## The Keys for Deciphering

We Greatest Work
Sir Francis Bacon
Baron of Verulam
Viscount St. Alban


Riverbank Laboratories Geneva, Illinois


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## The Greatest Work

Sir Francis Bacon

Baron of Verulam<br>Viscount St. Alban



Riverbank Laboratories Geneva, Illinois

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GEORGE FABYAN

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## PREFATORY NOTE

After several years of a minute study of the general subject of Ciphers, especially such as appear in books published in the Elizabethan period, we have arrived at the following conclusions which are submitted with diffidence, but nevertheless with complete confidence:
(1) That ciphers of all kinds were in general use in the fifteenth, sixteenth and seventeenth centuries among those who laid claim to any degree of education and culture.
(2) That the Biliteral Cipher of Sir Francis Bacon as described in his De Augmentis Scientiarum is present in certain works published in the Elizabethan period, and that its presence is susceptible of demonstration to anyone with a mind trained to scholarly investigation, and with the ordinary powers of observation.
(3) That the preference for the italic type as a vehicle for the Biliteral Cipher was induced by the fact that various forms of the same letter could be made embodying minute differences, with less probability of detection than in the case of the roman or any other form of letter.

The work thus far accomplished has necessitated the careful study of the origin, history, and construction of letters and alphabets of different nations, and this has not only shown that "the two forms of letters in one character," or the so-called "doubles," were in existence and in common use at that period, but also has led to the belief that three forms of one character-all three forms so closely resembling each other as to be difficult to tell them apart-were in use for cipher purposes.

It has been impressed on the minds of those engaged in the work that France was the center of learning in the development and use of ciphers. Thus the most important works on ciphers are in French, followed by those in English, Latin, Spanish, and perhaps Italian, in the order named. The study of ciphers shows the same gradual improvement in methods and use that is found in the development of any other science. It seems to have reached its zenith in the early part of the seventeenth century, from which time on it declined rapidly.

We have every reason to believe that ciphers were used to record the learning of that period. Some of the best known and most important volumes were unquestionably resorted to for this purpose through connivance or otherwise.

Most of the work so far accomplished by Riverbank Laboratories has been confined to the cipher described by Sir Francis Bacon in his

Advancement of Learning and called by him the "Biliteral Cipher," and which has been tested and dissected until now its presence in certain works is demonstrable beyond any doubt.

The statements, historical, literary, scientific, and linguistic, uncovered and extracted from the Biliteral Cipher have brought us face to face with questions far more important than is that of the Cipher itself. These have not been approached by Riverbank Laboratories because they naturally pertain to fields of study which should be approached in each case by specialists in the respective subjects.

If the use of the Biliteral Cipher in certain volumes of the Elizabethan period be conceded-and in the light of our studies this conclusion is inescapable-the following questions yet remain unanswered: (1) How was the use of two forms of type controlled for the purpose of the Cipher, and what was the origin of these "doubles" or the "two forms in one character"? (2) How much credibility is to be attached to the statements extracted from the deciphered material? In other words, what bearing can these deciphered messages be conceded to have on history, literature, science, and language?

These questions must be answered, if at all, by a wide variety of specialists in the several fields affected. They involve important questions concerning the designing and constructing of alphabets and type forms; the history of printing; English literature, especially of the Elizabethan period; the history of the Elizabethan and Jacobean periods; the broad field of physics. Furthermore, the ciphers lead the investigator to citations and translations from the classical authors in the authentication of which the specialist in Greek and Latin alone can speak with authority.

The fields of research thus opened up are of the widest possible extent. Our work of establishing the presence of the Cipher is but the first step in the approach toward large and important subjects. It is possible that much of the material educed by means of the Biliteral Cipher can never be authenticated. Much of it is susceptible of verification, however, by means of proper research. The studies involved are so vast and so numerous that work on them should be co-ordinated by those best fitted to conduct them. With this conviction the co-operation of students is respectfully invited by

Riverbank Laboratories, Geneva, Illinois

## THE KEYS TO THE BILITERAL CIPHER

For three hundred years the Biliteral Cipher devised by Sir Francis Bacon has securely locked away from human sight and access the important messages addressed by their author to posterity. Though the pages of works printed in the sixteenth and seventeenth centuries have been read and studied for their subject-matter by students of literature, of history, of political science, of art, of philosophy, et id genus omne, no one, until comparatively recently, combining the mind of the student with the eye of the typographer, seems to have thought to go below the surface of these old productions of the printer's art, and extract from them the secrets that lay there, visible yet unseen, awaiting the advent of him "who, having eyes, sees."

Devised and made use of by its author for the express purpose of avoiding detection during his own lifetime, it has in spite of its simplicity -indeed, because of this very quality-eluded the superficial eye of the many as well as the insight of the few who, possessing the germ of the idea, yet lacked the understanding necessary for its correct development.

This is the more remarkable in view of the fact that the fullest possible explanation of the Biliteral Cipher, as well as of the key itself and the manner in which it is to be applied, was given by Bacon himself in the Sixth Book of his Advancement of Learning (see James Spedding's edition of Bacon's Works, 1857, pp. 444 ff.). He there shows at considerable length how two type forms, closely resembling each other yet differing in minute details not easily detected, may be utilized for printing a book, a story, a poem, or the like, while conveying a wholly different message to those possessing the key-or, as he himself describes it, a method of expressing omnia per omnia.

As its title implies, the present booklet serves to exhibit the keys by which the door to this new and unexplored storehouse may be opened. Laborious experiment and study have been resorted to in originating and developing the keys themselves, and in fitting them to the lock that has hitherto barred the way to a decipherment of what the Biliteral Cipher serves to conceal. By means of these keys-after all, merely the apparatus which the inventor of the Cipher intended should be used--the dif-
ferences between the two forms of type in the printed pages of the original works may be definitely and conclusively established, and, as has been done in the case of the First Folio (1623) of Shakespeare, the assignment of either form of the letters to their respective class may be accomplished with certainty.

By means of the apparatus illustrated in these pages, examination of the letter-press may be assisted both by mental visualization, by ocular comparison, and by mechanical measurement and dissection of slants and curves. In other words, the physical equipment by means of which the Biliteral Cipher may be read is here presented. The mental equipment necessary-the study, the application, the development of the sense of observation-is no more than is demanded by the study of any science, and need not be commented on here.

For an illustration of the Cipher code and its application, together with a description of the steps which led to a solution of the problem of decipherment, the reader is referred to a booklet entitled "The Greatest Work of Sir Francis Bacon," etc., by J. A. Powell, to be obtained on application to Riverbank Laboratories. The student is advised to study the latter carefully before going fully into the details of the following pages. An explanation of the Biliteral Cipher-what it consists of and how it is applied-is to be found there. An understanding of the facts there explained is assumed for the purposes of this booklet.

We proceed here to a description of the "Keys."

## THE ALPHABETS AND CLASSIFIERS

THE ALPHABETS

Facing each of the Classifiers enumerated and described below (pp. 8 ff .) will be found what is designated as the "Alphabets" of each passage for which a Classifier has been constructed. These "Alphabets" reproduce the typical letters (see p. 9) of the $a$ - and $b$-forms, as is done in the Classifiers, except that such letters are here placed alongside each other, the $b$-form letter being marked by a slanting down-stroke beneath it. In addition, every occurrence of a digraph is shown, the elements of each digraph belonging to the $b$-form being marked as above described.

What is said below ( p .10 ) regarding numbered, dotted, and accented letters in the Classifiers applies also to the "Alphabets." A brief reference to and explanation of the several "Alphabets" follows.

In type of the form in use at the present day Spedding has recast, so to speak, the more unusual type forms originally used by Bacon in illustrating his Biliteral Cipher (see p. 16). The advantage to the student of this illustration lies in the fact that even with no previous experience with type "faces," a very brief examination of the two forms will enable him to detect the difference with unerring accuracy. This, therefore, serves not only as an illustration of the method, but also as an elementary first exercise in the more difficult work of distinguishing the type faces of the old originals.

Preceding this will be found on p. 14 a reproduction made by Gilbert Wats in 1640 of the italic script used by Sir Francis Bacon in illustrating the Biliteral Cipher in his Advancement of Learning. This will be found especially valuable for study, since it enables the eye to grow accustomed to the peculiar dual forms of letters whose differences in some cases are detected only with difficulty and after close examination.

Of the Alphabets of the "I. M." Poem (p. 18), of the "Digges" Poem (p. 20), of "A Catalogue" (p. 24), and of the "Principall Actors" (p. 26) nothing further need be said other than to point out in a general way
the advantage of comparing the two forms of the letters, and of using these "Alphabets" to distinguish, by means of mental visualization, the characteristics of each form.

In the case of the Alphabets for the "Prologue" (p. 22) it remains to point out that here will be found several examples of dotted letters, the purpose and peculiarities of which are explained below in the section entitled "The Classifiers" (p. 10). The use and purpose of such letters are pointed out by Bacon himself in the case of the capital $O$, as can be noted by an examination of a "Biformed Alphabet" found in the Gilbert Wats edition (1640) of the Advancement of Learning, on p. 267. (See p. 14.)

It should be added that the source of every letter depicted in the several Alphabets is given in the "Index of Typical Letters" (see p. 75). That is to say, the Index will disclose the word in the original (located by page and line) from which each individual letter is taken. For an explanation which will assist the student in making use of the Index see p. 74.

## THE CLASSIFIERS

By way of a general explanation, it may be said of the so-called "Classifiers," illustrated in this pamphlet, that they are designed as an aid to the student in "classifying" the two forms of type to be found in the passages whose analysis and decipherment are here depicted.

When prepared for practical use, each Classifier is a separate sheet from which the dotted or shaded spaces are to be cut out. The blank space or slot thus formed is placed on the printed page of the original work to be examined (or on a photograph of such a page) in such a way as to expose one line of the original through the slot. The line of letters above the slot shows the typical $a$-form of the letters; the line below the slot the typical $b$-form of the letters. But little practice is needed to enable the student to compare any letter of the original with the corresponding letter of the $a$ - and the $b$-form on the Classifier, by exposing the original through the slot and bringing the corresponding letters on the Classifier directly above and below it. Such comparison makes it easy to determine whether a given letter in the original is of the $a$ - or of the $b$-form. Classifiers exhibiting the two forms of every size of type used have been prepared: (1) on p. 15, for the original italic script faces used by

Bacon in his Advancement of Learning to illustrate the Biliteral Cipher (taken from the edition printed by Gilbert Wats in 1640) ; (2) on p. 17, for the two present-day faces of italic, and used by James Spedding in his 1857 edition of the same work; (3) on p. 19, for the letters of the "I. M." Poem ( 1623 Folio) ; (4) on p. 21, for the letters of the "Digges" Poem ( 1623 Folio) ; (5) on p. 23, for the letters of the Prologue to Troylus and Cressida ( 1623 Folio); (6) on p. 25, for the letters of "A Catalogue" (1623 Folio) ; (7) on p. 27, for the letters of the "Names of the Principall Actors" ( 1623 Folio). On p. 28 will be found for the "I. M." Poem a Classifier in which the letters are arranged vertically instead of horizontally, with the $a$-form letters on the left, the $b$-form letters on the right. This form of Classifier is exhibited to show a different method of examination which may be pursued. While this type of Classifier possesses the advantage of permitting the eye to examine the $a$-form, the undetermined form, and the $b$-form all on one horizontal line, and of thus conforming to the usual manner in which the eye travels in reading, it possesses the disadvantage that the base line upon which the undetermined letter stands is an unknown factor in the vertical Classifier, whereas in the horizontal type, one is enabled to align the $a$-form, the unassigned form, and the $b$-form on horizontal parallel lines. The question of true and false base lines is of considerable importance in the determination of form, for a discussion of which reference is made to "Hints to the Decipherer of the Greatest Work of Sir Francis Bacon," (p. 13). "Typical letters," which these Classifiers represent, are those letters which show most clearly the characteristics of their respective forms, and are unaffected-as so many letters of the original are-by defective inking, irregular impression, da maged type, irregular drying of the paper, etc. They have been deliberately chosen for the very reason that, not showing these handicaps, they are better illustrations of their respective forms than are many of the others which have come under the influence of one or more of the conditions named above. Being typical of their class, they serve as a standard with which all others may be compared. ${ }^{1}$ It is desirable, however, that the true meaning of the term "typical" be understood. It is not intended by the use of the phrase to

[^0]assert that the letter selected in any one case is the one and only one "typical" of its class, or that it is exclusively representative. "Typical letters," as here illustrated, are those that appear to the Riverbank investigators to exhibit the characteristics of the form in question in a satisfactory manner. There are many such in each case, and it has been a question of choosing one from among the number. To other observers some other letter will serve equally well. There is nothing magical about the selection of "typical letters." By whatever method the test for classification is made, however, the result will be a reliance by the student on "typical letters" for guidance, and the "typical letters" chosen for such purpose are likely to be the same as those illustrated here. A close parallelism can be seen to exist between the classification of Biliteral Cipher letters and the classification of plants or animals. Within the species will be found many variations, and typical specimens may be selected by various means; but the members of one species will not be confounded with the members of another closely related species by the trained student. In other words, variations in detail between the $a$-form letters are attributable to methods of casting, methods of printing, etc., yet the $a$-form letters all come from an original model-the "typical" form.

