A Few Words on Secret Writing

BY EDGAR A. POE.

As we can scarcely imagine a time when there did not exist a necessity, or at least a desire, of transmitting information from one individual to another, in such manner as to elude general comprehension; so we may well suppose the practice of writing in cipher to be of great antiquity. De La Guilletiere, therefore, who, in his "Lacedaemon Ancient and Modern," maintains that the Spartans were the inventors of Cryptography, is obviously in error. He speaks of the *scytala* as being the origin of the art; but he should only have cited it as one of its earliest instances, so far as our records extend. The *scytalae* were two wooden Cylinders, prccisclv similar in all respects. The general of an army, in going upon any expedition, received from the ephori one of these cylinders, while the other remained in their possession. If either party had occasion to communicate with the other, a narrow strip of parchment was so wrapped around the *scytala* that the edges of the skin fitted accurately each to each. The writing was then inscribed longitudinally, and the epistle unrolled and dispatched. If, by mischance, the messenger was intercepted, the letter proved unintelligible to his captors. If he reached his destination safely, however, the party addressed had only to involve the second Winder in the strip to decipher the inscription. The transmission to our own times of this obvious mode of cryptography is due, probably, to the *historical* uses of the *scytala,* rather than to anything else. Similar means of secret intercommunication must have existed almost contemporaneously with the invention of letters.

It may be as well to remark, in passing, that in none of the treatises on the subject of this paper which have fallen under our cognizance, have we observed any suggestion of a method — other than those which apply alike to all ciphers — for the solution of the cipher by *scytala.* We read of instances, indeed, in which the intercepted parchments were deciphered; but we are not informed that this was ever done except accidentally. Yet a solution might be obtained with absolute certainty in this manner. The strip of skin being intercepted, let there be prepared a cone of great length comparatively — say six feet long — and whose circumference at base shall at least equal the length of the strip. Let this latter be rolled upon the cone near the base, edge to edge, as above described; then, still keeping edge to edge, and maintaining the parchment close upon the cone, let it be gradually slipped towards the apex. In this process, some of those words, syllables, or letters, whose connection is intended, will be sure to come together at that point of the cone where its diameter equals that of the *scytala* upon which the cipher was written. And as, in passing up the cone to its apex, all possible diameters are passed over, there is no chance of a failure. The circumference of the *scytala* being thus ascertained, a similar one can be made, and the cipher applied to it.

Few persons can be made to believe that it is not quite an easy thing to invent a method of secret writing which shall baffle investigation. Yet it may be roundly asserted that human ingenuity cannot concoct a cipher which human ingenuity

cannot resolve. In the facility with which such writing is deciphered, however, there exist very remarkable differences in different intellects. Often, in the case of two individuals of acknowledged equality as regards ordinary mental efforts, it will be found that, while one cannot unriddle the commonest cipher, the other will scarcely be puzzled by the most abstruse. It may be observed, generally, that in such investigations the analytic ability is very forcibly called into action; and, for this reason, cryptographical solutions might with great propriety be introduced into academies, as the means of giving tone to the most important of the powers of mind.

Were two individuals, totally unpractised in cryptography, desirous of holding by letter a correspondence which should be unintelligible to all but themselves, it is most probable that they would at once think of a peculiar alphabet, to which each should have a key. At first it would, perhaps, be arranged that *a* should stand for z, b for y, c for x, *d* for w, &c. &c.; that is to say, the order of the letters would be reversed. Upon second thoughts, this arrangement appearing too obvious, a more complex mode would be adopted. The first thirteen letters might be written beneath the last thirteen, thus:

n o p q r s t u v w x y z
a b c d e f g h i j k l m; and, so placed, *a* might stand for n and n for *a, o* for b and b for a, &c. &c. This, again, having an air of regularity which might be fathomed, the key alphabet might be constructed absolutely at random.

Thus,	a	might stand for	p
	b	" " "	x
	c	" " "	u
	d	" " "	o, &c.

The correspondents, unless convinced of their error by the solution of their cipher, would no doubt be willing to rest in this latter arrangement, as affording full security. But if not, they would be likely to hit upon the plan of arbitrary marks used in place of the usual characters. For example,

(	might be employed for		a	
.	"	"	b	
:	"	"	c	
;	"	"	d	
)	"	"	e	&c.

