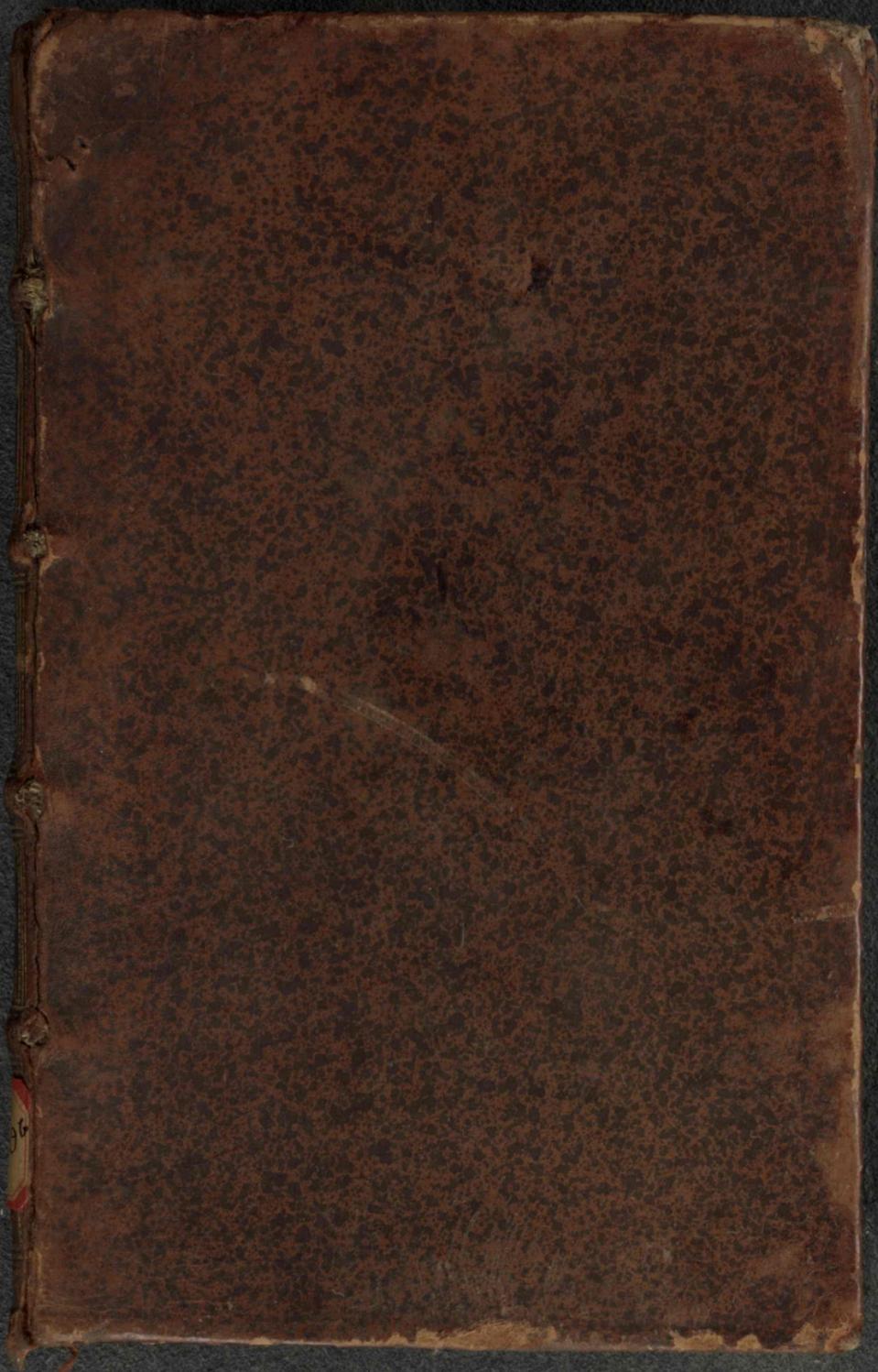


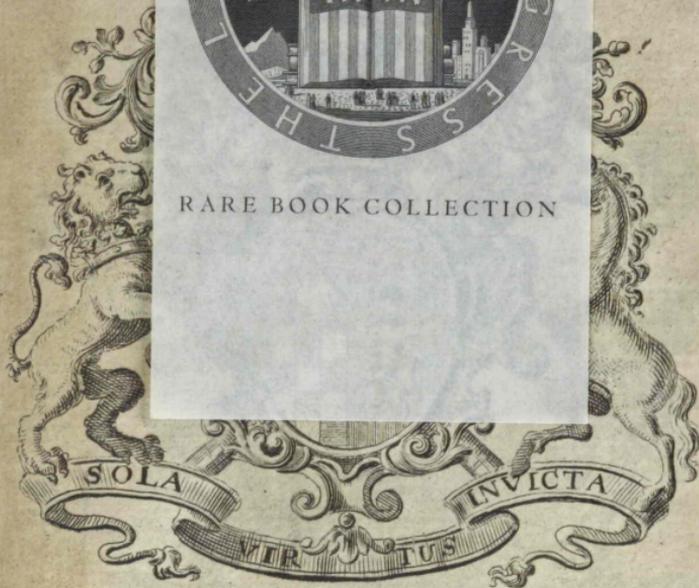
SWIFT
MESSENGER

B-129^b



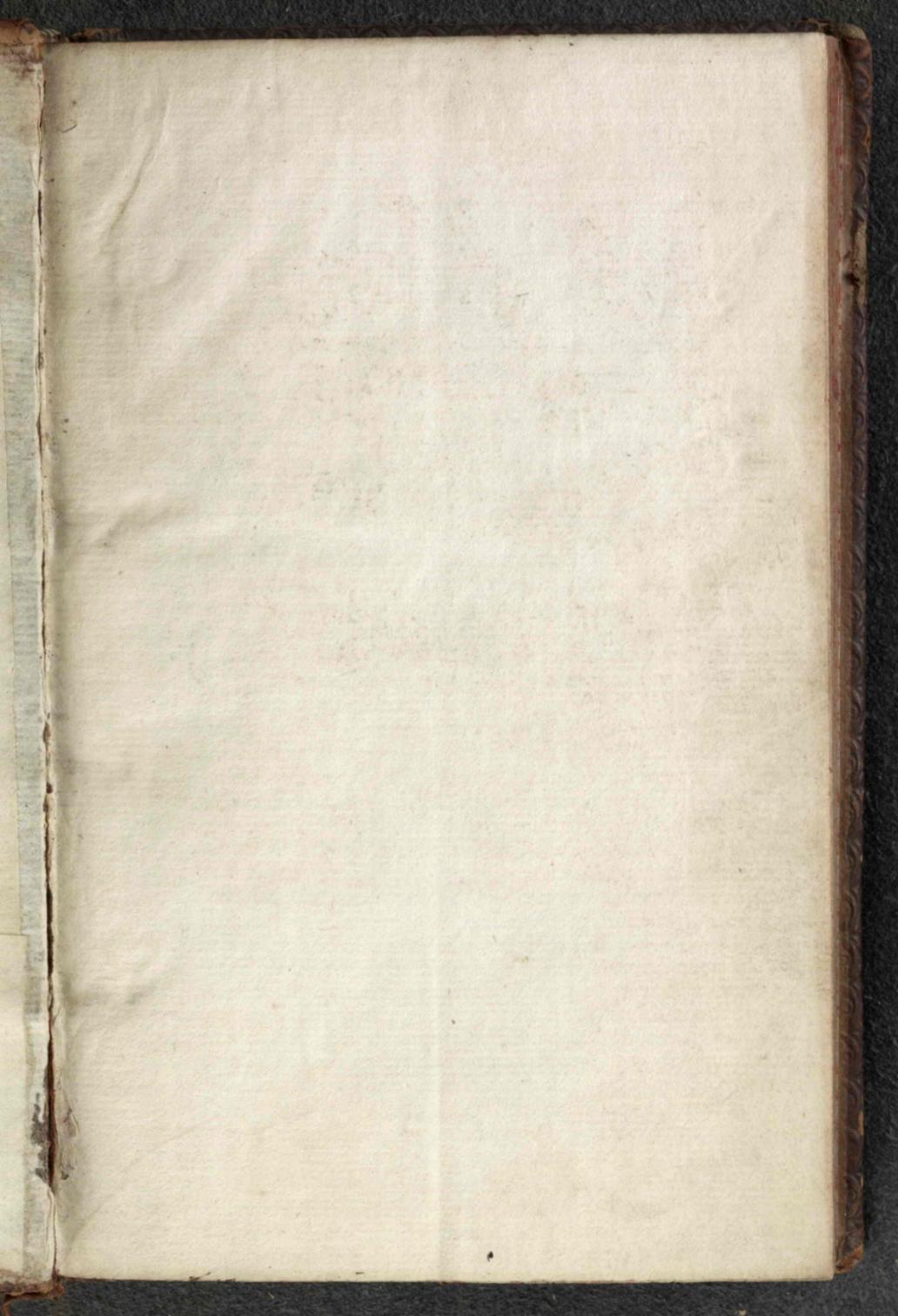