As stated above, the $a$-form letters are placed above the shaded part, or slot, of the Classifier, the $b$-form letters below, except in the case of the digraphs, in which the $b$-forms are indicated by a stroke beneath. An "Index of Typical Letters" has been compiled, giving the exact position in the original source of every letter used in each Classifier (see pp. 74 ff .).

When both $a$ - and $b$-forms did not occur in the page or poem to which the Classifier applies, a letter of the desired form was taken from some other source and was given an accompanying number by means of which it can be located in the "Index" referred to.

A large dot accompanying a letter indicates that a dot or an accent not naturally pertaining to the letter is present in the original. In its original position in the text, such a letter will be found to have been marked in the transcription as belonging to the opposite form, since the presence of a dot or an accent requires that an $a$-form letter be marked as belonging to the $b$-form, and vice-versa. Dotted or accented letters are used in the Classifier only when no other letter of the desired form was available in the page or poem to which the specific Classifier applies.

It must be borne in mind that, speaking generally, the Biliteral Cipher is found in the italic type only. Bacon's own illustration of the cipher is given in italic (script), and, so far, the roman type has not been found to consist of two uniformly differing forms in the same consistent manner as is the case with the italic. There are exceptions to this rule, however. On pages consisting preponderatingly of italic, such as those illustrated and dissected in this pamphlet, the roman characters are found to have been included with the italic as a vehicle for the cipher, and this is true of the titles as well as of the isolated words in roman found in the body of the italic. Accordingly, the Classifiers present the roman characters of such letters as occur in this form where they have been found to be included in the cipher scheme. It should be borne in mind, however, that the roman forms given have not been found to include the cipher except as mentioned above, and that, so far as examination has disclosed, they can be regarded as typical only for the passages mentioned.

It may be well to call the attention of the student at this point to the fact that those characteristics determining the $a$-form of a letter in one page or poem do not necessarily apply to the $a$-form in another page or poem. Proof of this was cunningly incorporated by Bacon himself in his example of a "Biformed Alphabet" of which a facsimile reproduction is found in the 1640 edition of the Advancement of Learning (see p. 14 ) in the case of the capital $E$, and it is therefore a situation to be expected in the practical application of the cipher. Thus the forms of the lower-case italic $h$, for example, in the "Digges" Poem are reversed as compared with their use in the "Prologue." The student is therefore cautioned to use the Classifier which has been made for the specific passage.

Classifiers printed on cards and available for separate use may be obtained on application to Riverbank Laboratories.

## THE TECHNIQUE EMPLOYED

The methods used in constructing the plates for the Alphabets and Classifiers were as exact as the most experienced photographers could attain, and this work may be duplicated at any time and place with the like care and skill. Rule, compass, level, and square were used throughout in the work.

As a basis for the work of preparing the several materials represented here, the pages containing the "I. M." and the "Digges" Poems, "A Catalogue," "The Prologue," and "The Names of the Principall Actors" were photographed from the original copy of the First Folio (1623) in the possession of the Newberry Library, Chicago, Illinois. The photographs were made on $8 \times 10$ dry plates, reproducing the pages in sections enlarged $31 / 3$ diameters. This method of direct enlargement of small sections (for example, the page "A Catalogue" required 14 separate $8 \times 10$ piates) made it possible to procure uniformly sharp negatives, for it was found impossible to photograph an entire page from an antiquated book and obtain the whole in a uniformly sharp focus, owing to the curling and wrinkling of the time-worn pages. The negatives and photographs were made by a professional photographer, and the following statement regarding the work can be made without any qualifications whatever: No negative has been retouched or manipulated in any way. The photographs are exact reproductions in every detail, including dirt spots, imperfections, etc.

In taking out each letter from these prints and mounting it for the Classifiers or the Alphabets, a set of draftsman's implements were used, extreme care being exercised to insure the utmost accuracy, so that every letter in a Classifier or in a set of Alphabets occupies exactly the same slant as well as the same position with reference to the other letters that it occupied in the original text. Millimeter cross-section paper was used for mounting in order to insure perfect alignment. It is unnecessary here to enter into the manifold minor details observed and the painstaking care exercised throughout in the construction of the plates.

When the mounting of the several letters had been completed, the whole was photographed, this time reducing it $31 / 3$ diameters, thus bringing the letters back to the exact size of the original. From these facsimile photographs half-tone plates were made from which the Classifiers and Alphabets here shown were reproduced. In the half-tone plates all lines, dirt spots and marks not pertaining to the letters themselves were effaced, but in no case has any letter been altered in the slightest particular in respect to its shape or its outline, and to any student desiring to satisfy himself on this point sets of the original photographs will be cheerfully furnished on request.

In the Classifiers a border of the cross-section paper upon which the letters were mounted has been retained around each group of alphabets. By this method an excellent set of hair-lines results. This is of material assistance in the detailed examination of the letters, permitting exact vertical or longitudinal bisection, determination of slant, etc., by means of the "Alphabet Templets." instruments described on pp. 29 ff.

Egromni officio, acposiùspizetate ergate. casteris satisfacio omnious: Miviizpsentun= guàmsatisfacio. Lanza est eninn magni= zudo tuorum erga me moritorum, vfguoni= amzu, nisijpsrfectâre, demenon conguiês= zi; ego, guianon idem intuâ cansấ efficio, pitam miffiess acerbamputzm. heaut= sâ hare sunt: Ammonius Regis Segazus ajerrè yecunia nos oplygnat. Res agituc per eosdem creduzores, per guos, cuim zuade= ras, ngebatur. Regis caulsa, si gui surts, gui belint, guijpauci sumțomntes a CLombe= ium rem deferrivolunt. Senatus orei $i=$ gionis calumniam, non resigione, sed ma= Leudentia, et ifluius Regrae \{argitionio unuidia comprobat. 8ic.

An Example of a Bi-formed Alphabet.
a. b.a.b. a.b. a.b.a b.a.b.a. b.a.b. $\left\{\begin{array}{l}\text { a. A. a:a.B.B. B.G. B.G.c.c.D.D.d.A. }\end{array}\right.$ $\left\{\begin{array}{l}\text { a b.a.b. a. b.a.b.a. b. а.b. a. b.a.b. } \\ \text { L.E.e. F. G.f.f.G.G.g.g. F. GF.h. }\end{array}\right.$




THE BI-FORMED ALPHABET CLASSIFIER
Wats' Edition of Bacon's Works, 1640
8
5\% or

## Example of an Alphabet in two forms

| $a$ | $b$ | $a$ | $b$ | $a$ | $b$ | $a$ | $b$ | $a$ | $b$ | $a$ | $b$ |
| :--- | :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $A$ | $A$ | $a$ | $a$ | $B$ | $B$ | $b$ | $b$ | $C$ | $C$ | $c$ | $c$ |
| $D$ | $D$ | $d$ | $d$ | $E$ | $E$ | $e$ | $e$ | $F$ | $F$ | $f$ | $f$ |
| $G$ | $G$ | $g$ | $g$ | $H$ | $H$ | $h$ | $b$ | $I$ | $\mathcal{F}$ | $i$ | $i$ |
| $K$ | $K$ | $k$ | $k$ | $L$ | $L$ | $l$ | $l$ | $M$ | $M$ | $m$ | $m$ |
| $N$ | $N$ | $n$ | $n$ | $O$ | $O$ | $o$ | 0 | $P$ | $P$ | $p$ | $p$ |
| $Q$ | $Q$ | $q$ | $\dot{q}$ | $R$ | $R$ | $i$ | $r$ | $S$ | $S$ | $s$ | $s$ |
| $T$ | $T$ | $t$ | $t$ | $U$ | $U$ | $u$ | $u$ | $v$ | $v$ |  |  |
| $W$ | $W$ | $w$ | $w$ | $X$ | $X$ | $x$ | $x$ | $Y$ | $r$ | $y$ | $y$ |
|  |  |  |  | $Z$ | $Z$ | $z$ | $z$ |  |  |  |  |

In all duty or rather piety tozoards you $\mathcal{F}$ satisfy every body except myself. Myself I never satisfy. For so great are the services which you have rendered me, that seeing you did not rest.in your endeavours on my behalf till the thing was done, I feel as if life bad lost all its sweetness, because I cannot do as much in this cause of yours. The nccasions are these: Ammonius the King's ambassador openly besieges us with money: the business is carried on through the same creditors who were employed in it when you were here, \&c.

Spedding's modernized illustration of Bacon's example of the use of a biformed alphabet

## THE BI-FORMED ALPHABET CLASSIFIER

Spedding's Edition of Bacon's Works, 1857

$\boldsymbol{a}$ forms above the shaded parts, $\boldsymbol{b}$ forms below

## "ISM. 'POEM.

## VV

## 




 oo pp rr sss fy it un wi y y


- THE ALPHABETS. -

The $a$ forms are unmarked; the $b$ forms are indicated by a stroke beneath the letter.
A number accompanying a letter indicates that it was taken from some other source, for comparison. This number refers to the Index of Typical Letters, in which the exact source of the letter may be found. (See pp. 74 ff.)

A large dot accompanying a letter indicates that it is a "dotted letter" or an "accented letter," an explanation of which will be found in the Index aforementioned.

THE BI-FORMED ALPHABET CLASSIFIER
The "I. M." Poem, Original 1623 Folio

$\boldsymbol{a}$ forms above the shaded parts, $\boldsymbol{b}$ forms below; in the digraph, a stroke indicates the $\boldsymbol{b}$ form

## "L.DIGCES" POEM.

## EEHIMMORTT



AEEHEPRS HINTS





 - THE ALPHABETS. -

The $a$ forms are unmarked; the $b$ forms are indicated by a stroke beneath the letter.
A number accompanying a letter indicates that it was taken from some other source, for comparison. This number refers to the Index of Typical Letters, in which the exact source of the letter may be found. (See pp. 74 ff.)

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## THE BI-FORMED ALPHABET CLASSIFIER

The "L. Digges" Poem, Original 1623 Folio

$A B F H I L M N O P S T U W$
$A B F H 7 L M N O P S T V I$


```
"THE PROLOCUE."
AA BBC}C\dot{C},\mathcal{D}\mathcal{D}E\dot{E
    NNOO PP Q& RRSSSTTWW
```


ooppry $\iint_{\text {ss }}$ ti surv wow $x x$, wy, z
as ctetatc finis isisisis hhhhbih

AC D HM PT,
aa $b$ dd ce hi ii ll m mn oo rr ss it un
IP Tee ghhiloorru

EXAMPLES OF LETTERS CHANGED BY DOTS.
aa eellnopxyA

- THE ALPHABETS.-

The $a$ forms are unmarked; the $b$ forms are indicated by a stroke beneath the letter.
A number accompanying a letter indicates that it was taken from some other source, for comparison. This number refers to the Index of Typical Letters, in which the exact source of the letter may be found. (See pp. 74 ff.)

A large dot accompanying a letter indicates that it is a "dotted letter" or an 'accented letter," an explanation of which will be found in the Index aforementioned.

THE BI FORMED ALPHABET CLASSIFIER The Prologue to "Troylus and Cressida," Original 1623 Folio

$$
A B C D E F G H I L N O P Q R S T W
$$

$$
A B C D E F G H 7 L N O P Q \text { Q SJW }
$$


$\boldsymbol{a}$ forms above the shaded parts, $\boldsymbol{b}$ forms below; in the digraphs, a stroke indicates the $\boldsymbol{b}$ form


The $a$ forms are unmarked; the $b$ forms are indicated by a stroke beneath the letter.
A number accompanying a letter indicates that it was taken from some other source, for comparison. This number refers to the Index of Typical Letters, in which the exact source of the letter may be found. (See pp. 74 ff.)

A large dot accompanying a letter indicates that it is a "dotted letter" or an "accented letter," an explanation of which will be found in the Index aforementioned.