A letter composed of such characters would have an intricate appearance unquestionably. If, still, however, it did not give full satisfaction, the idea of a perpetually shifting alphabet might be conceived, and thus effected. Let two circular pieces of pasteboard be prepared, one about half an inch in diameter less than the other. Let the centre of the smaller be placed upon the centre of the larger, and secured for a moment from slipping; while *radii* are drawn from the common centre to the circumference of the smaller circle, and thus extended to the circumference of the greater. Let there be twenty-six of these *radii,* forming on each pasteboard twenty-six

spaces. In each of these spaces on the under circle write one of the letters of the alphabet, so that the whole alphabet be written — if at random so much the better. Do the same with the upper circle. Now run a pin through the common centre, and let the upper circle revolve, while the under one is held fast. Now stop the revolution of the upper circle, and, while both lie still, write the epistle required; using for a that letter in the smaller circle which tallies with a in the larger, for *b* that letter in the smaller circle which tallies with *b* in the larger &c. &c. In order that an epistle thus written may be read by the person for whom it is intended, it is only necessary that he should have in his possession circles constructed as those just described, and that he should know any two of the characters (one in the under and one in the upper circle) which were In juxta-position when his correspondent wrote the cipher. Upon this latter point he is informed by looking at the two initial letters of the document, which serve as a key. Thus, if he sees a *m* at the beginning, he concludes that, by turning his circles so as to put these characters in conjunction, he will arrive at the alphabet employed.

At a cursory glance, these various modes of constructing a cipher seem to have about them an air of inscrutable secrecy. It appears almost an impossibility to unriddle what has been put together by so complex a method. And to some persons the difficulty might be great; but to others — to those skilled in deciphering — such enigmas are very simple indeed. The reader should bear in mind that the basis of the whole art of solution, as far as regards these matters, is found in the general principles of the formation of language itself, and thus is altogether independent of the particular laws which govern any cipher, or the construction of its key. The difficulty of reading a cryptographical puzzle is by no means always in accordance with the labor or ingenuity with which it has been constructed. The sole use of the key, indeed, is for those *au fait* to the cipher; in its perusal by a third party, no reference is had to it at all. The lock of the secret is picked. In the different methods of cryptography specified above, it will be observed that there is a gradually increasing complexity. But this complexity is only in shadow. It has no substance whatever. It appertains merely to the formation, and has no bearing upon the solution, of the cipher. The last mode mentioned is not in the least degree more difficult to be deciphered than the first — whatever may be the difficulty of either.

In the discussion of an analogous subject, in one of the weekly papers of this city, about eighteen months ago, the writer of this article had occasion to speak of the application of a rigorous *method* in all forms of thought — of its advantages — of the extension of its use even to what is considered the operation of pure fancy — and thus, subsequently, of the solution of cipher. He even ventured to assert that no cipher, of the character above specified, could be sent to the address of the paper, which he would not be able to resolve. This challenge excited, most unexpectedly, a vend lively interest among the numerous readers of the journal. Letters were poured in upon the editor from all parts of the country; and many of the writers of these epistles were so convinced of the impenetrability of their mysteries, as to be at great pains to draw him into wagers on the subject. At the same time, they were not always scrupulous about sticking to the point. The cryptographs were, in numerous instances, altogether beyond the limits defined in the beginning. Foreign languages were employed. Words and sentences were run together without interval. Several alphabets were used in the same cipher. One gentleman, but moderately endowed with conscientiousness, inditing us a puzzle composed of pot-hooks and hangers to

which the wildest typography of the office could afford nothing similar, went even so far as to jumble together no less than *seven distinct alphabets,* without intervals between the letters, *or between the lines.* Many of the cryptographs were dated in Philadelphia, and several of those which urged the subject of a bet were written by gentlemen of this city. Out of, perhaps, one hundred ciphers altogether received, there was only one which we did not immediately succeed in resolving. This one we *demonstrated* to be an imposition — that is to say, we fully proved it a jargon of random characters, having no meaning whatever. In respect to the epistle of the seven alphabets, we had the pleasure of completely *nonplus-ing* its inditer by a prompt and satisfactory translation.