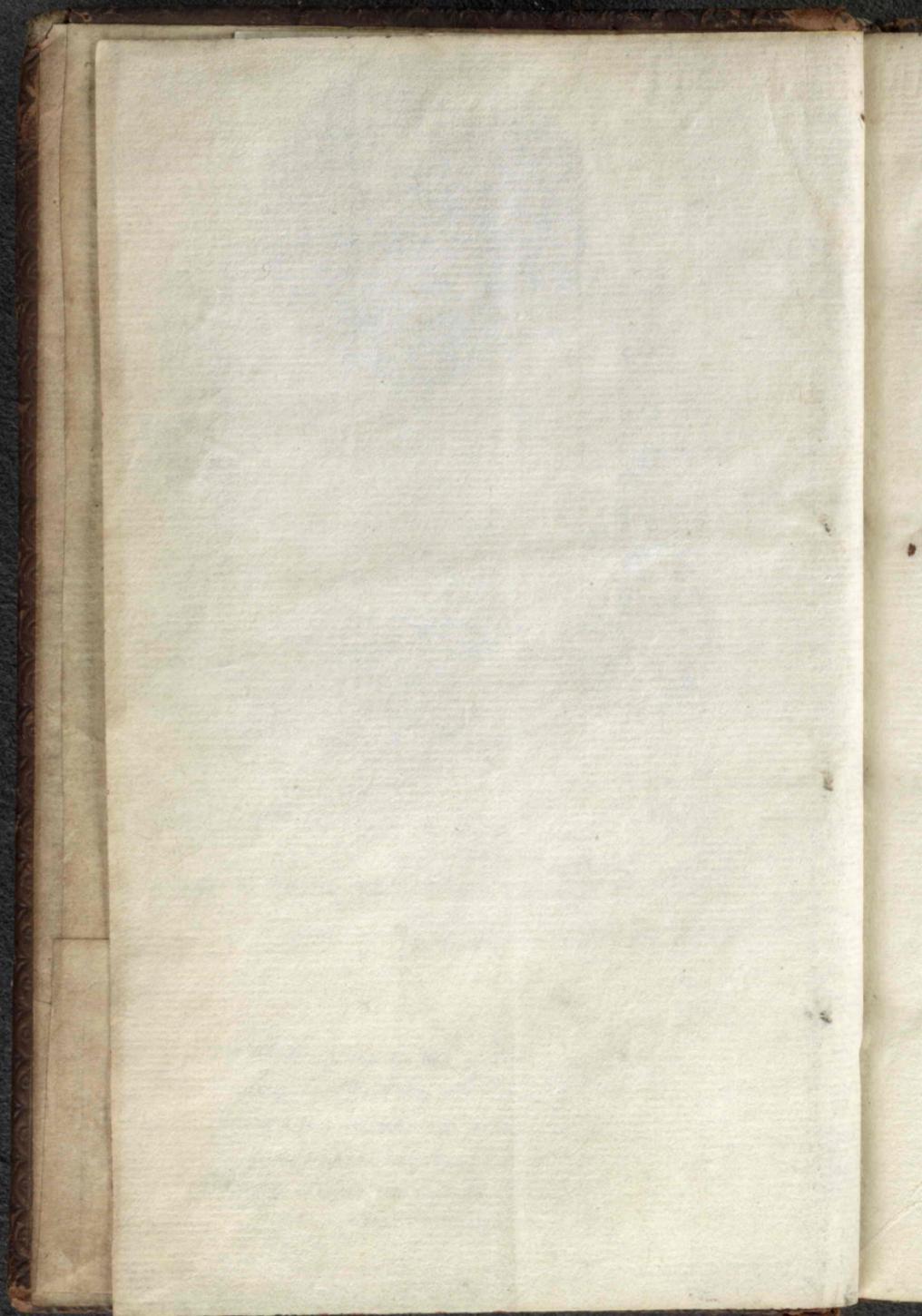
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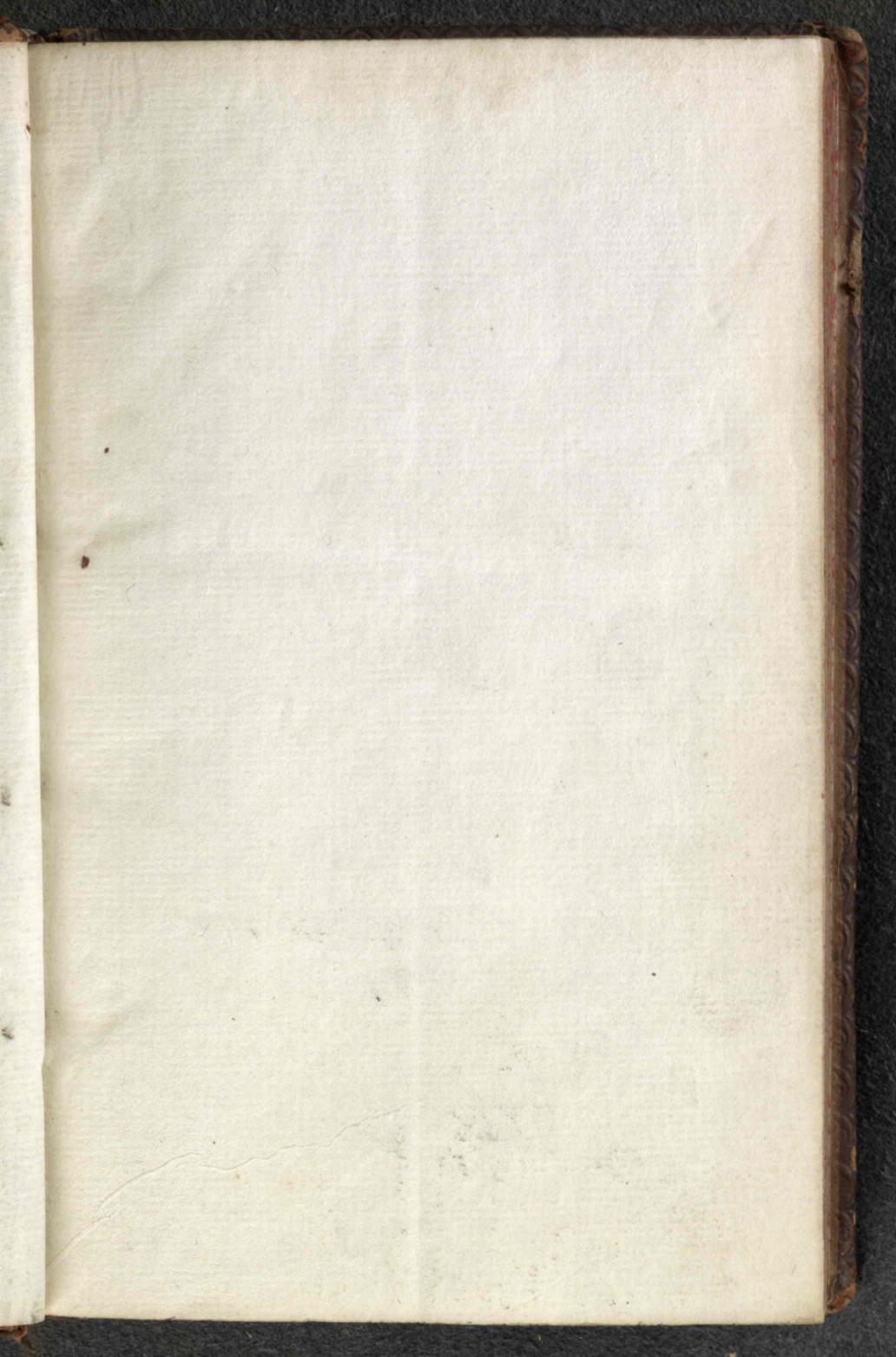


