - - | Ch | - - - - - |
| H | · · · · · | R | · - · - | | |
| I | · · - - | S | · · · - | | |

NUMERALS.

| | | | |
|---|-----------|---|-----------|
| 1 | · - - - - | 6 | - · · · · |
| 2 | · · - - - | 7 | - - - · · |
| 3 | · · · - - | 8 | - - - · · |
| 4 | · · · - - | 9 | - - - - · |
| 5 | · · · · · | 0 | - - - - - |

PUNCTUATION.

| | | | | | |
|---------------|---|-----------|-----------------|---|-------------|
| Period | · | · · · · · | Hyphen | - | - · · · · - |
| Semicolon | ; | - · - - - | Apostrophe | ' | · - - - - |
| Comma | , | · - - - - | Dash | — | - - - - - |
| Colon | : | - - - - - | Parentheses () | | - - - - - |
| Interrogation | ? | · · - - · | Paragraph | ¶ | · - - - · |
| Quotation | " | · - · - · | Italics | — | · - - - - |
| Exclamation | ! | - - - - - | | | |

EUROPEAN ALPHABET EXAMPLES.

I N · H O C S I G N O

V I N C E S .

S U U M C U I Q U E .

“ J e d é s i r e q u e
 m e s c e n d r e s r e p o s e n t
 s u r l e s b o r d s d e l a
 S e i n e , a u m i l l i e u d e
 c e p e u p l e F r a n c a i s
 q u e j ' a i t a n t a i
 m é . ”

N a p o l e o n .

W a h r e W i s s e n s c h a f t
 d u r c h W i s s e n s c h a
 f f t .

S t e i n h e i l .

THE RUSSIAN MORSE ALPHABET.

The Russian language, composed of thirty-six letters, has been reduced to a telegraphic alphabet of thirty, as represented by the following engraving. The numerals and punctuation marks are the same as those used on the European Morse telegraph lines. The Morse system of telegraphing is used on all the imperial lines, and dispatches in English, German, and French languages can be transmitted over them.

The dots and dashes have been arranged to economize their use in the formation of letters. For example, the *A* $\cdot -$, which is the equivalent of the English broad *A*; the *B* $- \cdot$, equivalent to the English *v* and the German *w*, a letter much used; the *H* $- \cdot \cdot$, equivalent to the English *H*; the *C* $- \cdot \cdot$, equivalent to the English *s*. the *F* $\cdot \cdot -$, equivalent to the English *R*, &c.

| | | | |
|----------|-----------------------|----------|-----------------------|
| А | $\cdot -$ | Ф | $- - - \cdot$ |
| Б | $\cdot - \cdot -$ | Х | $\cdot - - - -$ |
| В | $- \cdot$ | Ц | $- - - -$ |
| Г | $- \cdot - \cdot$ | Ч | $- \cdot - -$ |
| Д | $- -$ | Ш | $- \cdot \cdot -$ |
| Е | $\cdot \cdot$ | Щ | $- - - - -$ |
| Ж | $- - \cdot \cdot$ | Ъ | $\cdot \cdot \cdot$ |
| З | $\cdot \cdot - -$ | Ы | $- \cdot - - -$ |
| И | $\cdot \cdot \cdot$ | Ю | $\cdot \cdot \cdot -$ |
| И | $- - \cdot -$ | Я | $\cdot - - - \cdot$ |
| К | $\cdot \cdot - \cdot$ | П | $\cdot - - \cdot$ |
| Л | $\cdot - \cdot \cdot$ | Р | $\cdot \cdot -$ |
| М | $- \cdot \cdot \cdot$ | С | $- \cdot \cdot$ |
| Н | $- \cdot \cdot$ | Т | $- - - \cdot$ |
| О | \cdot | У | $\cdot - - -$ |

MANIPULATING CODE.