# THE BI-FORMED ALPHABET CLASSIFIER <br> "A Catalogue," Original 1623 Folio 



$$
\begin{aligned}
& A_{10} B C D E F G H \mathcal{D} Z M X O R S_{1} T V W
\end{aligned}
$$



CWT | adefhilmnorsfe if |
| :--- |
| adehilmnors tu |




## A DEGHIMORSTV <br> C E <br> OR ST

$\boldsymbol{a}$ forms above the shaded parts, $\boldsymbol{b}$ forms below; in the digraph, a stroke indicates the $\boldsymbol{b}$ form
＂PRINCIPALL ACTORS： STUVWV aa ce fhhiilkk lmooprrsf ACHaft HIll NPT
aa＂cc dd def $g$ hi ii mm mn oo rrssiz． Pa cc，dd eff fort hi iill，T no 00 rr $f$ ss te a y fifth ll
 NOPRRSSTTV WW
aa bb co dd eeg gag bb io 炍ll mm mn oo pprrs Cit un wo $x$ yo aces fillllllll IP If If tet

－THE ALPHABETS．－

The $a$ forms are unmarked；the $b$ forms are indicated by a stroke beneath the letter．
A number accompanying a letter indicates that it was taken from some other source，for comparison．This number refers to the Index of Typical Letters，in which the exact source of the letter may be found．（See pp． 74 ff．）

A large dot accompanying a letter indicates that it is a＂dotted letter＂or an＂accented letter，＇an explan－ ation of which will be found in the Index aforementioned．

## THE BI-FORMED ALPHABET CLASSIFIER

"The Names of the Principall Actors," Original 1623 Folio

## ABC F Hf L OPRSTVW <br> $$
\mathcal{B C E} G H I K \quad \mathbb{K} \therefore R S T
$$

THE BI-FORMED ALPHABET CLASSIFIER The "I. M." Poem, Original 1623 Folio

$a$ forms at right of shaded parts, $b$ forms at left; in the digraphs, a stroke indicates the $b$ form

## THE TEMPLETS

The "Alphabet Templets," which are to be used in conjunction with the "Alphabet Classifiers," are devices which can be made of material assistance in the detailed and minute examination of letters for the purpose of determining the doubtful points of form and of assigning the letters to the proper class. The descriptions which follow are not presented with the purpose of indicating the specific uses and tests for which they are adapted, for their construction permits of their application to a large number of tests, such as may be devised or found to be satisfactory by the individual investigator. The instrument is susceptible of various methods of use, and its mechanical demonstration is attained by one method in the hands of one individual and by another method in the hands of another.

The simple form of the Templet consists of a rectangular piece of transparent celluloid $10^{\prime \prime} \times 5^{\prime \prime}$, on which are ruled sets of parallel lines at


Figure 1. right angles to each other, and at graduated distances apart, designed to afford considerable latitude in the width of the spaces included between any two parallel lines. These lines will enable the student to bisect any given letter both horizontally and vertically, and will also show the direction and amount of curvature of any part of a letter more clearly than is apparent to the unaided eye. As an example of such a test examine Fig. 1. The vertical line, which represents one of the lines on the Templet, when placed so as to conform to one of the crosssection paper lines on the Classifier, shows very clearly that the undetermined $c$ agrees closely with the $b$-form $c$ as regards curvature of the back.

The simple form of the Templet lends itself readily to a variety of such tests and comparisons, which will suggest themselves to the ingenuity or resourcefulness of the student. (See Fig. 2, p. 30.)

D

B

The more intricate form of the Templet consists of two pieces of celluloid, a large rectangular basal piece, $10^{\prime \prime} \times 6^{\prime \prime}$, and a revolving wheel mounted on the left-hand section (printed in black over the red basal piece). The latter is divided into two squares, designated in the accompanying Fig. 3 as $A$ and $B$, the sides of which are 100 mm . in length. The square on the right, $A$, consists of two sets of parallel lines at right angles to each other which are to be used in exactly the same manner as are the parallel lines on the simple form of the Templet.

The left-hand section of the basal piece, square $B$, is surmounted by the wheel. $B$ is divided into four smaller squares, of which the graduated quadrant, $C$, made by the lines $D E$ and $F G$ intersecting at $H$, is by far the most important, for by its proper use in conjunction with the wheel, the slant of a letter or a portion of a letter may be ascertained mechanically. On the wheel there is a set of fifty lines, so designed that as the wheel is revolved, each line passing through $H$ will subtend on $C$ a definite angle, beginning with one of 10 degrees and increasing regularly to one of 60 degrees. The determination of slant will then resolve itself into a search for the one line which will meet the requirements of a given test. Suppose it is desired to determine the slant of a lower-case italic $h$. If it is agreed that the slant of the $h$ is determined by the angle made by a line passing through the vertical axis of the stem of the letter, with the perpendicular erected on the line upon which the given letter stands, then the Templet should be applied so that the letter occupies the position indicated in Fig. 4. Line $F G$ should coincide with the base line of the letter under examination. Then revolve the wheel until a line on it will pass through the point $H$ and will at the same time pass through the vertical axis of the stem. Read on $C$ the angle which this line subtends, and this will give in degrees the slant of the letter with reference


Figure 4. to the perpendicular. If it is then desired to determine the angle which the loop, or right hand part of the letter makes with the stem, without
moving the Templet revolve the wheel until a line is found which will "bisect the loop," that is, will pass through the major axis of the oval formed by the loop, and will thus divide the oval space into two equal parts. Read the scale again. The difference between the two readings will give the, angle which the loop makes with the stem of the letter, a point of considerable importance in studying letters.

In the lower left-hand corner of square $B$ another quadrant, $J$, has been divided off into sectors of 5 degrees, by lines radiating from the center of $B$. These lines are useful in studying such letters as the lowercase italic $e$. The following test has been found to be satisfactory. With a light pencil line produce the end of the basal upstroke of the $e$ in the direction in which it seems to be tending. Then apply the Templet so that one of the lines of $J$ "bisects the loop" of the letter, that is, as above, will pass through the major axis of the oval formed by the loop, and will thus divide the oval space into two equal parts. See Fig. 5, in which four $e$ 's from the "Prologue" are thus tested. If the pencil line, and the line thus found on $J$ intersect, either above or below, the letter may safely be classed as an $a$-form. If how-


Figure 5.
First and third $e^{\prime}$ 's are $a$-forms; second and fourth are $b$-forms. ever these two lines are parallel, then the letter may safely be classed as $b$-form.

The two remaining portions of the square $B$, the series of concentric circles, and the sets of squares within squares, are designed to aid in the dissection of large letters into their constituent units. These are best adapted to use by lettering experts and typographers who understand the principles upon which the construction of alphabets is based.

It is believed that the results obtained by these mechanical means are so nearly accurate as to exclude all chances of error which might result from the use of the naked eye alone. Mere opinion is eliminated by this process. The results being mechanical, the conclusions to which they lead are inescapable.

## MISCELLANEOUS TOOLS

The remaining illustration (Fig. 6) depicts, among other things, the implements used in preparing the Classifiers and the Alphabets. They are the ordinary draftsman's instruments: a T-square, a drawing-board, transparent triangles, a divider, a compass, and a rule. They are of little importance to the student, except in case he desires to perform for himself any of the work already done. They are illustrated merely as serving to complete an enumeration of the "tools" with which the material presented here has been prepared.

The magnifying or reading glass is, however, of extreme importance in the hands of any student, and the possession-and use-of such a glass as the one illustrated will be found indispensable to a satisfactory examination of the characteristics of letters. It should preferably be oblong in shape, so as to minimize the diffraction and possible distortion of letters not in true focus, and is an invaluable tool for the student, especially in the early stages of examination. By means of it, doubt regarding the characteristics of a letter may generally be dissolved, and through its use the presence of characteristics determining the class or form to which the letter belongs may be detected, even though these are not immediately apparent to the naked eye.

Of equal value is the micrometer which will frequently serve to prove two letters of apparently the same general appearance to differ materially in the proportion of their parts, the width of a curve, the length of a loop, etc.

Included in the illustration is a Bausch \& Lomb lantern, which has been used to great advantage in throwing magnifications of the printed page, or of individual letters, on the screen. This is done by means of lantern slides, made from the original page, or of individual letters of the original, and an ingenious device makes it possible to use a photograph for this purpose where no slide is available. The great advantage accruing from the use of a lantern lies in the fact that the letters are thrown on the screen in greatly magnified form, with their respective characteristics intensified. The presence, as well as the nature, of distinguishing characteristics of the letters is often made clear by such an examination.


Figure 6.
Some of the Implements Used in Preparing the Keys

The lantern is also, of course, indispensable as a means of explaining to an audience of several persons, or, say, to a class of students, the details of the Biliteral Cipher, as well as of pointing out the characteristics of the individual letters.

The student will understand that enumeration and illustration of some of these minor instruments has been made more for the purpose of making clear the methods used in preparing the "Keys" than for emphasizing their importance in the hands of every investigator. As the student progresses in his work, he will learn to appreciate the relative serviceability of each. Every method as well as every device resorted to by the investigators at Riverbank Laboratories is mentioned and described here, but it is not intended by this to do more than illustrate the thoroughness with which the work has, it is believed, been conducted, and to suggest that to a "nimble mind" it will in each case be a question of adaptability as experience grows.

# DESCRIPTION OF TYPICAL LETTERS IN THE "I. M. POEM" 

For some students of the Biliteral Cipher a written description of the characteristics of each typical letter, accompanied by enlarged illustration of such letter, has proved of great assistance. As in the study of a foreign language a dictionary is serviceable, to permit of frequent reference and refreshing of the memory, so in this case the written descriptions are often of great service, permitting, as they do, of instantly turning to the typical illustration of the letter under scrutiny and finding some of the principal distinguishing characteristics of each form described and contrasted. Such a course has been followed in the case of every work or passage so far studied and deciphered at Riverbank Laboratories.

For the purposes of illustrating the nature of this work, and of demonstrating its serviceability, the letters of the "I. M." Poem have been illustrated and described here (pp. 37 ff .), the upper illustration and description being in each case that of the $a$-form, with the $b$-form beneath it.

It will be evident that one occurrence only of a letter in all the sources illustrated by the "Keys" would render impossible the assignment of that letter to either form on the basis of its characteristics, there being no other form or occurrence of the same letter with which to compare or contrast it. The decipherer has no option but to assign it as the context may require. This has been done with the letters illustrated below where their occurrence is limited to the conditions described. The exact source and position of the letters illustrated and described may be ascertained by reference to the "Index of Typical Letters" (pp. 74 ff .).

Each illustration has been enlarged $31 / 3$ diameters. The letters have been so mounted on cross-section paper that the same vertical line will bisect each pair, and horizontal lines on the cross-section paper corresponding in position will be found to bisect each pair. The fine lines have been chosen for this purpose as tending to reduce to a minimum the chances of variation. Each size of letters, roman and italic, appearing in the poem is thus exhibited, forming a complete "dictionary" of every class and variety of letter used by the printer in the passage. What is said of the Classifiers is true here:
letters not occurring in the "I. M." Poem are taken from other sources which are given in the descriptions. The student is cautioned not to rely slavishly on these descriptions, however, since experience has demonstrated that an attempt to describe characteristics in writing does not always convey a uniform impression to the mind of different readers. The force of this advice will be realized by the student when he attempts to formulate the description of each letter in his own words. The student is cautioned to examine the descriptions in the light of what is said of "typical letters" on pp. 9 ff . It is a highly difficult task to put into words a description of type which is to convey the same meaning to every mind. Such has not been the intention here. The descriptions given serve to illustrate a method. If each student will prepare his own descriptions, as the letters appear to him, after studying and examining them, the illustrations here given of the method recommended will have served all the purpose intended. Instinctive recognition of a letter is to be aimed at, rather than a reliance of any description whatever. Mental visualization and a resort to mechanical dissection, in the manner described in the foregoing pages are recommended as a basic practice, with occasional resort to the descriptions as an assistance in reaching conclusions. No one method of study is to be followed to the exclusion of the others. If each of the "Keys" illustrated and described in this booklet is availed of, as occasion may recommend, it is believed that thoroughly convincing results will be reached.

## ILLUSTRATED DESCRIPTION OF THE TYPICAL LETTERS IN THE "I. M." POEM

ITALIC (Case 1)
$a$-form
Ellipse frequently has a shoulder-that is, a squareness in the upper part of the loop; the curve at bottom broader and rounder than in the $b$-form and joint lower on stem.

## $b$-form

The curve on the left outside oval as it approaches the base is less rounded than in the $a$-form, and the point of junction with the stem is higher than in the $a$-form.

$$
a \text {-form }
$$

Ellipse slightly narrower at top than at base. The angle formed by a line that will pass through the vertical axis of the stem with one that will "bisect the loop" ${ }^{1}$ is less than the corresponding angle in the $b$-form.