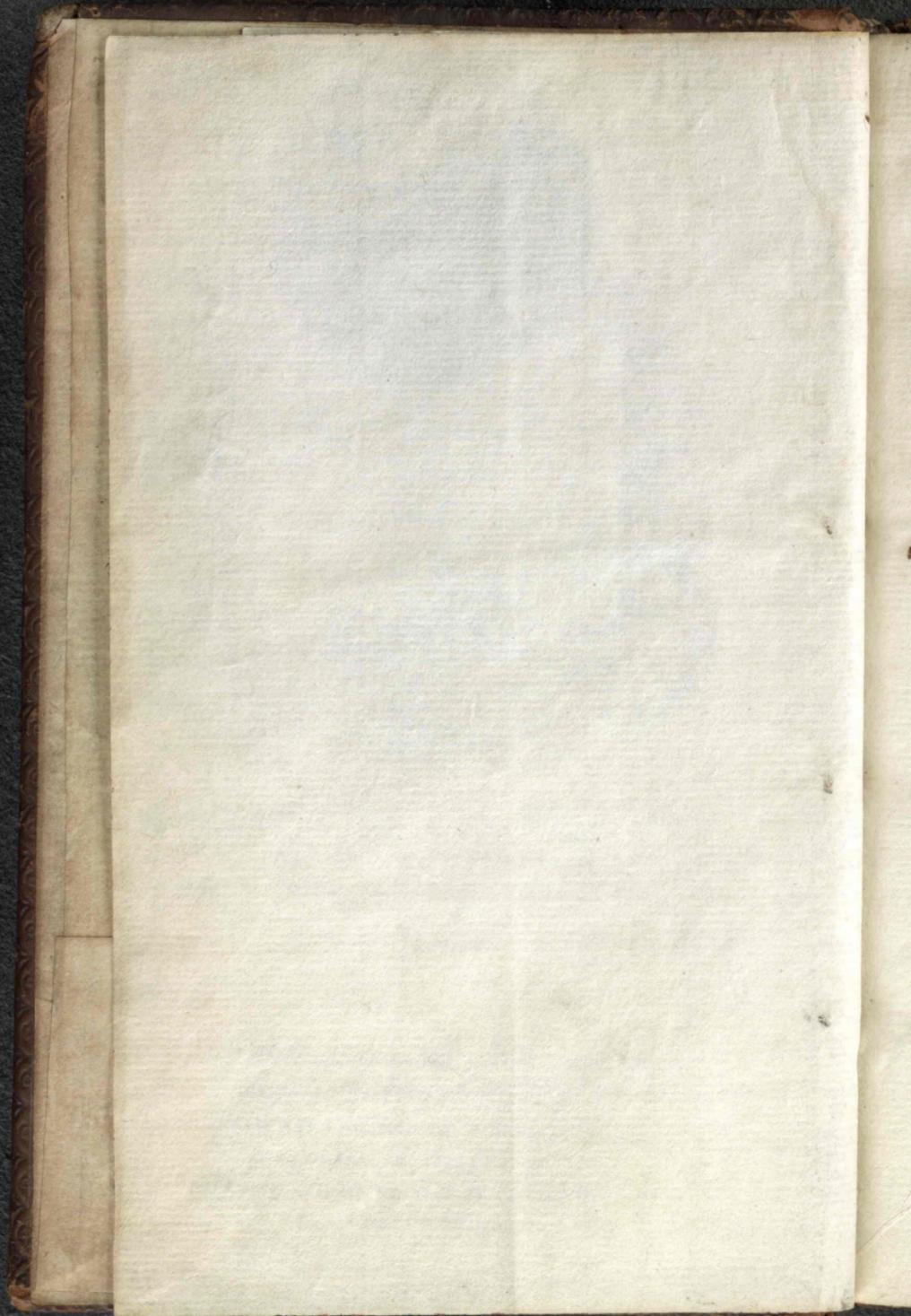
*Edward Duke of Norfolk,
Earle Marshall of England.*

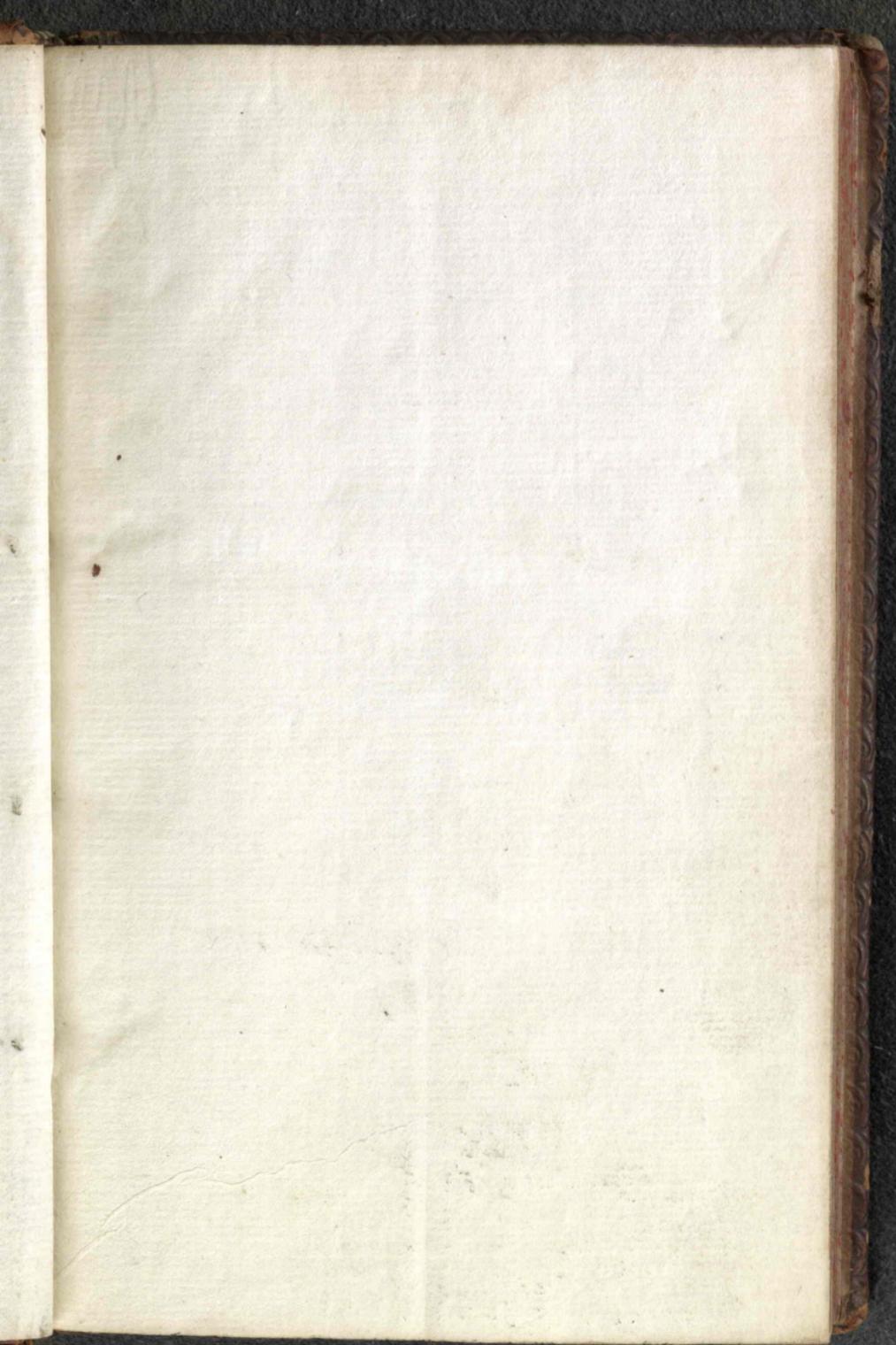
*Belonging to the Library
bequeathed by the Will of
EDWARD DUKE OF NORFOLK
to remain in his Family.
Henry Howard & Tho' Eyre Esq^{rs}
Executors.*