Having become familiar with the alphabet, numerals, and arbitrary signals, the next step for the student is the transmission and reception of dispatches. There is no uniform rule governing these formalities; the circumstances pertaining to this part of the service are not the same with all lines. Experts, between themselves, seldom pay regard to the lesser forms. Day by day, accustomed to each other's manipulation, they have their own peculiar rules. On lines where there are employed operators of moderate ability, some forms are observed. In these matters, great changes have taken place on the American lines. In earlier days there were some hundreds of arbitrary signals, but they have become mostly obsolete.

The following are a part of the uniform signals used in America :

SIGNALS.

| | | | |
|-----|------------------|-----|---|
| II | I am ready. | SFP | Stop for paper. |
| OK | All correct. | 1 | Wait a moment. |
| GA | Go ahead. | 2 | Get answer immediately. |
| SSS | Finish Signal. | | |
| RR | Repeat. | 13 | Do you understand? |
| GM | Good morning. | 23 | A Message for all. |
| GN | Good night. | 31 | Don't understand. |
| Ahr | Another. | 33 | Answer paid here. |
| Col | Collect. | 44 | Answer immediately by telegraph. |
| Pd | Paid. | | |
| W | Words. | 77 | Are you ready to receive my message? |
| DH | Free. | | |
| SFD | Stop for dinner. | 92 | Was message 000 received and delivered? |
| SFT | Stop for tea. | | |

Besides the foregoing, different lines have arbitrary signals of their own. Those given above are generally understood throughout America.

On examination at the stations in New York, I find different formalities observed in the transmission and reception of dispatches. I present the following instructions, as the nearest to the practised code.

Suppose, for example, the line extends from Europe to America. Each station has an independent signal. Europe may have the letter E, though, as that letter is composed of but one dot, it would not make an acceptable signal, and therefore another letter would be better. For the illustrations herein, I

will use the letter E as the signal for Europe, and the letter A as the signal for America; M for Marly-la-ville, L for London, N for New York, and P for Philadelphia.

Europe wants America. The former adjusts its magnet carefully, and, finding the line free, calls America, thus, A A A A A E (· — · — · — · — ·) Having thus called Europe, it pauses for a response. If no answer, it repeats the call four or five times, pausing a reasonable time between calls for America to answer. This process should be repeated from time to time until the answer is received. The operator at the American station may be temporarily beyond the hearing of his call, and hence it is well to repeat it every few minutes.

When America hears the call, it promptly responds I I A (· · · —). Europe may give signals to America, meaning "I have a message for you," "Are you ready?" &c., and in response America may send the signals G A, meaning "Go ahead." These forms are sometimes used, but in general practice they are obsolete.

Having gotten the response from America, Europe proceeds as follows:

EXAMPLE I.

M to P May 10 1752 for Dr Franklin Philadelphia Ex-
perimenting upon your suggestions I have drawn the lightning
from the heavens Sig Dalibard 12 W pd
1200 SSS E

In the above example the tariff is put at one dollar per word. No punctuation is given, because the language expresses the points. Thus as preceding the sig. the receiving operator knows there is a full stop; the SSS is the finish signal. Sometimes the office signal is given at the end, and at other times the operator's initial is given.

The following example illustrates the sending of a message from Philadelphia to London, viz.:

EXAMPLE II.

P to L June 1 1752 for Mr Collinson London By the
aid of a kite I have demonstrated that lightning and electricity
are identical Sig Benjamin Franklin 15 W
pd 1500 Ahr A

Example 2 illustrates the affixing of the signals, indicating that another (Ahr) message is to follow. America, without receiving any response from Europe, proceeds at once to send another dispatch, and so on until there are no more. When

all are sent, the signals SSS are given, and in response Europe says I I O K E, which means that the whole are understood, and that all had been received correct.

The following example gives the last words of the late illustrious Emperor of Russia. The news was telegraphed from St. Petersburg to the Kremlin City.

EXAMPLE III.

S to M March 5 1855 for the People of Moscow The
 Emperor bids farewell to Moscow Sig Nicholas
 6 W D H SSS S

The foregoing examples represent the mode of transmitting messages where no punctuation is given. When a message contains two or more independent subjects, or broken into paragraphs, it is represented by the proper signals. Other points of punctuation are seldom used on the American lines. In Europe more attention is given to them.