## $b$-form

Ellipse of even width at top and base. The angle described above is greater in this case than in the $a$-form.

[^1]
$$
a \text {-form }
$$

Curve of the back commences near top.

## $b$-form

The impression created is that of greater flatness in the back than in the $a$-form. Taken from "L. Digges" Poem.

$$
a \text {-form }
$$

Stem sometimes turns slightly to the left at the top; foot upturned; loop leaves stem at a somewhat obtuse angle, resulting in a more pointed oval than in the $b$-form.

## $b$-form

Loop leaves stem at more nearly a right angle; has a more pronounced curve at the base line, the general effect of the loop being much more circular than that of the $a$-form. The stem bends slightly to the right at the point where it is joined by the upturn of the loop.

## $a$-form

The line drawn to produce the end of the basal upstroke (in the direction in which the upstroke tends) will, either above or below the base line, intersect the line which will bisect the loop. ${ }^{1}$

$$
b \text {-form }
$$

The line bisecting the loop and the line of the upstroke produced will run approximately parallel.

$a$-form

Curve at top flatter than in the $b$-form, sometimes showing a small neck at left.

$$
b \text {-form }
$$

Letter stands nearly erect; curve of top more circular than in the $a$-form.

[^2]

$$
a \text {-form }
$$

The lower loop is attached to the center of the oval; the connecting line drops almost straight to the ellipse.

## $b$-form

The lower loop is attached a little to the left of the center of the oval; the connecting line has a curve or bend in it as it drops to the ellipse.

$$
a \text {-form }
$$

The angle formed by a line which will pass through the vertical axis of the stem, with one which will "bisect the loop"' is less than the corresponding angle in the $b$-form.

## $b$-form

The angle described above is greater in this case than in the $a$-form.

[^3]ITALIC (Case 1)—continued

## $a$-form

The kerns at top and bottom do not correspond either in appearance or direction.

$b$-form

The kerns correspond in the general direction of their strokes.


$$
a \text {-form }
$$

Left-hand outline of stem straight to base line.

$$
b \text {-form }
$$

Left-hand outline of stem turns slightly to the right as it approaches the base.



## $b$-form

The third and second down-strokes more nearly parallel than in the $a$-form, i.e., lines passing through the vertical axes of these two strokes would be nearly parallel. All parts of the letter slant to the right more than in the $a$-form, especially the hair-lines. Taken from "L. Digges" Poem.

$$
a \text {-form }
$$

The second stroke is more nearly vertical as compared with the slant of the first. Lines passing through the vertical axes of these two strokes would intersect.

## b-form

The down-strokes approximate parallelism, i.e., lines passing through the vertical axes of these two strokes would be nearly parallel.

$a$-form

The general impression created by the $a$-form, both in the outline of the oval and the interior oval, is that of a slant.

## $b$-form

Appears more erect than the $a$-form. Often more nearly an ellipse than an oval in its outline.
$a$-form
The angle formed by a line which will pass through the vertical axis of the stem, with one which will "bisect the loop" is greater than the corresponding angle in the $b$-form. Loop is narrower at bottom than top.

## $b$-form

The angle described above is less in this case. The outline of the loop is equal or nearly so at top and bottom.

[^4]
$b$-form
Curves at top and bottom more rounded than in the $a$-form.

## $a$-form

Curves at top and bottom less pronounced and give the letter a narrow, pinched appearance.

## b-form

Top and bottom more pronounced and distinctive, giving the letter more character and strength.


$$
a \text {-form }
$$

Foot upturned, giving a rounded base to the letter. More slanting than the $b$-form.

## $b$-form

The letter as a whole is slightly taller and more erect than the $a$-form.



$$
a \text {-form }
$$

The connecting line seems to intersect rather than to merge with the second stroke. The second down-stroke runs straight to the baseline.

$$
b \text {-form }
$$

The connecting line joins the second upright at a higher point than in the $a$-form, appearing tangent to it rather than intersecting it. Letter nearly erect; the second down-stroke tends slightly to the right before reaching the base-line.

$$
a \text {-form }
$$

The letter is flat topped.

$$
b \text {-form }
$$

First and third strokes on the left extend above the body of the letter.

$$
a \text {-form }
$$

First stroke nearly vertical; second stroke same, until it' reaches the base-line, i.e., the line upon which the type-letters stand, then it curves sharply. Hence the space between the strokes at the top is narrower than in the $b$-form, and the second stroke seems to be an arc of a circle whose diameter is smaller than that of the corresponding circle in the $b$-form.

## $b$-form

First stroke slants toward the left; second stroke slants toward the right before curving, and thus seems to be an arc of a circle whose diameter is greater than that of the corresponding circle in the $a$-form. Taken from "L. Digges" Poem.

## DIGRAPHS

$$
a a \text {-form }
$$

The union of a rounded-backed $c$ that shows an angle in the base, with a $t$ that comes well down to the line of writing with the slant of the $a$-form and the curved, upturned foot, gives the combination " $a a$."

## $b b$-form

The union of a narrow flat-backed $c$ rounded at base, with a $t$ that bends slightly and has an angular base, with a straight foot directed outwards, gives the combination " $b b$." Taken from "The Prologue."



$$
a b \text {-form }
$$

The union of a rounded-backed $c$ that shows an angle in the base, with a $t$ that has an angular base with a straight foot directed outwards, gives the combination " $a b$."

## $b a$-form

The union of a $c$ whose roundness commences near center of back, with a $t$ that comes well down to the line of writing with the slant of the $a$-form and the curved, upturned foot, gives the combination " $b a$."

## aa-form

The union of a short, well-rounded $i$ with an $s$ narrow in the head and angular in the base, gives the combination "aa."

## bb-form

The union of a sharply-pointed $i$ with an $s$ having a long top and with a curve extending nearer to the base line gives the combination " $b b$." Taken from "L. Digges" Poem.

ITALIC (Case 1)-continued
DIGRAPHS—continued

$$
a b \text {-form }
$$

The union of an $i$ whose kern does not correspond with the curve of the base with an $s$ having a narrow top, gives the combination "ab." Taken from "L. Digges" Poem.

## ba-form

The union of a somewhat large $i$, the kern and base corresponding, with an $s$ flat in the head, gives the combination " $b a$."

$$
a a \text {-form }
$$

The union of a long $\mathcal{f}$, having a flatter curve at the top, with a $t$ having a slanting bar and somewhat wide angle between the foot and the stem, gives the combination "aa."

## $b b$-form

The union of a long $\int$ having a well-curved head, with a $t$ having a nearly horizontal bar, gives the combination " $b b$." Taken from "L. Digges" Poem.


## DIGRAPHS-continued


$a b$-form
The union of a delicate long $\int$ having a flat curve at top, with a $t$ having a bar nearly horizontal and a foot somewhat close, gives the combination "ab." Taken from "L. Digges" Poem.

## ba-form

The union of a somewhat strong $\int$ having a well-curved top, with a $t$ having slanting bar, gives the combination " $b a$." Taken from "L. Digges" Poem.

> ITALIC (Case 2)
> $a$-form

Cross-bar straight and only slightly slanting. Some instances of this letter have distinct kerns at the top; one or two show an "accent" on the left foot; others show dots. The presence of the kern at the top, or of accents or dots determines the form.
$b$-form
Cross-bar curved at left or distinctly slanting. No kern at top.

## ITALIC (Case 2)—continued

$a$-form

A long letter extending below the line of writing.

$$
b \text {-form }
$$

Same general height as the other capitals. Taken from "A Catalogue."

$$
a \text {-form }
$$

If lines are produced exactly along the top and the base, the two lines will intersect at a point from two to three inches from the letter. Slightly narrower than the $b$-form. Taken from "The Prologue."

$$
b \text {-form }
$$

Lines produced exactly along the top and base will intersect at a point two or three inches farther from the letter. Slightly wider than the $a$-form.



$$
a \text {-form }
$$

Lines produced along the top and tongue or crossbar will intersect at a point very near the letter. Slightly narrower than the $b$-form. Taken from "L. Digges" Poem.

$$
b \text {-form }
$$

Similar lines will intersect at a point from four to five inches from the letter. Slightly wider than the $a$-form.

$a$-form
The chin nearly vertical, with brow overhanging. Taken from "The Prologue."

$b$-form
Chin slanting; the letter is thus more symmetrical than is the $a$-form.

$$
a \text {-form }
$$

Third stroke ends in a kern that is distinctly curved. Taken from "L. Digges" Poem.

$$
b \text {-form }
$$

Third stroke ends in a kern that is straight and blunt.


$$
a \text {-form }
$$

The loop has a strong, full curve, approaching the stem more closely than in the $b$-form.

$$
b \text {-form }
$$

The loop ends at a point farther from the stem than in the $a$-form. Width of the loop slightly greater than in the $a$-form. Taken from "The Prologue."



$$
a \text {-form }
$$

More slanting than the $b$-form. Curves pronounced; a hook-shaped letter. Taken from "L. Digges" Poem.

## b-form

More erect. Curves not so pronounced; a wider letter than the $a$-form.

ITALIC (Case 2)-continued

$$
a \text {-form }
$$

Curved, ornate top.

$$
b \text {-form }
$$

Romanesque. Taken from "The Prologue."

## $a$-form

First up-stroke extends nearly to the top of the letter. Width between perpendicular strokes noticeably greater than in the $b$-form. A tall letter.

## $b$-form

First up-stroke very short. Width between first and third strokes less than in the $a$-form. It is accented and therefore marked as $a$-form.


$a$-form
The base line produced would not complete the oval.
$b$-form
More erect than the $a$-form. Lower line of loop rounds into stem, making the loop appear an oval. Taken from "Principall Actors."

$$
a \text {-form }
$$

Spreading at the base with the loop rounded.

## b-form

The base line produced joins the top and completes the oval.

ITALIC (Case 3)-continued

$$
a \text {-form }
$$

Loop narrow at top, and pointed. The angle formed by a line that will pass through the vertical axis of the stem, with one that will "bisect the loop" ${ }^{1}$ is greater than the corresponding angle in the $b$-form.

## $b$-form

The angle described above is less in this case than in the $a$-form. Taken from "Principall Actors."
$a$-form
The two lines of the small loop approach each other as they join the stem.

## $b$-form

The two lines of the loop remain widely separated as they join the stem. Taken from "Principall Actors."

[^5]

$$
a \text {-form }
$$

Loop broader at the base than in the $b$-form. Base line of loop meets stem at approximately a right angle.

## $b$-form

Loop narrower at base than in the $a$-form, and the lower line slants into stem. Taken from "Principall Actors."
$a$-form
The two arms spread at approximately equal angles from the stem.

$$
b \text {-form }
$$

The left arm is inclined to follow the direction of the stem, while the right one spreads as in the $a$-form. Taken from "Principall Actors."

ITALIC (Case 3)--continued

$$
a \text {-form }
$$

Horizontal line appears on the inside of the top and base kerns. Curves more pronounced than in the $b$-form.

## $b$-form

Curves not so pronounced, the top and bottom curves do not correspond. Taken from "Principall Actors."
ITALIC (Case t)
$a$-form
Curves at top and bottom more pronounced than in the $b$-form.

## $b$-form

Curves at top and base flat-inclined. Taken from "Principall Actors."



## ROMAN (Case 5)

$$
a \text {-form }
$$

The upper and lower lines of the loop or oval if produced on the right will run approximately parallel.

## $b$-form

The outlines of the loop if produced approach each other.

$$
a \text {-form }
$$

Slightly more circular in contour than the b-form.

## b-form

Slightly move oval in contour, foot less circular than in the $a$-form.


$$
a \text {-form }
$$

A more pronounced curve on the outside of the loop than the $b$-form.

$$
b \text {-form }
$$

Slightly flatter at the outside top of the curve, and the line descending from the curve to the base line is not as vertical as in the $a$-form. Taken from "L. Digges" Poem.


$$
a \text {-form }
$$

Stem tapers as it reaches the top, and the top kern is straighter on its outer line than in the $b$-form. Taken from "L. Digges" Poem.