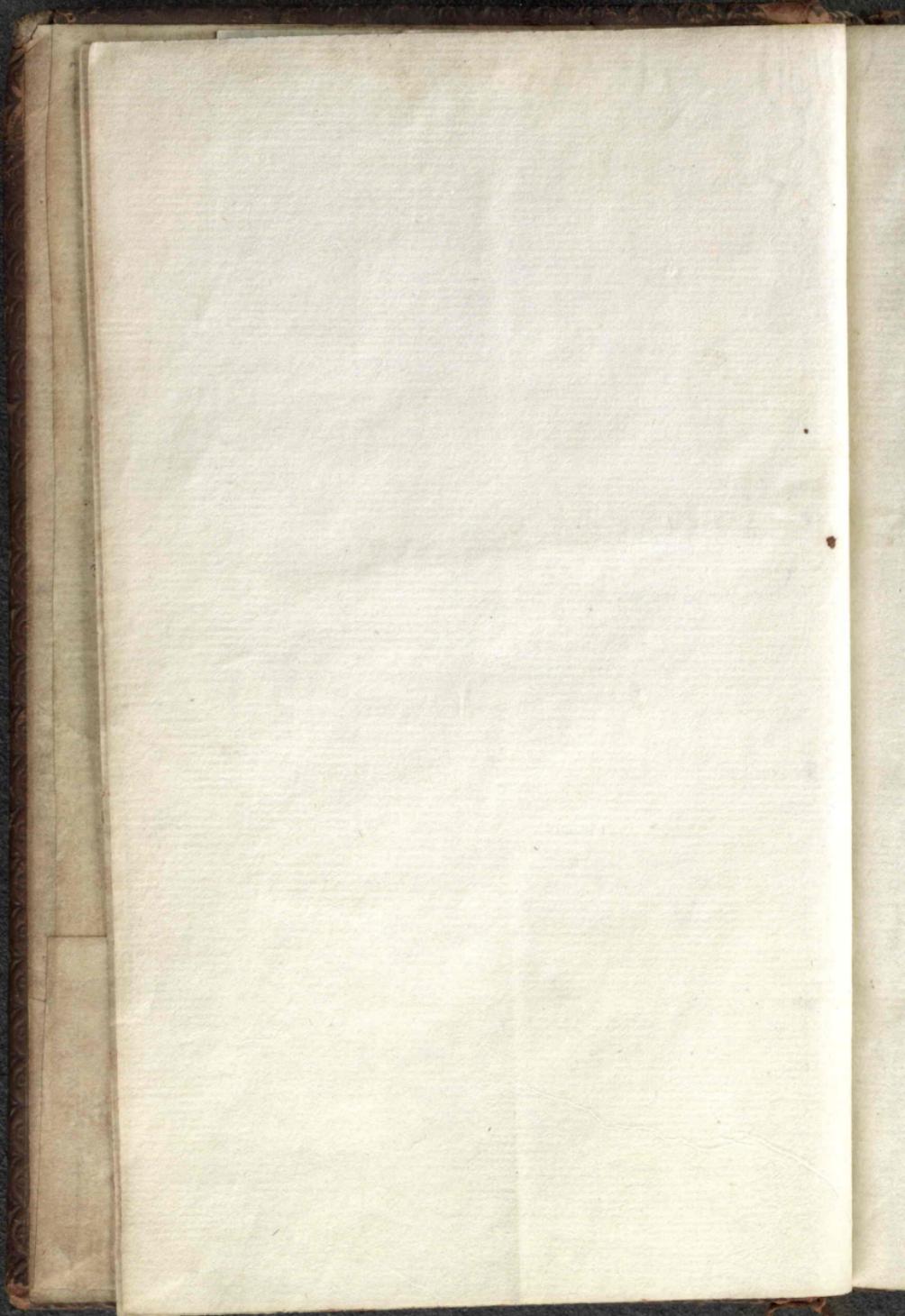


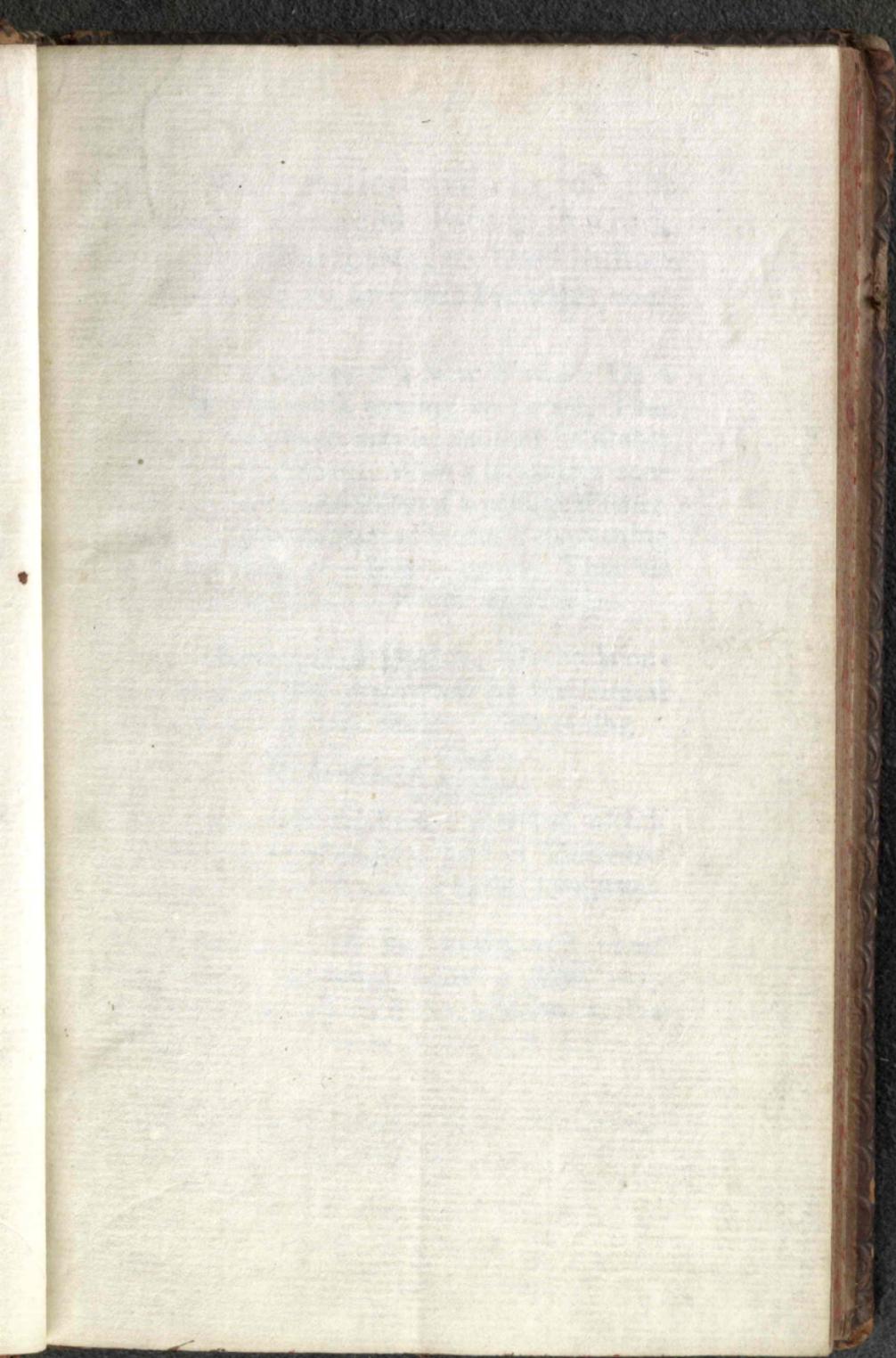


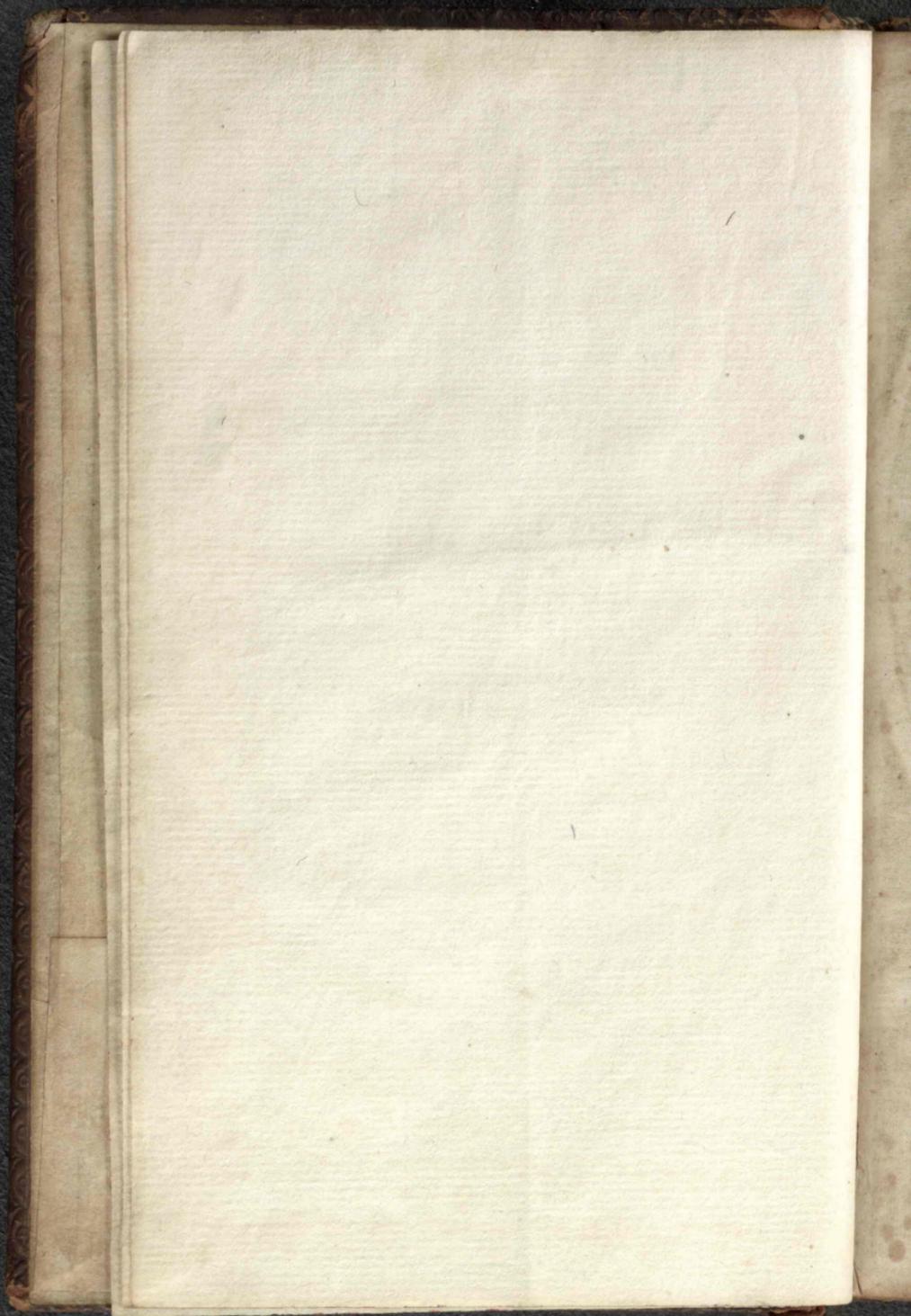












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