The weekly paper mentioned, was, for a period of some months, greatly occupied with the hieroglyphic and cabalistic-looking solutions of the cryptographs sent us from all quarters. Yet with the exception of the writers of the ciphers, we do not believe that any individuals could have been found, among the readers of the journal, who regarded the matter in any other light than in that of a desperate humbug. We mean to say that no one really believed in the authenticity of the answers. One party averred that the mysterious figures were only inserted to give a *queer* air to the paper, for the purpose of attracting attention. Another thought it more probable that we not only solved the ciphers, but put them together ourselves for solution. This having been the state of affairs at the period it was thought expedient to decline farther dealings in necromancy, the writer of this article avails himself of the present opportunity to maintain the truth of the journal in question — to repel the charges of rigmarole by which it was assailed — and to declare, in his own name, that the ciphers were all written in good faith, and solved in the same spirit.

A very common, and somewhat too obvious mode of secret correspondence, is the following. A card is interspersed, at Irregular intervals, with oblong spaces, about the length of ordinary words of three syllables in a bourgeois type. Another card Is made exactly coinciding. One is in possession of each party. When a letter is to be written, the key-eard is placed upon the paper, and words conveying the true meaning inscribed in the spaces. The card is then removed and the blanks filled up, so as to make out a signification different from the real one. When the person addressed receives the cipher, he has merely to apply to it his own card, when the superfluous words are concealed, and the significant ones alone appear. The chief objection to this cryptograph is the difficulty of so filling the blanks as not to give a forced appearance to the sentences. Differences, also, in the handwriting, between the words written in the spaces, and those inscribed upon removal of the card, will always be detected by a close observer.

A pack of cards is sometimes made the vehicle of a cipher, in this manner. The parties determine, in the first place, upon certain arrangements of the pack. For example: it is agreed that, when a writing is to be commenced, a natural sequence of the spots shall be made; with spades at top, hearts next, diamonds next, and clubs last. This order being obtained, the writer proceeds to inscribe upon the top card the first letter of his epistle, upon the next the second, upon the next the third and so on until the peek is exhausted, when, of course, he will have written fifty-two letters. He now shuffles the pack according to a preconcerted plan. For example: he takes three cards from the bottom and places them at top, then one from top, placing it at bottom, and so on, for a given number of times. This done, he again inscribes fifty-two

characters as before, proceeding thus until his epistle is written. The pack being received by the correspondent, he has only to place the cards in the order agreed upon for commencement, to read, letter by letter, the first fifty-two characters as intended. He has then only to shuffle in the manner pre-arranged for the second perusal, to decipher the series of the next fifty-two letters — and so on to the end. The objection to this cryptograph lies in the nature of the missive. *A pack of cards,* sent from one partly to another, would scarcely fail to excite suspicion; and it cannot be doubted that it is far better to secure ciphers from being considered as such, than to waste time in attempts at rendering them scrutiny-proof, when intercepted. Experience shows that the most cunningly constructed cryptograph, if suspected, can and will be unriddled.

An unusually secure mode of secret intercommunication might be thus devised. Let the parties each furnish themselves with a copy of the same edition of a book — the rarer the edition the better — as also the rarer the book. In the cryptograph, numbers are used altogether, and these numbers refer to the locality of letters in the volume. For example — a cipher is received commencing, 121-6-8. The party addressed refers to page 121, and looks at the sixth letter from the left of the page in the eighth line from the top. Whatever letter he there finds is the initial letter of the epistle — and so on. This method is very secure; yet it is *possible* to decipher any cryptograph written by its means — and it is greatly objectionable otherwise, on account of the time necessarily required for its solution, even with the key-volume.

It is not to be supposed that Cryptography, as a serious thing, as the means of imparting important information, has gone out of use at the present day. It is still commonly practised in diplomacy; and there are individuals, even now, holding office in the eye of various foreign governments, whose real business is that of deciphering. We have already said that a peculiar mental action is called into play in the solution of cryptographical problems, at least in those of the higher order. Good cryptographists are rare indeed; and thus their services, although seldom required, are necessarily well requited.

An instance of the modern employment cipher is mentioned in a work lately published by Messieurs Lea & Blanchard, of this city — "Sketches of Conspicuous Living Characters of France." In a notice of Berryer, it is said that a letter being addressed by the Duchess de Berri to the legitimists of Paris, to inform them of her arrival, it was accompanied by a long note in cipher, the key of which she had forgotten to give. "The penetrating mind of Berrver," says the biographer, "soon discovered it. It was this phrase substituted for the twenty-four letters of the alphabet — *Le,gouvernement provisoire."*

The assertion that Berryer "soon discovered the keyphrase," merely proves that the writer of these memoirs is entirely innocent of cryptographical knowledge. Monsieur B. no doubt ascertained the key-phrase; but it was merely to satisfy his curiosity, *after the riddle had been read.* He made no use of the key in deciphering. The lock was picked.