## $b$-form

Stem apparently uniform in width; the upper kern is less sharp than in the $a$-form.

$$
a \text {-form }
$$

A shorter letter than the $b$-form. The point of junction of limbs and stem shows noticeable differences between the two forms. Taken from "L. Digges" Poem.
$b$-form
Slightly taller than the $a$-form.

$$
a \text {-form }
$$

The oval longer than in the $b$-form.

$$
b \text {-form }
$$

The loop distinctly rounded at top and bottom. Taken from "L. Digges" Poem, where a dot changes its significance to $a$-form.

$$
a \text {-form }
$$

The stem resembles the $a$-form $i$; the limb is well curved and larger than that of the $b$-form. Taken from "L. Digges" Poem.

$$
b \text {-form }
$$

The stem is like the $b$-form $i$. The right kern projects more at a right angle and is smaller.



$$
a \text {-form }
$$

Higher than the $b$-form and heavier in outline, with a sharper curve at the top.

$$
b \text {-form }
$$

Possesses the characteristics of the "old-style" type, as the term is used by present-day printers. The curve is flatter and wider and the general outline of the letter is lighter. Taken from "L. Digges" Poem.
$a$-form
The toe is longer and more curved than in the $b$-form.

$$
b \text {-form }
$$

The toe turns more sharply outward than in the $a$-form. Taken from "L. Digges" Poem.

## $a$-form

No example.
$b$-form
Form determined by context.

ROMAN (Case 6)
$a$-form
Form determined by context.
b-form
No example.


$$
a \text {-form }
$$

Close measurement shows the $a$-form to be slightly taller than the $b$-form. The space enclosed in the lower half is vertically longer than that in the $b$-form. Taken from " $L$. Digges" Poem.

$$
b \text {-form }
$$

Tips of the curves less finished and sharp. Slightly shorter, and space within lower curve less than in $a$-form.

> ROMAN (Case 7)

$$
a \text {-form }
$$

The upstroke of the bottom curve, if extended, will pass close to the upper loop because of the greater width of this loop as compared with the $b$-form.

## $b$-form

Greater space between the extension of the bottom curve and the upper loop because of the comparative narrowness of the letter. Bar of the loop slightly slanting.

$$
a \text {-form }
$$

Form determined by context.

## b-form

No example.

$$
a \text {-form }
$$

A clumsier, heavier letter than the $b$-form with a more pronounced curve in the upper portion of the loop, except where it joins the stem.

## $b$-form

The loop, at the point where it joins the stem, has a greater curve than in the $a$-form. Taken from " Principall Actors."



$$
a \text {-form }
$$

A heavier, clumsier letter than the $b$-form, with kern blunt.

$$
b \text {-form }
$$

The kern is more angular and sharply prominent.

$$
a \text {-form }
$$

A clumsier, heavier letter than the $b$-form, with a more pronounced curve in the upper portion of the second loop.
$b$-form
The inner margin of the last loop, at the point where it joins the stem, creates the impression of greater squareness and less of a curve than in the $a$-form.

$$
a \text {-form }
$$

If the letter be placed in a right angle so that the left and bottom curves of the letter are tangent to the sides of the angle, a line bisecting the angle will also bisect the oval of the letter.

## $b$-form

The test described for the $a$-form will result in the oval being divided in such a way that the greater portion is above the line of bisection of the right angle. Taken from "A Catalogue."

$$
a \text {-form }
$$

Possesses the characteristics of what is known in printer's language as "modern" type.

## $b$-form

An "old-style" letter. Taken from "Principall Actors" and "A Catalogue."


# ROMAN (Case 7)-continued 


$a$-form
Curve at base more pronounced than in the $b$-form.

$b$-form
Wider and flatter at the base. Taken from "Principall Actors."

INITIAL LETTER


$$
a \text {-form }
$$

No example.

$$
b \text {-form }
$$

Form determined by context.

## $a$-form

Form determined by context.

## $b$-form

No example.

## $a$-form

Possesses the characteristics of the form known to printers as "modern." Taken from "A Catalogue."

## $b$-form

Slightly higher and pronouncedly heavier, particularly where the top joins the kerns.



## THE INDEX OF TYPICAL LETTERS

The last section of this booklet (pp. 75 to 100) is devoted to an "Index of Typical Letters." The student desiring to trace the source of each of the "typical letters" constituting the Classifiers and the Alphabets will find here the work done for him. If, for instance, the source of the $a$-form of the small italic $y$ in the "I. M." Poem is desired to be ascertained, the List of Arbitrary Case Numbers at the beginning of the Index should first be examined to ascertain the case number assigned to the small italic in the "I. M. "Poem. The section of the Index assigned to this poem should then be turned to, and the appropriate case-number name and heading found. In the instance named above (the lower-case italic $a$-form $y$ ) it will be ascertained to come from the word "Thy" in line 4 of the poem. In each case where a letter of a given form did not occur in a passage covered by the section in question, the source is indicated; thus in the case of the $b$-form $y$, the phrase: "Dig. 2 Thy (2nd)," means that the $b$-form of the $y$ was taken for purposes of illustration from the word "Thy" (2nd occurrence) in line 2 of the "Digges" Poem, there being no occurrence of the $b$-form $y$ in the "I. M." Poem.

The method of illustrating the typical letters by a form not found in any given passage will be found fully explained above in the sections entitled "The Alphabets and Classifiers" (pp. 7 ff.).

For suggestions which will afford material assistance in the work of decipherment, the student is referred to a booklet entitled "Hints to the Decipherer of the Greatest Work of Sir Francis Bacon," etc., to be obtained on application to Riverbank Laboratories.

## INDEX OF TYPICAL LETTERS ${ }^{1}$

The following list contains examples of the various sizes of type to which arbitrary case numbers have been assigned for convenience.

| CASE | DESCRIPTION |  | SOURCE |  | LINE | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Italic | small | "I. M | " Poem | 5 | Art |
| 2 | " | capitals | " | " | 5 | Art |
| 3 | " | small | " | " | Title | Shakespeare |
| 4 | " | capitals | " | " | Title | Shakespeare |
| 5 | Roman | small | " | " | 1 | Shakespeare |
| 6 | " | capitals | " | " | 1 | Shakespeare |
| 7 | " | small | " | " | Title | To |
| 8 | " | capitals | " | " | Title | To |
| 9 | " | small | "Prin | cipall Actors" | Tit. 5 | Principall |
| 10 | " | capitals | " | " | Tit. 5 | Principall |
| 11 | " | small | 6 | " | Tit. 1 | Workes |
| 12 | " | capitals | " | " | Tit. 1 | Workes |
| 13 | " | capitals | "A Ca | talogve" | Tit. 1 | CATALOGVE |
| 14 | " | capitals | "L. D | igges" Poem | Tit. 3 | Shakespeare |

[^6]
## TYPICAL LETTERS IN "I. M." POEM

|  | ITALIC (Case 1) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$-form |  |  |  | b-for |  |
| Letter | line | word | Letter |  | Line | word |
| a | 5 | applause | a |  | 4 | Spectators |
| b | 4 | but | b |  | 3 | but |
| c | 8 | Re-entrance | c | Dig. | 2 | which |
| d | 6 | second | d |  | 3 | printed |
| e | 1 | wondred | e |  | 1 | went'st |
| f | 4 | forth | f |  | 7 | of |
| g | 2 | Stage | g |  | 2 | Tyring |
| h | 5 | with | h |  | 3 | thy |
| i | 3 | printed | i |  | 7 | Mortalitie |
| 1 | 6 | liue | 1 |  | 2 | Worlds |
| m | 2 | From | m | Dig. | 3 | must |
| n | 5 | enter | n |  | 7 | an |
| o | 3 | worth | o |  | 2 | Worlds |
| p | 3 | printed | p |  | 4 | Spectators |
| r | 2 | Graues | r |  | 4 | forth |
| f | 6 | fecond | f |  | 1 | fo |
| s | 2 | Worlds | s |  | 7 | That's |
| t | 1 | that | t |  | 4 | thy |
| u | 3 | but | u |  | 1 | thou |
| w | 1 | wondred | w |  | 5 | with |
| y | 4 | thy | y | Dig. | 2 | thy (2nd) |

DIGRAPHS

| DIGRAPH |  | Line | WORD | DIGRAPH | LINE | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ct |  | 5 | Actors | is | 3 | this |
| ct |  | 6 | acte | is | Dig. 3 | is |
| ct |  | 4 | Spectators | $f t$ | 1 | went' $/ t$ |
| ct | Pro. |  | Expectation | ft | Dig. | $\mathrm{mu} / \mathrm{t}$ |
| is |  | 8 | This | $\mathrm{f} t$ | Dig. 3 | ftone |
| is | Dig. |  | This | ft | Dig. 14 | mift |

## TYPICAL LETTERS IN "I. M." POEM—continued

|  |  | $a$-form ITALIC (Case 2) |  |  | b-form |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
| Letter |  | Line | word | Letter |  | Line | WORD |
| A |  | 5 | Art | A |  | 5 | An |
| C |  | 6 | Can | C | Cat. | 5 L | Comedy |
| E | Pro. | 20 | Expectation | E |  | 1 | Wee |
| F | Dig. | 7 | $F$ resh | F |  | 2 | From |
| G | Pro. | 1 | Greece | G |  | 2 | Graues |
| M | Dig. | 4 | Moniment | M |  | 7 | Mortalitie |
| P |  | 8 | Plaudite | P | Pro. | 7 | Put |
| R | Pro. | 6 | Regall | R |  | 8 | Re-entrance |
| S | Dig. | 18 | Sword | S |  | 4 | Spectators |
| T |  | 2 | Tyring | T | Pro. | 15 | Their |
| W |  | 3 | $W_{\text {EE }}$ | W |  | 2 |  |

ITALIC (Case 3)

| $a$-form |  |  |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :--- | :---: |
| Letter | Line | word | Letter | Line | word |  |
| a | Title | Shakespeare | a | P.A. 1R | Samuel |  |
| e | Title | Shakespeare | e | Title | Shakespeare |  |
| h | Title | Shakespeare | h | P.A. 6R | Nicholas |  |
| k | Title | Shakespeare | k | P.A.13L | Cooke |  |
| p | Title | Shakespeare | p | P.A. 5L | Kempt |  |
| r | Title | Shakespeare | r | P.A. 2L | Richard |  |
| $f$ | Title | Shakefpeare | $\mathcal{f}$ | P.A. 8R | Jofeph |  |

ITALIC (Case 4)

| $a$-form |  |  |  |  | b-form |  |
| :---: | :---: | :--- | :---: | :---: | :--- | :---: |
| Letter | line | WORD | Letter | line | word |  |
| S | Title | Shakespeare | S | P. A. 1L | Shakespeare |  |
| W | P. A. 5 L | William | W | Tit. 1 | W |  |

## TYPICAL LETTERS IN 'I. M." POEM-continued



ROMAN (Case 6)

|  | $a$-form |  |  | b-form |  |  |
| :---: | :---: | :--- | :---: | :---: | :---: | :---: |
| LETTER | LINE | WORD | LETTER | LINE | WORD |  |
| E | 7 | Exit | E |  | $\ldots \ldots$ |  |
| S | Dig. 21 | Shakespeare | S | 1 | Shakespeare |  |

> ROMAN (Case 7)

| $a$-form |  |  | b-form |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LETTER | LINE | WORD | Letter | R LINE | WORD |
| e | Title | memorie | e | Title | the |
| f | Title | of | f |  |  |
| h | Title | the | $h \mathrm{P}$. | P. A. Tit. 6 | these |
| i | Title | memorie | i P. | P. A. Tit. 3 | according |
| m | Title | memorie | m | Title | memorie |
| 0 | Title | To | - C | Cat. Tit. 3 | Volume |
| r | Title | memorie | $r \mathrm{P}$. | P. A. Tit. 3 | Tragedies |
| t | Title | the | t P. | P. A. Tit. 3 | set |
| ROMAN (Case 8) |  |  |  |  |  |
| $a$-form |  |  | b-form |  |  |
| Letter | LINE | WORD | LETTER | R LINE | WORD |
| M | Title | M | M |  |  |
| T | Cat. Sub-Tit | Histories | T | Title | To |