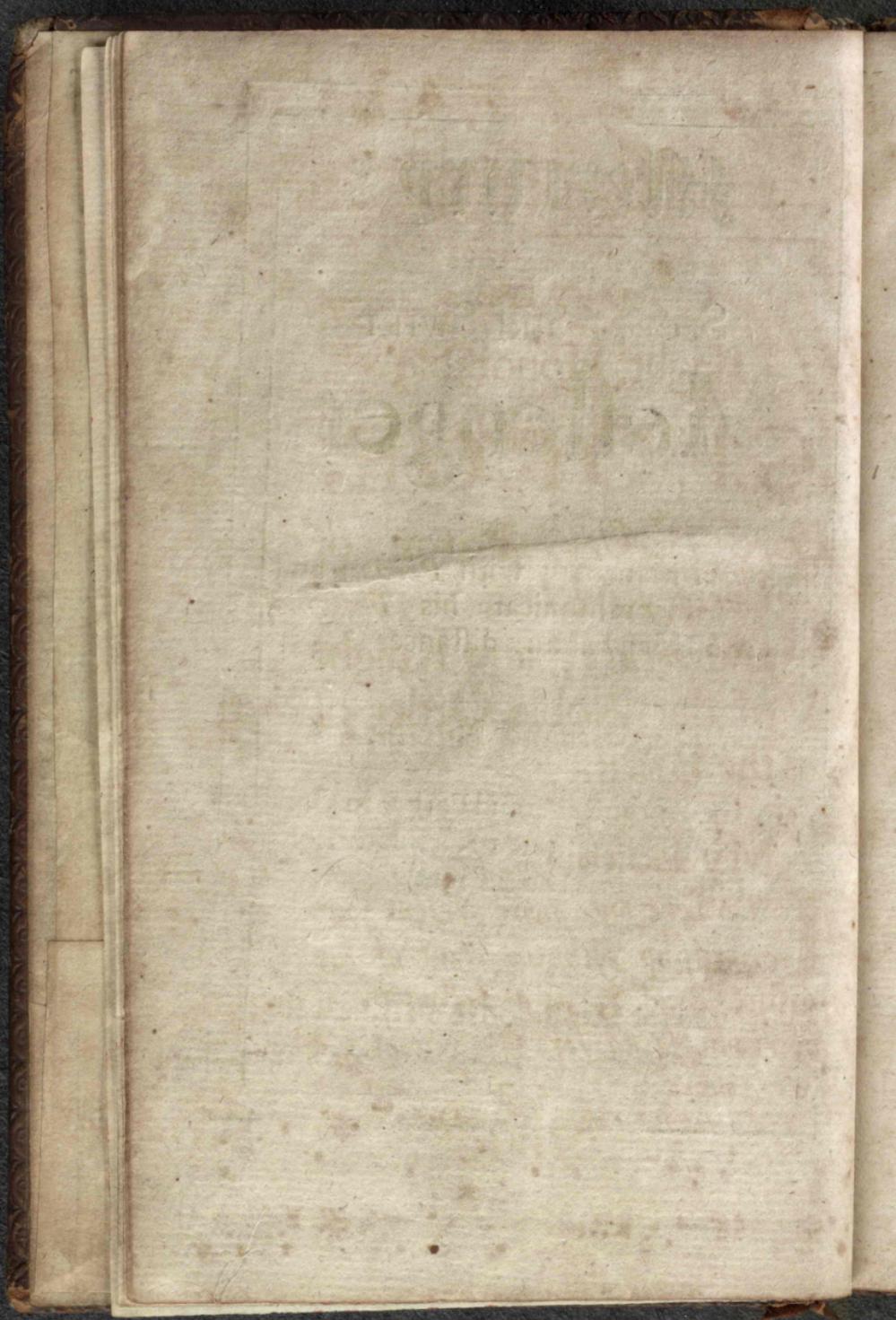
SHEWING,
How a Man may with *Privacy* and
Speed communicate his *Thoughts*
to a Friend at any distance.