In our notice of the book in question (published in the April number of this Magazine) we alluded to this subject thus —

"The phrase *'Le, gouvernement provisoire' is* French, and the note in cipher was addressed to Frenchmen. The difficulty of deciphering may well be supposed much greater, had the key been in a foreign tongue; yet any one who will take the trouble may address us a note, in the same manner as here proposed; and the key-phrase may be either in French, Italian, Spanish, German, Latin, or Greek, (or in any of the dialects of these languages,) and we pledge ourselves for the solution of the riddle."

This challenge has elicited but a single response, which is embraced in the following letter. The only quarrel we have with the epistle, is that its writer has declined giving us his name in full. We beg that he will take an early opportunity of doing this, and thus relieve us of the chance of that suspicion which was attached to the cryptography of the weekly journal above-mentioned — the suspicion of inditing ciphers to ourselves. The postmark of the letter is *Stonington, Conn.*

S — — — — — —, CT., APRIL 21, 1841.

To the Editor of Graham's Magazine.

SIR: — In the April number of your magazine, while reviewing the translation by Mr. Walsh of "Sketches of Conspicuous Living Characters of France," you invite your readers to address you a note in cipher, "the key phrase to which may be either in French, Italian, Spanish, German, Latin or Greek," and pledge yourself for its solution. My attention being called, by your remarks, to this species of cipher-writing, I composed for my own amusement the following exercises, in the first part of which the key-phrase is in English — in the second in Latin. As I did not see, (by the number for May,) that any of your correspondents had availed himself of your offer, I take the liberty to send the enclosed, on which, if you should think it worth your while, you can exercise your ingenuity.

I am yours, respectfully,

S. D. L.

No. 1.

Cauhiif and ftd sdBtirf ithot tacd wade rdchfdr tin fuaefshffheo fdoudf hetiusafhie tuis fed herhchriai fi aciftdu wn sdaef it iuhfheo hiidohwid wn acn deodsf ths tin iris hf iaf iahoheaiin rdffhedr; aer Ad auf it ftif fdoudfin oissichoaPheo hefdiihodeod taf wade odeduaiin fdusdr ounsfiouastn. Sacn fsdohdf it fdoudf iuhfheo idud weiie fi ftd aeohdeff; fisdDhsdf, A fiacdf tdar iaf ftacdr aer ftd ouiie iuhffde isle ihtt fisd herdhwid oiiiuheo tiihr, atfdu ithot tahu wdheo sdushffdr fi ouii aoahe, hetiusafbie oiiir wd fuaefshffdr ihEt ihffid raeodu ftaf rhfoicdun iiiir hefid iefhi ftd aswiiafiun dshffid fatdin udaotdr hff rdffheafhie. Ounsfiouastn tiidcdu siud suisduin dswuaodf Stied sirdf it iuhfLeo ithot and uderdudr idohwid iein wn sdaef it fled desiaeafiun wdn ithot sawdf weiie ftd udai fhoehthoafhie it ftd onstduf dssiindr fi hff siffdffiu.

No. 2.

Ofoiioiiaso ortsiii sov eodisoioe afduiostifoi fit iftvi si tri oistoiv oiniafetsorit ifeov rsri inotiiiiv ridiiot, irio riwio eovit atrotfetsoria aioriti iitri If oitovin tri aetifei ioreitit sov usttoi oioittstifo dfti aSdooitior trso ifeov tri dfit otftSeov softridi fitoistoiv oriofiforiti suitteii viireiiitifoi fit tri iarfoisiti, iiti trir net otiiiotiv uitfti rid lo tri eoviieeiiiv rfasueostr fit rii dftrit tfocei.

In the solution of the first of these ciphers we had little more than ordinary trouble. The second proved to be exceedingly difficult, and it was only by calling every faculty into play that we could read it at all. The first runs thus.