Letters Taken from Other Sources to Supplement the Alphabets and the Classifiers for the "I. M." Poem"

| No. | LETTER | CASE | FORM | From | LINE | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | O | 7 | b | Cat. | Tit. 3 | Volume |
| 2 | T | 8 | a | Cat. | Sub-Title | Histories |
| 3 | r | 7 | b | P.A. | Tit. 3 | Tragedies |
| 4 | W | 4 | a | P.A. | 5L | $W$ illiam |
| 5 | a | 3 | b | P.A. | 1R | Samuel |
| 6 | f | 3 | b | P.A. | 8R | Jofeph |
| 7 | $f$ | 5 | b | Dig. | 9 | Shakefpeares |
| 8 | /t | 1 | bb | Dig. | 14 | mift |
| 9 | S | 2 | a | Pro. | 1 | Scene |
| 10 | T | 2 | b | Pro. | 15 | Their |
| 11 | y | 1 | b | Dig. | 2 | thy (2nd) |
| 12 | C | 2 | b | Cat. | 5L | Comedy |
| 13 | c | 1 | b | Dig. | 2 | which |
| 14 | t | 5 | b | Dig. | 4 | Stratford |
| 15 | M | 2 | a | Dig. | 4 | Moniment |
| 16 | is | 1 | bb | Dig. | 3 | is |
| 17 | P | 2 | b | Pro. | 7 | Put |
| 18 | i | 7 | b | P.A. | Tit. 3 | according |
| 19 | S | 4 | b | P.A. | 1L | Shakespeare |
| 20 |  | 3 | b | P.A. | 2L | Richard |
| 21 | E | 2 | a | Pro. | 20 | Expectation |
| 22 | S | 6 | a | Dig. | 21 | Shakespeare |
| 23 | k | 5 | a | Dig. | 1 | Sнаkespeare |
| 24 |  | 5 | a | Dig. | 9 | Shakespeares |
| 25 | G | 2 | a | Pro. | 1 | Greece |
| 26 | m |  | b | Dig. | 3 | must |
| 27 | h | 3 | b | P.A. | 6R | Nicholas |
| 28 | h | 5 | b | Dig. | 9 | Shakespeares |
| 29 | e | 5 | b | Dig. | 16 | Iuliet |
| 30 | F | 2 | a | Dig. | 7 | $F$ resh |
| 31 | is |  | ab | Dig. | 5 | This |
| 32 | ct | 1 | bb | Pro. | 20 | Expectation |
| 33 | i | 5 | a | Dig. | 16 | Iuliet |
| 34 | R | 2 | a | Pro. | 6 | Regall |
| 35 | $f \mathrm{t}$ | 1 | ab | Dig. | 3 | muft |
| 36 | $f \mathrm{t}$ | 1 | ba | Dig. | 3 | ftone |
| 37 | h | 7 | b | P.A. | Tit. 6 | these |
| 38 | t | 7 | b | P.A. | Tit. 3 | set |
| 39 | p (doted) | 5 | b | Dig. | 1 | Shakespeare |
| 40 | k | 3 | b | P. A | 13L | Cooke |
| 41 | p | 3 | b | P. A. | 5L | Kempt |

${ }^{1}$ The numbers in the first column correspond to the numbers accompanying the letter in question in the Alphabets and in the Classifiers.

## TYPICAL LETTERS IN "L. DIGGES" POEM

ITALIC (Case 1)

|  | $a$-form |  | b-form |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LETTER | Line | WORD | Letter | line | WORD |
| a | 1 | at | a | 6 | shall |
| b | 2 | by | b | 3 | tombe |
| c | 9 | each | c | 2 | which |
| d | 6 | fade | d | 4 | dissolues |
| e | 11 | Fire | e | 6 | Marble |
| f | 6 | $f$ ade | f | 1 | fellowes |
| g | 1 | length | g | 11 | cankring |
| h | 1 | length | h | 9 | each |
| i | 10 | reuiue | i | 2 | out-liue |
| k | 2 | Workes (1st) | k | 5 | Booke |
| 1 | 6 | Marble | 1 | 5 | aliue |
| m | 10 | redeeme | m | 3 | must |
| n | 11 | nor | n | 4 | Moniment |
| o | 2 | world | o | 6 | looke |
| p | 1 | pious | p | 14 | sped |
| r | 6 | Marble | r | 7 | Posteritie |
| ¢ | 18 | Jpake | f | 9 | Verfe |
| s | 1 | pious | s | 1 | fellowes |
| t | 1 | thy | t | 1 | length |
| u | 5 | aliue | u | 1 | pious |
| v | 5 | view | v | Pro. 24 | voyce |
| w | 5 | view | w | 5 | we |
| x | Pro. 15 | si $x$-gated | x | 20 | exprest |
| y | 1 | thy | y | 2 | thy (2nd) |

DIGRAPHS

| digraph | line | WORD | DIGRAPH | Line | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| fi | Pro. 27 | firstlings | f $h$ | 12 | f $h$ all |
| $f \mathbf{i}$ | Pro. 23 | confidence | fh | 13 | fhall |
| fi | 20 | fire | ff | 6 | Braf/e |
| is | 8 | is | ff | 4 | diffolues |
| is | 5 | This | $f t$ | 5 | ftill |
| is | 9 | is | ft | 3 | mu/t |
| is | 3 | is | f $t$ | 3 | ftone |
| fh | 6 | Shall | ft | 14 | mift |

TYPICAL LETTERS IN "'L. DIGGES" POEM-continued
ITALIC (Case 2)

|  | $a$-form |  |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Letter |  | line | word | Letter | line | word |
| A |  | 7 | $A \mathrm{ges}$ | A | 11 | Age |
| B |  | 21 | $B \mathrm{e}$ | B | 22 | But |
| F |  | 7. | Fresh | F | Pro. 1 | From |
| H |  | 10 | Here | H | Pro. 3 | Haue |
| I |  | 13 | I | I | 17 | I |
| L |  | 22 | Lawrell | L | 9 | Line |
| M |  | 4 | Moniment | M | I. M. 7 | Mortalitie |
| N |  | 11 | Nor | N | Pro. 31 | Now |
| O |  | 12 | Of | O | Pro. 5 | Of |
| P |  | 7 | Posteritie | P | Pro. 7 | Put |
| S |  | 18 | Sword | S | 20 | Shall |
| T |  | 3 | Thy | T | 14 | Though |
| V |  | 9 | $V$ erse | V | 19 | Volumes |
| W |  | 2 | $W$ orkes (1st) | W | 2 | Workes (2nd) |
| ROMAN (Case 5) |  |  |  |  |  |  |
|  | $a$-form |  |  | b-form |  |  |
| Letter |  | Line | WORD | Letter | Line | word |
| a |  | 1 | Shakespeare | a | 11 | Naso |
| d | Pro. | 16 | Dardan | d | 4 | Stratford |
| e |  | 9 | Shakespeares | e | 1 | Shakespeare |
| f |  |  |  | f | 4 | Stratford |
| h | I. M. | 1 | Shakespeare | h | 9 | Shakespeares |
| i |  | 16 | Iuliet | i | I. M. 7 | Exit |
| k |  | 1 | Shakespeare | k | I. M. 1 | Shakespeare |
| 1 | Pro. | 16 | Helias | 1 | 16 | Iuliet |
| m |  | 18 | Romans | m |  |  |
| n |  | 18 | Romans | n | Pro. 9 | Menelaus |
| o |  | 16 | Romeo | o | 18 | Romans |
| p |  | 9 | Shakespeares | p | 1 | Shakespeare (doted) |
| r |  | 9 | Shakespeares | r | 1 | SHakespeare |
| f |  | 1 | Shake / peare | f | 9 | Shakefpeares |
| s |  | 18 | Romans |  | Pro. 16 | Chetas |
| t |  | 4 | Stratford | t | 4 | Stratford |
| u |  | 16 | Iuliet | u | Pro. 17 | Antenonidus |

TYPIGAL LETTERS IN "L. DIGGES" POEM—continued


ROMAN (Case 9)

| $a$-form |  |  |  | b-form |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Letter |  | line | WORD | Letter | R Line | word |
| a |  | Tit. 2 | deceased | a | Cat Tit. 2 | Tragedies |
| c |  | Tit. 2 | deceased | P | P. A. Tit. 2 | containing |
| d |  | Tit. 2 | deceased | d | Tit. 2 | deceased |
| e |  | Tit. 2 | deceased | e | Tit. 2 | the |
| f |  | Tit. 2 | of | f |  |  |
| h |  | Tit. 2 | the | h | P. A. Tit. 5 | the (2nd) |
| i | Cat. | Tit. 2 | Comedies | i | Tit. 2 | Maister |
| o |  | Tit. 2 | of | o | P. A. Tit. 2 | Comedies |
| r |  | Tit. 2 | Author | $r$ | Cat. Tit. 2 | Histories |
| f |  | Tit. 2 | decea/ed | $\mathcal{J}$ |  |  |
| t |  | Tit. 2 | $t$ he | t | Cat. Tit. 2 | the |
| u |  |  |  | u | Tit. 2 | Author |

## TYPICAL LETTERS IN "L. DIGGES" POEM-continued

|  |  | DIGRAPH | (Case 9 continu |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { IGRAPH } \\ & \mathbf{f} t \end{aligned}$ | $\begin{aligned} & \text { Line } \\ & \text { Tit. } 2 \end{aligned}$ | word <br> Maifter |  |
|  | $a$-for | ROM | N (Case 10) | b-for |  |
| Letter | line | WORD | letter | line | WORD |
| A | Tit. 2 | $A$ uthor | A |  |  |
| M | Tit. 2 | Maister | M |  |  |
|  |  | ROM | N (Case 12) |  |  |
|  | $a$-for |  |  | b-for |  |
| Letter | line | WORD | Letter | line | WORD |
| E | Tit. 1 | Memorie | E | Tit. 1 | The |
| H | Tit. 1 | $\mathrm{T}_{\text {IIE }}$ | H |  |  |
| I | Tit. 1 | Memorie | I |  |  |
| M | Tit. 1 | Memorie | M | Tit. 1 | Memorie |
| O | Tit. 1 | To | O |  |  |
| R | Tit. 1 | Memorie | R |  |  |
| T | Tit. 1 | To | T | Tit. 1 | The |
|  |  | ROM | N (Case 14) |  |  |
|  | $a$-for |  |  | b-fo |  |
| Letter | Line | WORD | Letter | Line | WORD |
| E | Tit. 3 | Shakespeare | A | Tit. 3 | Shakespeare |
| H | Tit. 3 | Shakespeare | E | Tit. 3 | Shakespeare |
| K | Tit. 3 | Shakespeare | H |  |  |
| P | Tit. 3 | Shakespeare | K |  |  |
| R |  |  | R | Tit. 3 | Shakespeare |
| S |  |  | S | Tit. 3 | Shakespeare |

Letters Taken from Other Sources to Supplement the Alphabets and the Classifiers for the "L. Digges" Poem"

| No. | Letter | CASE | FORM | FROM | LINE | word |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | a | 9 | b | Cat. | Tit. 2 | Tragedies |
| 2 | c | 9 | b | P. A. | Tit. 2 | containing |
| 3 | h | 9 | b | P. A. | Tit. 5 | the |
| 4 | i | 9 | a | P. A. | Tit. 2 | Comedies |
| 5 | - | 9 | b | P. A. | Tit. 3 | Comedies |
| 6 | S | 8 | b | Cat. | Sub-Title | Histories |
| 7 | g | 7 | b | P. A. | Tit. 3 | Tragedies |
| 8 | i | 7 | b | Cat. | Tit. 3 | this |
| 9 | d | 5 | a | Pro. | 16 | Dardan |
| 10 | h | 5 | a | I. M. | 1 | Shakespeare |
| 11 | i | 5 | b | I. M. | 7 | Exit |
| 12 | k | 5 | b | I. M. | 1 | Shakespeare |
| 13 | 1 | 5 | a | Pro. | 16 | Helias |
| 14 | n | 5 | b | Pro. | 9 | Menelaus |
| 15 | s | 5 | b | Pro. | 16 | Chetas |
| 16 | u | 5 | b | Pro. | 17 | Antenonidus |
| 17 | F | 2 | b | Pro. | 1 | From |
| 18 | H | 2 | b | Pro. | 3 | Haue |
| 19 | M | 2 | b | I. M. | 7 | Mortalitie |
| 20 | N | 2 | b | Pro. | 31 | Now |
| 21 | O | 2 | b | Pro. | 5 | Of |
| 22 | P | 2 | b | Pro. | 7 | Put |
| 23 | v | 1 | b | Pro. | 24 | voyce |
| 24 | x | 1 | a | Pro. | 15 | six-gated |
| 25 | fi | 1 | aa | Pro. | 27 | firstlings |
| 26 | fi | 1 | ab | Pro. | 23 | confidence |
| 27 | r | 9 | b | Cat. | Tit. 2 | Histories |
| 28 | t | 9 | b | Cat. | Tit. 2 | the |

1 The numbers in the first column correspond to the numbers accompanying the letters in question in the Alphabets and in the Classifiers.