The Second Edition.

By the Right Reverend Father in God,
JOHN WILKINS, late Lord
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—& L O N D O N,

Printed for Rich. Baldwin, near the
Oxford-Arms in *Warwick-lane*. 1694.



TO THE

Right Honorable

GEORGE,

Lord *Berkley*, Baron of
Berkley, *Mobray*, *Segrave*,
and *Bruce*, and Knight
of the Noble Order of
the BATH.

My LORD,

I Do here once more present your
Lordship with the fruit of my
leisure Studies, as a Testimony of
my readiness to serve you in those
sacred matters, to which I devote my

A 3 more

more serious hours. I should not have presumed to this Dedication, had I not been encouraged by that generousness and sweetness of Disposition, which does so eminently adorn your Lordships Place and Abilities.

If your Lordship please to excuse this boldness, and to vouchsafe this Pamphlet a shelter under your favourable Patronage, you shall thereby incourage me in those higher Studies, which may be more agreeable to that relation, wherein I stand, as being

Your Lordship's Servant
and Chaplain,

J. W.

T O

3

T O T H E

R E A D E R .

THat which first occasioned this Discourse, was the reading of a little Pamphlet, stiled, *Nuntius Inanimatus*, commonly ascribed to a late Reverend Bishop; wherein he affirms that there are certain ways to discourse with a Friend, though he were in a close Dungeon, in a besieged City, or a hundred miles off.

Which promises, at the first perusal, did rather raise my Wonder than Belief, having before that time observed nothing that might give any satisfaction in these particulars. And I should have esteemed them altogether fabulous had it not been for the credit of their reputed Author.

x
After this, I did collect all such
Notes to this purpose, as I met with
in the course of my other Studies.

From whence when I had received
full satisfaction, I did for mine own
further delight compose them into
this method.

I have already attained mine own
ends, both in the delight of composing
this, and the occasion of publishing it.
And therefore need not either fear
the Censure of others, or beg their
Favour. I could never yet discern, that
any Reader hath shewed the more
Charity for the Author's bespeaking
it. Farewell.

J. W.

T O

To Mercury the Elder,

On the most learned Mercury the Younger.

Rest Maja's Son, sometimes Interpreter
 Of gods, and to us men their Messenger ;
 Take not such pains as thou hast done of old,
 To teach men Hieroglyphicks, and to unfold
 Egyptian hidden Characters, and how
 Men writ in dark obscurity : For now
 Trithemius and Selenus both are grown
 Such Cryptographers, as they scarce will own
 Thee for their Master ; and Decipherers know
 Such secret ways to write, thou ne'er didst show.
 These are but Artists which thou didst inspire ;
 But now thou of a Mercury art Sire
 Of thine own name, a Post with whom the wind,
 Should it contend, would be left far behind.
 Whose message as thy metal strikes the gold,
 Quite through a wedge of silver uncontrol'd,
 And in a moments space doth pass as far
 As from the Artick to the Antartick Star.

So

So proving what is said of influence,
May now be said of his intelligence,
They neither of them having such a quality
As a relation to Locality :
No places distance hindring their Commerce,
Who freely traffick through the Universe ;
And in a minute can a Voyage make
Over the Oceans universal Lake.
This Son of thine, could any words or praise
His Learning, Worth, or Reputation raise,
We should be Suiters to him to bestow
Encomiums on himself, which we do owe
Unto his worth, and use that Eloquence,
Which as his own, must claim prebeminence :
For thee, 'tis Glory enough thou hast a Son
Of Art, that hath thy self in Art out-done.

Sir Francis Kinaaston, Kc.

To

To the unknown Author. T

OF old who to the common good apply'd,
Or mind, or means, for it were *Deify'd* :
But chiefly such, who new Inventions found ;
Bacchus for Wine, *Ceres* that till'd the ground.
I know no reason time should breed such odds,
(W'have warrant for't) men now may be stil'd
By hiding who thou art, seek not to miss, (gods.
The glory due to such a Work as this ;
But set thy name, that thou mayst have the
Left to the *unknown* God we Altars raise. (praise,

Anthony Aucher, Esq;

To

4

To my Friend the Author.

TO praise thy work, were to anticipate
Thy Reader's judgment, and to injure Fate;
Injustice to thy self; for real worth
Needs not Arts flattery to set it forth.
Some choose selected Wits to write, as Friends,
Whose Verses, when the work fails, make amends.
So as the buyer has his penny-worth,
Though what the Author write prove spummy froth.
Thou, of a humour cross to that, hast chose
A Friend or two, whose Verse hops like rough prose,
From whose inexpert vain thou canst not look
For lines that may enhance the price o' th' book.
Let it commend it self, all we intend
Is but to shew the World, thou art our Friend.

Richard Hatton, Esq;

To

To the Reader.

Reader, this Author has not long ago
 Found out another World to this below.
 Though that alone might merit great renown,
 Yet in this book he goes beyond the *Moon*.
 Beyond the *Moon* indeed, for here you see
 That he from thence hath fetcht down *Mer-*
cury.

One that doth tell us things both *strange*
 and *new*;
 And yet believe't they're not more strange
 than true.
 I'm loth to tell thee what rare things they
 be,
 Read thou the book, and then thou'lt tell
 them me.

Tob. Worlrich. I. C. Doct.

To

To his honoured Friend *J. W.* on his
learned Tract,

The Secret and Swift Messenger.

I Nimitable Sir, we here discern
Maxims the *Stagirite* himself might learn.
Were *Plato* now alive he'd yield to You,
Confessing something might be *Known anew*.
Fresh Heresies (New-nothings) still appear
As *Almanacks*, the Births of every Year.
This *Dutch-man* writes a *Comment*; that *Translates*;
A third *Transcribes*; Your Pen alone *Creates*
New necessary Sciences; This Art
Lay undiscover'd as the Worlds fifth part.
But *Secrecy's* now publish'd; You reveal
By *Demonstration* how we may conceal.

Out *Legates* are but Men, and often may
Great State-affairs unwillingly betray:
Caught by some sifting Spies, or tell-tale *Wine*,
Which dig up Secrets in the deepest Mine.
Sometimes, like Fire pent in, they outward break,
And 'cause they should be silent, therefore speak.

Nor are Kings Writings safe; To guard their Fame
Like *Scevola*, they wish their Hand i'th' Flame.
Ink turns to Blood; they oft participate
By Wax and Quill sad *Icarus* his Fate.
Hence Noble-mens bad writing proves a Plot:
Their Letters are but Lines, their Names a Knot.

But

his
But now they shall no more *Seal* their own *Fall*;
No Letters prove *Killing*, or *Capitall*.
Things pass unknown, and each Ambassador's
Strict as the Breast of sacred Confessors :
Such as the Inquisition cannot see ;
Such as are forc'd neither by Rack, nor Fee.
Swift Secrecy descends to Humane Powers ;
That which was *Pluto's* Helmet, now is Ours.
We shall not henceforth be in pay for air,
Transported Words being dear as precious Ware ;
Our Thoughts will now arrive before they're stale ;
They shall no more wait on the Carriers Ale,
And Hostess, two Land-*Remorces*, which bind
All to a *Tortoise* pace, though Words be Wind.
This Book's a better Ark ; we brook no stay,
Maugre the deepest Flood, or foulest Way.
Commerce of Goods and Souls we owe to Two,
(Whose Fames shall now be Twins) *Noah* and You.
Each Bird is turn'd a *Parrot*, and we see
Æsop's Beasts made more eloquent by thee.
Wooers again may wing their fetter'd Love,
By *Noah's* trusty Messenger the *Dove*.
Torches which us'd only to help our sight,
(Like heavenly fires) do give our Reason Light.
Deaths Harbingers, Arrows, and Bullets prove
Like *Cupid's* Darts, Ambassadors of Love.
Then your diviner *Hieroglyphicks* tell,
How we may Landskips read, and Pictures spell.
You teach how Clouds inform, how Smoaks advise ;
Thus Saints with Incense talk to *Deities*.