"Various are the methods which have been devised for transmitting secret information from one individual to another, by means of writing, illegible to any except him for whom it was originally designed; and the art of thus secretly communicating intelligence has been generally termed cryp*tography.* Many species of secret writing were known to the ancients. Sometimes a slave's head was shaved, and the crown written upon with some indelible coloring fluid; after which the hair being permitted to grow again, information could be transmitted with little danger that discovery would ensue until the ambulatory epistle safely reached its destination. Cryptography, however, pure, properly embraces those modes of writing which are rendered legible only by means of some explanatory key which makes known the real signification of the ciphers employed to its possessor."

The key-phrase of this cryptograph is — "A word to the wise is sufficient."

The second is thus translated —

"Nonsensical phrases and unmeaning combinations of words, as the learned lexicographer would have confessed himself, when hidden under cryptographic ciphers, serve to *perpdex* the curious enquirer, and baffle penetration more completely than would the most profound *apothems* of learned philosophers. Abstruse disquisitions of the scholiasts, were they but presented before him in the undisguised vocabulary of his mother tongue "

The last sentence here (as will be seen) is broken off short. The spelling we have strictly adhered to. D, by mistake, has been put for I in *perplex.*

The key-phrase is — "Suaviter *ir, mode, fortiter I'll ret"*

In the ordinary cryptograph, as will be seen in reference to most of those we have specified above, the artificial alphabet agreed upon by the correspondents, is employed, letter for letter, in place of the usual or natural one. For example: — two parties wish to communicate secretly. It is arranged before parting that

(	shall stand for	a
)	——————— "	b
—	——————— "	c
*	——————— "	d
.	——————— "	e
’	——————— "	f
;	——————— "	g
:	——————— "	h
?	——————— "	i or J
!	——————— "	k
&	——————— "	l
0	——————— "	m
‘	——————— "	n
†	——————— "	o
‡	——————— "	p
¶	——————— "	q
☞	——————— "	r
]	——————— "	s
[	——————— "	t
£	——————— "	u or v
$	——————— "	w
¿	——————— "	x
¡	——————— "	y
🖙	——————— "	z

Now the following note is to be communicated —

"We must see you immediately upon a matter of great importance. Plots have been discovered, and the conspirators are in our hands. Hasten!"

These words would be written thus

$ 0 . £] [ ] . . ¡ † £ ? 0 0 . * ¿) [. & ¡ £ ‡ † ‘) 0) [[. ☞ † ’ ; ☞ .) [? 0 ‡ † ☞ [ ) ‘ — . ‡ & † [ ] :) £ . (. . ‘ * .] — † £ . ☞ . *) ' * — † ‘] ‡ ? ☞) [† ☞]) ☞ . ? ? ‘ † £ ☞ :) ‘ *] :)] [. ’

This certainly has an intricate appearance, and would prove a most difficult cipher to any one not conversant with cryptography. But it will be observed that *a,* for example, is never represented by any other character than), *b* never by any other character than (, and so on. Thus by the discovery, accidental or otherwise, of any one letter,

the party intercepting the epistle would gain a permanent and decided advantage and could apply his knowledge to all the instances in which the character in question was employed throughout the cipher.

In the cryptographs, on the other hand, which have been sent us by our correspondent at Stonington, and which are identical in conformation with the cipher resolved by Berryer, no such permanent advantage is to be obtained.

Let us refer to the second of these puzzles. Its key-phrase runs thus:

Surfeiter ire mono, fortiter in ret

Let us now place the alphabet beneath this phrase, letter beneath letter —

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S|u|a|v|i|t|e|r|i|n|m|o|d|o|f|o|r|t|i|t|e|r|i|n|r|e
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
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We here see that

```
a    stands   for    —  —  —  —  —  —  —  —  —  —  —      c
d      "        "    —  —  —  —  —  —  —  —  —  —  —      m
e      "        "    —  —  —  —  —  —  —  —  —  —  —      z
f      "        "       g, u and     o
i      "        "    —  —  —  —  —  —  —  —  —  —  —      w
m      "        "   e, i, s and     k
n      "        "          j and     x
o      "        "    —  —  —  —  —  —  —  —  —  —  —      p
r      "        "   h, q, v and     y
s      "        "    —  —  —  —  —  —  —  —  —  —  —      a
t      "        "    —  —  —  —  —  —  —  —  —  —  —      t
u      "        "      f, r, and     b
v      "        "    —  —  —  —  —  —  —  —  —  —  —      d
```

In this manner *n* stands for two letters, and *e, o,* and *t* for three each, while i and *r* represent each as many as four. Thirteen characters are made to perform the operations of the whole alphabet. The result of such a key-phrase upon the cipher, is to give it the appearance of a mere medley of the letters *e, o, t, r* and i — the latter character greatly predominating, through the accident of being employed for letters which, themselves, are inordinately prevalent in most languages — we mean *e* and *i*.