## TYPIGAL LETTERS IN "A CATALOGVE"

## ITALIC (Case 1)

| $a$-form |  |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LETTER | LINE | WORD | Letter | LINE | WORD |
| a | 16R | Lear | a | 13L | what |
| b | 14R | Macbeth | b | Pro. 15 | braue |
| c | 2R | Second | c | 17R | Venice |
| d | 15R | Tragedy | d | 12L | Ends |
| e | 14R | Macbeth | e | 12R | Athens |
| f | 5R | of. | f | 2R | of |
| g | 11L | Taming | g | 3R | King |
| h | 17R | Othello | h | 13 L | Night |
| i | 3R | Life | , | 19R | Britaine |
| k | 10L | Like | k | Pro. 8 | ransacke |
| 1 | 17R | Othello | 1 | 14L | Tale |
| m | 12R | Timon | m | 11L | Taming |
| n | 5R | Hen. | n | 5R | Second |
| - | 19R | of | o | 16L | of |
| p | 6R | part | p | 18R | Cleopater |
| r | 18R | Cleopater | r | 17R | Moore |
| f | 3L | Wind for | f | 13R | Caefar |
| s | 10L | As | s | 12L | Ends |
| t | 11L | $t$ he | t | 12R | Athens |
| u | 13R | Julius | u | 5L | Errours |
| W | 13 L | what | W | 2L | two |
| X | Pro. 15 | six-gated | X | 6R | Sixt |
| y | 1R | Henry | y | 18R | Anthony |

DIGRAPHS

| DIGRAPH |  | LINE | WORD |  | DIGRAPH | LINE | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\int t$ |  | 1R | Fir $\int t$ |  | us | 9R | Coriolanus |
| $f \mathrm{t}$ |  | 4R | Fir $\int \mathrm{t}$ |  | us | 13R | Julius |
| $\mathbf{f} t$ | Pro. |  | ftarting |  | us | 10R | Titus |
| ft |  | 1L | Tempeft |  | st | 7 L | Lost |
|  |  |  | DIPHTHONG |  |  |  |  |
|  |  |  | DIPHTHONG | LINE | WORD |  |  |
|  |  |  | $a \mathrm{e}$ | 13R | Caesar |  |  |


|  | $a$-form ITALIC (Case 2) |  |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
| Letter |  | Line | WORD | Letter | line | WORD |
| A |  | 10R | $A$ ndronicus | A | Pro. 17 | And |
| B | Pro. | . 12 | Barke | B | 19R | Britaine |
| C |  | 13R | Caesar | C | 5L | Comedy |
| D |  | 15L | Death | D | 7 R | Death |
| E |  | 5L | Errours | E | 12L | Ends |
| F |  | 1 R | First | F | 4 R | First |
| G |  | 2L | Gentlemen | G | Pro. 21 | Greeke |
| H |  | 3R | Henry | H | 8R | Henry |
| I | Pro. | . 1 | Iles | I | 11R | Iuliet |
| K |  | 15L | King | K | 16R | King |
| L |  | 13R | Life | L | 16R | Lear |
| M |  | 9L | Merchant | M | 17R | Moore |
| N |  | 13L | $N$ ight | N | Pro. 31 | Now |
| O | Pro. | . 2 | Orgillous | O | 17R | Othello |
| R |  | 16L | Richard | R | I. M. 8 | Re-entrance |
| S |  | 11L | Shrew | S | Pro. 5 | Sixty |
| T |  | 11L | Taming | T | 1R | The |
| V |  | 17R | $V$ enice | V | Dig. 19 | Volumes |
| W |  | 3L | $W$ iues | W | 3L | Windsor |
| \& |  | 16L | छ | \& |  |  |

ROMAN (Case 7)
$a$-form

## b-form

| Letter | line | WORD | Letter | R Line | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a | Tit. 3 | contained | a |  |  |
| c | Tit. 3 | contained | c P | P. A. Tit. 3 | according |
| d | Tit. 3 | contained | d | Tit. 3 | -gedies |
| e | Tit. 3 | -gedies | e | Tit. 3 | contained |
| g | Tit. 3 | -gedies | g | P. A. Tit. 3 | Tragedies |
| h | Tit. 3 | this | h | P. A. Tit. 6 | these |
| i | Tit. 3 | in | i | Tit. 3 | this |
| 1 | Tit. 3 | Volume |  | P. A. Tit. 3 | Truely |
| m | Tit. 3 | Volume | $m \mathrm{I}$ | I. M. Tit. 1 | memorie |
| n | Tit. 3 | contained | n | Tit. 3 | in |
| o | Tit. 3 | contained | o | Tit. 3 | Volume |
| s | Tit. 3 | this |  | P. A. Tit. 3 | Tragedies |
| t | Tit. 3 | $t$ his |  | P. A. Tit. 3 | set |
| u | Tit. 3 | Volume | u |  |  |

# TYPICAL LETTERS IN "A CATALOGVE"-continued 

ROMAN (Case 8)

| $a$-form |  |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Letter | R line | WORD | Letter | line | WORD |
| A | Sub-Title | Tragedies | A |  |  |
| C | Sub-Title |  | C | Sub-Title | Comedies |
| D | Sub-Title | Tragedies | D |  |  |
| E | Sub-Title | Comedies | E | Sub-Title | Comedies |
| G | Sub-Title | Tracedies | G |  |  |
| H | Sub-Title | Histories | H |  |  |
| I | Sub-Title | Comedies | I |  |  |
| M | Sub-Title | Comedies | M |  |  |
| O | Sub-Title | Histories | O | Sub-Title | Comedies |
| R | Sub-Title | Histories | R | Sub-Title | Tragedies |
| S | Dig. Tit. 3 | Shakespeare | S | Sub-Title | Histories |
| T | Sub-Title | Histories | T | I. M. Title | To |
| V | Tit. 3 | $V$ olume | V |  |  |

ROMAN (Case 9)
a-form

## b-form

| LETTER | $R$ LINE | WORD | LETTER | R LINE | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a | Tit. 2 | seuerall | a | Tit. 2 | Tragedies |
| d | Tit. 2 | and | d | Tit. 2 | Comedies |
| e | Tit. 2 | the | e | Tit. 2 | Histories |
| f | Tit. 2 | of | f |  |  |
| h | Tit. 2 | the | $h \mathrm{P}$. | P. A. Tit. 5 | the (2nd) |
| i | Tit. 2 | Comedies | i | Tit. 2 | Histories |
| P | P. A. Tit. 2 | all | 1 | Tit. 2 | seuerall |
| m | Tit. 2 | Comedies | m P. | P. A. Tit. 2 | Comedies |
| $n \quad \mathrm{P}$ | P. A. Tit. 5 | Principall | n | Tit. 2 | and |
| o | Tit. 2 | Comedies | - P. | P.A. Tit. 2 | Comedies |
| r | Tit. 2 | seuerall | r | Tit. 2 | Histories |
| f | Tit. 2 | feuerall | f |  |  |
| s | Tit. 2 | Comedies | s P. | P. A. Tit. 2 | Comedies |
| t | Dig. Tit. 2 | the | t | Tit. 2 | the |
| u |  |  | u | Tit. 2 | seuerall |

## DIGRAPH

| DIGRAPH | LINE | WORD |
| :---: | :---: | :---: |
| $f t$ | Tit. 2 | Hi $\int$ tories |

## TYPICAL LETTERS IN "A CATALOGVE"--continued



Letters Taken from Other Sources to Supplement the Alphabets and the Classifiers for "A Catalogve" '

| No. | LETTER | CASE | FORM | FROM | LINE | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | h | 9 | b | P. A. | Tit. 5 | the |
| 2 | 1 | 9 | a | P. A. | Tit. 5 | all |
| 3 | m | 9 | b | P. A. | Tit. 2 | Comedies |
| 4 | n | 9 | a | P. A. | Tit. 5 | Principall |
| 5 | S | 8 | a | Dig. | Tit. 3 | Shakespeare |
| 6 | c | 7 | b | P. A. | Tit. 3 | according |
| 7 | g | 7 | b | P. A. | Tit. | Tragedies |
| 8 | 1 | 7 | b | P. A. | Tit. 3 | Truely |
| , | m | 7 | b | I. M. | Tit. 1 | memorie |
| 10 | A | 2 | b | Pro. | 17 | And |
| 11 | B | 2 | a | Pro. | 12 | $B$ arke |
| 12 | G | 2 | b | Pro. | 21 | Greeke |
| 13 | I | 2 | a | Pro. | 1 | Iles |
| 14 | N | 2 | b | Pro. | 31 | Now |
| 15 | O | 2 | a | Pro. | 2 | Orgillous |
| 16 | R | 2 | b | I. M. | 8 | Re-entrance |
| 17 | S | 2 | b | Pro. | 5 | Sixty |
| 18 | V | 2 | b | Dig. | 19 | Volumes |
| 19 | b | 1 | b | Pro. | 15 | braue |
| 20 | k | 1 | b | Pro. | 8 | ransacke |
| 21 | x | 1 | a | Pro. | 15 | six-gated |
| 22 | ft | 1 | ba | Pro. | 28 | ftarting |
| 23 | o | 9 | b | P. A. | Tit. 2 | Comedies |
| 24 | s | 9 | b | P. A. | Tit. 2 | Comedies |
| 25 | t | 9 | a | Dig. | Tit. 2 | the |
| 26 | h | 7 | b | P. A. | Tit. 6 | these |
| 27 | s | 7 | b | P. A. | Tit. 3 | Playes |
| 28 | t | 7 | b | P. A. | Tit. 3 | set |
| 29 | T | 8 | b | I. M. | Tit. 1 | To |

[^7]|  | ITALIC (Case 1) |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$-fo |  |  |  |  |
| Letter | LINE | WORD | LETTER | LINE | WORD |
| a | 12 | Barke | a | 6 | Regall |
| b | 24 | but | b | 15 | braue |
| c | 2 | Princes | c | 23 | confidence |
| d | 9 | rauish'd | d | 10 | and |
| e | 25 | like | e | 14 | yet |
| f | 3 | of | f | 6 | from |
| g | 2 | Orgillous | g | 28 | Beginning |
| h | 4 | the | h | 4 | with |
| i | 20 | tickling | i | 4 | with |
| k | 14 | Greekes | k | 8 | ransacke |
| 1 | 26 | Beholders | 1 | 23 | Prologue |
| m | 4 | ministers | m | 6 | from |
| n | 10 | wanton | n | 13 | now |
| o | 8 | whose | 0 | 6 | Crownets |
| P | 30 | pleasures | p | 19 | up |
| r | 12 | there | r | 6 | their |
| f | 14 | vnbruifed | f | 8 | whofe |
| s | 6 | Crownets | $s$ | 22 | sets |
| t | 3 | $t$ the | t | 24 | Authors |
| u | 13 | frautage | u | 24 | but |
| v | 14 | vnbruised | v | 24 | voyce |
| W | 4 | with | W | 12 | deep-drawing |
| X | 15 | six-gated | X | 5 | Sixty |
| y | 24 | voyce | y | 11 | they |
| Z |  |  | Z | 22 | hazard |

## TYPICAL LETTERS IN "'THE PROLOGUE"--continued

## DIGRAPHS (Case 1 continued)

| digraph | LINE | WORD | digraph | LINE | WORD |
| :---: | ---: | :--- | :---: | ---: | :--- |
| as | 30 | as | $f \mathbf{h}$ | 3 | fhippes |
| $c t$ | 24 | Actors | $\mathbf{f} h$ | 14 | fref $h$ |
| $c \mathbf{t}$ | I. M. | 6 | Acte | $\mathbf{f h}$ | Dig. 13 | fhall

ITALIC (Case 2)

| $a$-form |  |  | b-form |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Letter | Line | WORD | Letter | Line | WORD |
| A | 22 | $A \mathrm{nd}$ | A | 17 | And |
| B | 12 | Barke | B | 26 | Beholders |
| C | 6 | Crownets | C | Cat. 5L | Comedy |
| D | 13 | Dardan | D | Cat. 7R | Death |
| E | 20 | Expectation | E | I. M. 3 | Wee |
| F | 4 | $F$ raught | F | 1 | From |
| G | 1 | Greece | G | 21 | Greeke |
| H | Dig. 10 | Here | H | 1 | Haue |
| I | 1 | Iles | I | 25 | In |
| L | 27 | Leapes | L | 30 | Like |
| N | 20 | Now | N | 31 | Now |
| O | 2 | Orgillous | O | 5 | Of |
| P | 7 | Phrygia | P | 7 | Put |
| Q | 9 | Queene | Q | 10 | Quarrell |
| R | 6 | Regall | R | I. M. 8 | Re-entrance |
| S | 1 | Scene | S | 5 | Sixty |
| T | 2 | The | T | 15 | Their |
| W | 10 | $W$ ith | W | 5 | Warre |