Thus

But

Thus by dumb Creatures we instructed are,
As the Wise Men were tutor'd by a Star.
Since we true *Serpents*-like, do little wrong
With any other member but the Tongue;
You tell us how we may by Gestures talk:
How Feet are made to speak, as well as walk:
How Eyes discourse, how mystick Nods contrive;
Making our Knowledge too, *Intuitive*,
A Bell no noise but *Rhetorick* affords;
Our Musick Notes are Speeches, Sounds are Words.
Without a Trope there's Language in a *Flow'r*,
Conceits are smelt without a *Metaphor*.
Dark Subtleties we now shall soon define,
Each Organ's turn'd the sense of *Discipline*.
'Tis to your Care we owe that we may send
Business unknown to any but our Friend.
That which is English Friendship to my Brother,
May be thought Greek or Non-sense to another.
We now may *Homer's Iliads* confine,
Not in a Nut-shell, but a Point, or Line.
Which Art though't seem to exceed Faith, yet who
Tries it, will find both Truth and Reason too.
'Tis not like Juglers tricks, absurd, when shown;
But more and more admir'd, the more 'tis known.
Writing's an Act of Emanation,
And Thoughts speed quick and far as day doth run.

Richard West. C. C. Ox.

MERCURY.

MERCURY,
 T H E
 Secret and Swift
 MESSENGER.

C H A P. I.

The Dependance of this Knowledge in Nature. The Authors that have treated of it. Its Relation to the Art of Grammar.

EVery rational Creature, being of an imperfect and dependant Happiness, is therefore naturally endowed with an Ability to communicate its own Thoughts and Intentions ; that so by mutual Services, it might the better promote it self in the Prosecution of its own Well-being.

B And

The Secret and Swift

And because there is so vast a difference betwixt a Spirit and a Body, therefore hath the Wisdom of Providence contrived a distinct Way and Means, whereby they are each of them inabled to Discourse, according to the Variety of their several Natures.

Aquinas,
part 1.
Quaest. 107.
Zanch. de
Operibus
Dei, part 1,
lib. 3. c. 19.

The Angels or Spiritual Substances, *Per insinuationem specierum*, (as the Schoolmen speak.) By insinuating of the Species, or an unveiling of their own Natures in the Knowledge of such Particulars as they would discover to another. And since they are of an *Homogeneous* and *immaterial* Essence, therefore do they hear, and know, and speak, not with several parts, but with their whole Substance. And though the Apostle mentions the *Tongue of Angels*, yet that is only *Per concessionem, & ex hypothesi*.

1 Cor. 13.
I.

But now, *Men* that have *Organical Bodies*, cannot communicate their Thoughts so easie and immediate a way. And therefore have need of some *Corporeal Instruments*, both
for

for the *Receiving* and *Conveying* of Knowledge. Unto both which Functions, Nature hath designed several parts. Amongst the rest, the Ear is chiefly the Sense of Discipline or *Learning*, and the Tongue the Instrument of *Teaching*. The Communion betwixt both these, is by Speech or Language, which was but one at first, but hath since been confounded into several kinds. And Experience now shews, that a man is equally disposed, for the Learning of all, according as Education shall direct him. Which would not be, if (as some fondly conceive) any one of them were Natural unto us. For *Intus existens prohibet alienum.*

Vallesius
Sacr. Philos.
cap. 3.

Or suppose that a man could be brought up to the Speaking of another Tongue, yet this would not hinder, but that he should still retain his Knowledge of that which was Natural. For if those which are gotten by Art do not hinder one another, much less would they be any

Cael. Rhod.
Ant. lect.
lib. 2. 9.
c. 14.

The Secret and Swift

impediment to that which is from Nature. And according to this it will follow, that most men should be of a double Language, which is evidently false. Whence likewise you may guess at the Absurdity of their Enquiries, who have sought to find out the Primitive Tongue, by bringing up Infants in such silent solitary places, where they might not hear the Speech of others.

Languages are so far Natural unto us, as other Arts and Sciences. A Man is born without any of them, but yet capable of all.

Now, because *Words* are only for those that are present both in *Time* and *Place*; therefore to these there hath been added, the Invention of *Letters* and Writing, which are such a Representation of our Words (though more permanent) as our Words are of our Thoughts. By these we may discourse with them that are remote from us, not only by the distance of many Miles, but also of many

many Ages, *Hujus usu scimus maximè constare humanitatem vite, memoriam, ac hominum immortalitatem,* saith Pliny.

Nat. Hist.
l. 14. c. 11.

Quid hoc magnificentius? Quid æque mirandum? in quod ne mortis quidem avida rapacitas jus ullum habeat, saith

Antiq. lect.
l. 4. c. 3.

Rhodiginus. This being the chiefeft means, both for the promoting of Humane Society, and the perpetuating our Names unto following Times.

How strange a thing this Art of Writing did seem at its first Invention, we may guess by the late discovered *Americans*, who were amazed to see men converse with Books, and could scarce make themselves believe that a Paper should speak; especially, when after all their Attention and listning to any Writing (as their Custom was) they could never perceive any Words or Sound to proceed from it.

There is a pretty Relation to this purpose concerning an Indian Slave, who being sent by his Master, with

Hermannus
Hugo de
Orig. Scri-
bendi, Præf.

a Basket of Figs and a Letter, did by the way eat up a great part of his Carriage, conveying the remainder unto the Person to whom he was directed, who when he had read the Letter, and not finding the quantity of Figs answerable to what was there spoken of, he accuses the Slave of eating them, telling him what the Letter said against him. But the Indian (norwithstanding this proof) did confidently abjure the Fact, cursing the Paper, as being a false and lying Witness. After this, being sent again with the like Carriage, and a Letter expressing the just number of Figs that were to be delivered, he did again, according to his former Practice, devour a great part of them by the way; but before he meddled with any, (to prevent all following Accusations) he first took the Letter, and hid that under a great Stone, assuring himself, that if it did not see him eat the Figs, it could never tell of him; but being now more
strongly

strongly accused than before, he confesses the Fault, admiring the Divinity of the Paper, and for the future does promise his best Fidelity in every Employment.

Such strange Conceits did those wilder Nations entertain, concerning this excellent Invention. And doubtless it must needs argue a vast Ability both of Wit and Memory, in that man who did first confine all those different Sounds of Voice, (which seem to be almost of infinite Variety) within the bounds of those few Letters in the Alphabet.

The first Inventor of this was thought to be the Egyptian *Mercury*, who is therefore stiled the *Messenger* of the Gods. To which purpose the Poets have furnished him with Wings for *Swiftness* and dispatch in his Errands. And because the Planet of that name was thought to observe a more various and obscure Revolution than any of the rest, therefore likewise did they attribute unto him such

*Cice. lib. 3.
de Na. Deor.
Polyd. Virg.
de Inventor.
lib. 1. cap. 6.
Vossius de
Grammatica,
l. 1. c. 9.
Natal. Com.
Mythol.
l. 5. c. 5.*

Secret and subtle Motions, as might make him a trusty and private Messenger, and so the fitter for that Preference to which for this Invention they had advanced him.

There is yet another way of discouraging, by Signs and Gestures ; and though it be not so common in *Practise* as either of the other, yet in *Nature* perhaps it is before them both, since Infants are able this way to express themselves, before they have the benefit of Speech.