A letter thus written being intercepted, and the key-phrase unknown, the individual who should attempt to decipher it may be imagined guessing, or otherwise attempting to convince himself, that a certain character (i, for example,) represented the letter *e.* Looking throughout the cryptograph for confirmation of this idea, he would meet with nothing but a negation of it. He would see the character in situations where it could not possibly represent *e.* He might, for instance, be puzzled by four i's forming of themselves a single word, without the intervention of any other character; in which

case, of course, they could not be *all e's.* It will be seen that the word *wise* might be thus constructed. We say this may be seen *now,* by us, in possession of the key-phrase; but the question will, no doubt, occur, how, *without* the key-phrase, and without cognizance of any single letter in the cipher, it would be possible for the interceptor of such a cryptograph to make any thing of such a word as iiii?

But again. A key-phrase might easily be constructed, in which one character would represent seven, eight, or ten letters. Let us then imagine the word iiiiiiiiii presenting itself in a cryptograph to an individual *without* the proper key-phrase; or, if this be a supposition somewhat too perplexing, let us suppose it occurring to the person for whom the cipher is designed, and who *has* the key-phrase. What is he to do with such a word as iiiiiiiiii? In any of the ordinary books upon Algebra will be found a very concise *formula (we* have not the necessary type for its insertion here) for ascertaining the number of arrangements in which *m* letters may be placed, taken *n* at a time. But no doubt there are none of our readers ignorant of the innumerable combinations which may be made from these ten i's. Yet, unless it occur otherwise bv accident, the correspondent receiving the cipher would have to write down all these combinations before attaining the word intended; and even when he had written them, he would be inexpressibly perplexed in selecting the word designed from the vast number of other words arising in the course of the permutation.

To obviate, therefore, the exceeding difficulty of deciphering this species of cryptograph, on the part of the possessors of the key-phrase, and to confine the deep intricacy of the puzzle to those for whom the cipher was not designed, it becomes necessary that some *order* should be agreed upon by the parties corresponding — some order in reference to which those characters are to be read which represent more than one letter — and this *order* must be held in view by the writer of the cryptograph. It may be agreed, for example, that the *f rat* time an i occurs in the cipher, it is to be understood as representing that character which stands against the *first i* in the key-phrase; that the *second* time an i occurs it must be supposed to represent that letter which stands opposed to the *second i* in the key-phrase, &c. &c. Thus the *location* of each cipherical letter must be considered in connexion with the character itself, in order to determine its exact signification.

We say that some pre-concerted *order* of this kind is necessary, lest the cipher prove too intricate a lock to yield even to its true key. But it will be evident, upon inspection, that our correspondent at Stonington has inflicted upon us a cryptograph in which *no* order has been preserved; in which many characters, respectively, stand, at absolute random, for many others. If, therefore, in regard to the gauntlet we threw down in April, he should be half inclined to accuse us of braggadocio, he will yet admit that we have *more* than acted up to our boast. If what we then said was not said *suaviter in modo,* what we now do is at least done *fortiter in re.*

In these cursory observations we have by no means attempted to exhaust the subject of Cryptography. With such object in view, a folio might be required. We have indeed mentioned only a few of the ordinary modes of cipher. Even two thousand years ago, Æneas Tacticus detailed twenty distinct methods; and modern ingenuity has added much to the science. Our design has been chiefly suggestive; and perhaps we have already bored the readers of the Magazine. To those who desire farther information upon this topic, we may say that there are extant treatises by

Trithemius, Cap. Porta, Vignere, and P. Niceron. The works of the two latter may be found, we believe, in the library of the Harvard University. If, however, there should be sought in these disquisitions — or in any — *rules for the solution* of cipher, the seeker will be disappointed. Beyond some hints in regard to the general structure of language, and some minute exercises in their practical application, he will find nothing upon record which he does not in his own intellect possess.