## TYPICAL LETTERS IN "THE PROLOGUE"-continued

| ROMAN (Case 5) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $a$-form |  |  | b-form |  |  |
| LETTER | LINE | WORD | Letter | Line | WORD |
| a | 16 | Chetas | a | 16 | Helias |
| b | 16 | Timbria | b |  |  |
| d | 16 | Dardan | d | 17 | Antenonidus |
| e | 16 | Troien | e | 11 | Tenedos |
| h | 16 | Chetas | h | Dig. 9 | Shakespeares |
| i | 16 | Helias | i | 16 | Timbria |
| 1 | 16 | Helias | 1 | Dig. 16 | Iuliet |
| m | 16 | Timbria | m |  |  |
| n | 9 | Helen | n | 9 | Menelaus |
| o | 11 | Antenonidus | O | Dig. 18 | Romans |
| r | 16 | Timbria | r | 10 | Paris |
| s | 10 | Paris | s | 16 | Chetas |
| t | 16 | Chetas | t | Dig. 4 | Stratford |
| u | 9 | Menelaus | u | 17 | Antenonidus |

ROMAN (Case 6)

| $a$-form |  |  | b-form |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Letter | LINE | WORD | Letter | LINE | WORD |
| A | . |  | A | 17 | Antenonidus |
| C | 16 | Chetas | C | . . | ...... |
| D | 16 | Dardan | D |  |  |
| H |  |  | H | 16 | Helias |
| M | 9 | Menelaus | M | . . |  |
| P | 10 | Paris | P |  |  |
| T | 16 | Timbria | T | 16 | Troien |

TYPICAL LETTERS IN "THE PROLOGUE"--continued

| $a$-form |  |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Letter | R Line | word | Letter | line | word |
| e | Title | Prologue | e | Title | The |
| g | Title | Prologue | g |  |  |
| h | Title | The | h | P. A. Tit. 1 | Shakespeare |
| 1 | Title | Prologue | 1 |  |  |
| o | Title | Prologue | o | Title | Prologue |
| r P | P. A. Tit. 1 | Shakespeare | r | Title | Prologue |
| 1 | Title | Prologue | u |  |  |
| ROMAN (Case 12) |  |  |  |  |  |
| $a$-form |  |  |  | b-form |  |
| Letter | R Line | word | Letter | line | word |
| P | Title | Prologue | P |  |  |
| T | Title | The | T |  |  |

## Letters Taken from Other Sources to Supplement the Alphabets and the Classifiers for "The Prologue" ${ }^{1}$

| NO. | LETTER | CASE | FORM | FROM | LINE | WORD |
| :---: | :---: | :---: | :---: | :--- | :---: | :--- |
| 1 | C | 2 | b | Cat. | 5 L | Comedy |
| 2 | D | 2 | b | Cat. | 7 R | Death |
| 3 | E | 2 | b | I. M. | 1 | WEE |
| 4 | H | 2 | a | Dig. | 10 | Here |
| 5 | R | 2 | b | I. M. | 8 | Re-entrance |
| 6 | ct | 1 | ab | I. M. | 6 | Acte |
| 7 | ct | 1 | ba | I. M. | 4 | Spectators |
| 8 | is | 1 | ba | Dig. | 9 | is |
| 9 | is | 1 | bb | Dig. | 3 | is |
| 10 | fh | 1 | bb | Dig. | 13 | fhall |
| 11 | us | 1 | aa | Cat. | $9 R$ | Coriolanus |
| 12 | us | 1 | bb | Cat. | $10 R$ | Titus |
| 14 | h | 5 | b | Dig. | 9 | Shakespeares |
| 16 | $o$ | 5 | b | Dig. | 18 | Romans |
| 17 | t | 5 | b | Dig. | 4 | Stratford |
| 18 | h | 11 | b | P.A. Tit. 1 | Shakespeare |  |
| 19 | r | 11 | a | P.A. Tit. 1 | Shakespeare |  |

${ }^{1}$ The numbers in the first column correspond to the numbers accompanying the letters in question in the Alphabets and in the Classifiers.

# TYPICAL LETTERS IN "PRINCIPALL ACTORS" 

ITALIC (Case 2)

| $a$-form |  |  | b-form |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LETTER | LINE | WORD | Letter | LINE | WORD |
| A | Tit. 4 | Originall | A | Dig. 11 | Age |
| G | Tit. 4 | Originall | G | Pro. 21 | Greeke |
| I | Tit. 4 | Originall | I | Pro. 1 | Iles (reversed) ${ }^{1}$ |
| L | Pro. 30 | Like (reversed) ${ }^{1}$ | L | Tit. 4 | Originall |
| N | Tit. 4 | Originall | N | Pro. 31 | Now |
| O | Pro. 2 | Orgillous | O | Tit. 4 | Originall |
| R | Tit. 4 | Originall | R | I. M. 8 | Re-entrance |

1 The word "(reversed)" indicates that in the source from which the letter was taken a reversal of the forms of the two Alphahets is found to exist. For a fuller explanation of "reversal"' see "Hints to the Decipherer of the Greatest Work of Sir Francis Bacon,'' p. 15.

## ITALIC (Case 3)

| $a$-form |  |  |  | b-form |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Letter | LINE | WORD | LETTER | Line | WORD |
| a | 12R | Shancke | a | 1R | Samuel |
| b | 2L | Burbadge | b | 2R | Robert |
| c | 11R | Richard | c | 12R | Shancke |
| d | 9R | Benfield | d | 2L | Richard |
| e | 12L | Samuel | e | 5R | Underwood |
| g | 2L | Burbadge | g | 7 L | George |
| h | 10L | Richard | h | 5R | John |
| i | 10L | Richard | i | 2L | Richard |
| k | 1L | Shakespeare | k | 13L | Cooke |
| 1 | 6R | Nicholas | 1 | 10L | Cowly |
| m | 1L | William | m | 7 R | William |
| n | 4L | Augustine | n | 4 R | Nathan |
| o | 9R | Robert | O | 6R | Nicholas |
| p | 8R | Joseph. | P | 5L | Kempt |
| r | 9R | Robert | r | 2L | Burbadge |
| f | 11R | Robin/on | f | 8R | Jofeph |
| s | 3L | Hemmings | s |  |  |
| t | 5L | Kempt | t | 4 R | Nathan |
| u | 1 R | Samuel | u | 2L | Burbadge |
| w | 11L | Lowine | X | 13L | Alexander |
| y | 7 L | Bryan | y | 91. | Slye |

## TYPICAL LETTERS IN "PRINCIPALL ACTORS"-continued

## DIGRAPHS (Case 3 continued)

| DIGRAPH | LINE | WORD | DIGRAPH | LINE | WORD |
| :---: | :---: | :--- | :---: | :---: | :---: |
| as | 6 L | Thomas | $\mathbf{f f}$ | 12L | Croffe |
| $\mathbf{a s}$ | 6R | Nicholas | $f t$ | 7 R | Eccle $f$ tone |
| $\mathbf{f} i$ | $9 R$ | Benf $i \mathrm{eld}$ | $f \mathbf{t}$ | 4 L | Augu/tine |
| $f \mathbf{p}$ | 1 L | Shake $\int$ peare | $\mathbf{f t}$ | 3R | Oftler |

ITALIC (Case 4)
$a$-form
b-form


## TYPICAL LETTERS IN "PRINCIPALL ACTORS"一-continued



DIGRAPHS

| DIGRAPH $f \mathbf{i}$ | $\begin{aligned} & \text { Line } \\ & \text { Tit. } 3 \end{aligned}$ | word <br> $f$ irst | DIGRAPH <br> $\int t$ | $\begin{aligned} & \text { Line } \\ & \text { Tit. } 3 \end{aligned}$ | $\begin{aligned} & \text { word } \\ & \text { fir } \int t \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | ROMAN (Case 8) |  |  |  |  |
| Letter | line | WORD | Letter | Line | WORD |
| P | Tit. 6 | Playes | P |  |  |
| T | Tit. 3 | Truely | T |  |  |

## TYPICAL LETTERS IN "PRINCIPALL ACTORS"-continued



## TYPICAL LETTERS IN "PRINCIPALL ACTORS—continued

| LETTER | ROMAN (Case 11) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $a$-form |  |  | b-form. |  |
|  | line | WORD | letter | line | WORD |
| a | Tit. 1 | Shakespeare | a | Tit. 1 | Shakespeare |
| e | Tit. 1 | The | e | Tit. 1 | Shakespeare |
| f | Tit. 1 | of | f |  |  |
| h | Tit. 1 | The | h | Tit. 1 | Shakespeare |
| i | Tit. 1 | William | i | Tit. 1 | William |
| k | Tit. 1 | Workes | k | Tit. 1 | Shakespeare |
| 1 | Tit. 1 | Wiliam | 1 |  |  |
| m. | Tit. 1 | Willia $m$ | m |  |  |
| o | Tit. 1 | Workes | o | Tit. 1 | of |
| p |  |  | p | Tit. 1 | Shakespeare |
| r | Tit. 1 | Shakespeare | r | Tit. 1 | Workes |
| f | Tit. 1 | Shake/peare | $f$ |  |  |
| s | Tit. 1 | Workes | s |  |  |
| ROMAN (Case 12) |  |  |  |  |  |
| $a$-form |  |  |  | b-form |  |
| Letter | line | WORD | letter | Line | WORD |
| S | Tit. 1 | Shakespeare | S |  |  |
| T | Tit. 1 | The | T |  |  |
| W | Tit. 1 | $W$ orkes | W | Tit. 1 | William |

## Letters Taken from Other Sources to Supplement the Alphabets and the Classifiers for "Principall Actors""

| NO. | LETTER | CASE | FORM | FROM |  | LINE | WORD |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | r | 9 | b | Cat. | Tit. | 2 | Histories |
| 2 | t | 9 | a | Dig. | Tit. | 2 | $t$ he |
| 3 | g | 7 | a | Cat. | Tit. | 3 | -gedies |
| 4 | W | 4 | b | I. M. |  | Title | W |
| 5 | A | 2 | b | Dig. |  | 11 | Age |
| 6 | G | 2 | b | Pro. |  | 21 | Greeke |
| 7 | I | 2 | b | Pro. |  | 1 | Iles (reversed) ${ }^{2}$ |
| 8 | L | 2 | a | Pro. |  | 30 | Like (reversed) ${ }^{2}$ |
| 9 | N | 2 | b | Pro. |  | 31 | Now |
| 10 | O | 2 | a | Pro. |  | 2 | Orgillous |
| 11 | R | 2 | b | I. M. |  | 8 | Re-entrance |
| 12 | C | 9 | a | Dig. | Tit. | 2 | deceased |

1 The numbers in the first column correspond to the numbers accompanying the letters in question in the Alphabets and in the Classifiers.

2 The word "(reversed)" indicates that in the source from which the letter was taken a reversal of the forms of the two Alphabets is found to exist. For a fuller explanation of "reversal"' see "Hints to the Decipherer of the Greatest Work of Sir Francis Bacon,' p. 15.


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[^0]:    ${ }^{1}$ The student will recognize at once that the methods of printing followed in the period under discussion contributed materially to the safety with which the Biliteral Cipher could be incorporated in a work and still escape detection - in other words, such methods account for certain of the difficulties now encountered in the process of decipherment.

[^1]:    I "Bisect the loop," $i$. e., will pass through the major axis of the
    mpleted oval, and will thus divide it into two equal parts. For
    I "Bisect the loop," i, e., will pass through the major axis of the
    completed oval, and will thus divide it into two equal parts. For a method of determining the angle, see p. 32 .

[^2]:    1"Bisect the loop," i. e., will pass through the major axis of the completed oval, and will thus divide it into two equal parts. For a detailed explanation of this test see p. 33 .

[^3]:    1"Bisect the loop," $i, e .$, will pass through the major axis of the completed oval formed by the loop, and will thus divide the oval into two equal parts. For a detailed explanation of a mechanical determination of this angle see p. 32 .

[^4]:    1'Bisect the loop" $i$. e., will pass through the major axis of the oval formed by the completed loop, and will thus divide the oval into two equal parts.

[^5]:    1"Bisect the loop,' $i$. e., will pass through the major axis of the completed oval and will thus divide it into two equal parts. For a method of determining this angle see p. 32.

[^6]:    ${ }^{1}$ For an explanation of the phrase "Typical Letters" see p. 9.
    In the pages following these abbreviations have been used:
    P. A. = "Principall Actors"

    Pro. = "The Prologue"
    Dig. = "L. Digges" Poem
    Cat. $=$ "A Catalogve"
    I. M. = 'l. M.'" Poem
    $\mathrm{L}=$ Left-hand column
    $\mathrm{R}=$ Right-hand column
    Tit. $=$ Title

[^7]:    ${ }^{1}$ The numbers in the first column correspond to the numbers accompanying the letters in question in the Alphabets and in the Classifiers.