But now, because none of these ways in ordinary use, are either so *Secret* or *Swift* as some Exigencies would require ; therefore many of the Ancients have busied themselves in a further Inquiry, how both these Deficiencies may be remedied ; as conceiving that such a Discovery would be of excellent use, especially for some Occasions that are incident to *Statesmen* and *Soldiers*.

That the Ignorance of *Secret* and *Swift* Conveyances, hath often proved

ved Fatal, not only to the Ruin of particular persons, but also of whole Armies and Kingdoms, may easily appear to any one that is but little versed in Story. And therefore the redressing of these may be a Subject worth our enquiry.

Amongst the Ancients that have most laboured in these Particulars, † *Aeneas*, *Cleomenes*, and *Democritus*, † *Poliorce-*
(as they are cited by * *Polybius*) were * *Hist. l. 10.*
for their Inventions of this kind, more remarkably eminent. And that * Author himself hath given us such † *Polybius,*
an exact Relation of the Knowledge † *ibid.*
of Antiquity in these things, that 'tis † *justa finem*
a wonder these following Ages should either take no more notice, or make no more use of it. Besides these, there is also *Julius Africanus*, and *Philo Mechanicus*, two ancient Grecians, who have likewise treated of this Subject.

The Military Significations in use amongst the *Romans*, are handled by † *De re mi-*
† *Vegetius* and * *Frontinus*. † *lit. l. 3. c. 5:*
* *De Strat.*

Their

Their Notes of Secrecy, and Abbreviation in Writing, are largely set down by **Valerius Probus*, and *Pet. Diaconus*. There is likewise a Volume of these, set forth by *Janus Gruterus*, which for their first Invention are commonly ascribed unto *Cicero* and **The Father Seneca*.

In latter times these particulars have been more fully handled by the Abbot ^a*Tritemius*, ^b*Theodorus Bibliander*, ^c*Baptista Porta*. *Cardan. Subtil. l. 17. de Var. C. 12. 6.* ^d*Isaac Casaubon*, ^e*Johannes Walchius*, ^g*Gustavus Selenus*, ^h*Gerardus Vossius*. ⁱ*Hermannus*, *Hugo*, and divers others in particular Languages.

Amongst the rest, our English *Aristotle*, the learned *Verulam*, in that Work truly stiled the *Advancement of Learning*, hath briefly contracted the whole Substance of what may be said in this Subject. Where he refers it to the Art of *Grammar*, noting it as a deficient part. And in reference to this is it handled by most of those Authors who have treated of it.

That

* *L. de notis antiquis.*

* *The Father*

^a *Lib. de Polygraph. item de Stenograph.*

^b *Tract. de ratione commun. linguarum.*

^c *Lib. de Zyperis.*

^d *Notis in Aenea Porphyretica.*

^e *Fab. 9.*

^g *de Cryptog.*

^h *de Gram.*

Lib. I. c. 40.

ⁱ *Lib. de Or. Scrib.*

De Augm. Scientiar.

Lib. 6. c. 1.

That Art, in its true Latitude comprehending a Treaty, concerning all the ways of Discourse, whether by Speech, or by Writing, or by Gesture, together with the several Circumstances pertaining to them. And so this Subject belongs to the *Mint* of *Ibid.* Knowledge, Expressions being current for Conceits, as Mony is for Valuations.

Now as it will concern a man that deals in Traffick, to understand the several kinds of Mony, and that it may be framed of other Materials besides Silver and Gold: So likewise does it behove them, who profess the Knowledge of Nature or Reason, rightly to apprehend the several ways whereby they may be expressed.

So that besides the usefulness of this Subject, for some special Occasions, it doth also belong unto one of the Liberal Arts.

From which Considerations we may infer, that these particulars are not so trivial, as perhaps otherways they

The Secret and Swift

they would seem; and that there is sufficient motive to excite any Industrious Spirit unto a further search after them.

In this following Discourse I shall enquire,

1. Concerning the *Secrecy* of means, whereby to communicate our Thoughts.

2. Concerning their *Swiftnefs*, or quick passing at any great distance.

3. How they may be both joynd together in the conveyance of any Message.

In the prosecution of which, I shall also mention (besides the true discoveries) most of those other ways, whether *Magical*, or *Fabulous*, that are received upon common Tradition.

CHAP.

CHAP. II.

*The Conditions requisite to Secrecy :
The use of it in the Matter of Speech,
either*

By { *Fables of the Heathen.*
Parables of Scripture.

TO the Exanctels of Secrecy in any way of Discourse, there are these two Qualifications requisite.

1. That it be difficult to be unfolded, if it should be doubted of, or examined.

2. That it be (if possible) altogether devoid of Suspicion; for so far as it is liable to this, it may be said to come short in the very nature of Secrecy; since what is once suspected, is exposed to the danger of examination, and in a ready way to be discovered; but if not, yet a man is more likely to be disappointed in his Intentions,

Intentions, when his Proceedings are mistrusted.

Both these Conditions together are to be found but in few of the following Instances; only they are here specified, to shew what a man should aim at, in the Inventions of this nature.

The Art of secret information in the general, as it includes all signifi-
catory Signs, may be stiled *Cryptome-
nysis*, or private Intimations.

The particular ways of discour-
sing, were before intimated to be
threefold.

1. By Speaking.
2. By Writing.
3. By Signs or Gestures.

According to which variety, there
are also different ways of Secrecy.

1. *Cryptologia*.
2. *Cryptographia*.
3. *Semaologia*.

Cryptologia, or the Secrecy of Speak-
ing, may consist either,

1. In

1. In the Matter.
2. In the Words.

1. In the *Matter* : When the thing we would utter is so concealed under the expression of some other matter, that it is not of obvious conceit. To which purpose are the *Metaphors*, *Allegories*, and divers other Tropes of Oratory ; which, so far as they concern the *Ornament* of Speech, do properly belong to *Rhetorick*, but as they may be applied for the *Secrecy* of Speech, so are they reducible unto this part of *Grammar*.

To this likewise appertains all that *enigmatical* Learning, unto which not only the learned Heathen, but their gods also were so much devoted, as appears by the strange and frequent Ambiguities of the *Oracles* and *Sybil*s. And those were counted the most profound Philosophers amongst them, who were best able for the Invention of such affected Obscurities.

Of this kind also were all those mysterious *Fables*, under which the *Fables.*
Ancients

Ancients did veil the secrets of their Religion and Philosophy, counting it a prophane thing to prostitute the hidden matters of either, unto vulgar apprehension. *Quia sciunt inimicam esse natura, apertam nudamque expositionem sui; qua, sicut vulgaribus hominum sensibus, intellectum sui, vario rerum tegmine operimentoque subtraxit, ita à prudentibus arcana sua voluit per fabulosa tractari, saith Macrobius.* The gods and nature would not themselves have hidden so many things from us, if they had intended them for common understandings, or that others should treat of them, after an easie and perspicuous way: Hence was it that the learned men of former times were so generally inclined, to involve all their Learning, in obscure and mysterious Expressions. Thus did the Egyptian Priests, the Pythagoreans, Platonicks, and almost all other Sects and Professions.

*In Somm.
Scip. Lib. I.
Cap. 2.*

Parables.

And to this general Custom of those Ages (we may guess) the Holy Ghost

Ghōst does allude, in the frequent *Parables* both of the Old and New Testament. *Parabola est sermo similitudinarius, qui aliud dicit, aliud significat,* saith *Aquinas*. It is such a Speech of Similitude, as says one thing and means another. The Disciples do directly oppose it to plain speaking, *Behold now speakest thou plainly, and no Parables.*

Commen. 10
Isai. 14.

Johā 16.
29.

And elsewhere 'tis intimated, that our Saviour did use that manner of teaching for the *Secrecy* of it: That those proud and perverse Auditors, who would not apply themselves to the Obedience of his Doctrine, might not so much as understand it. *To whom it is not given to know the mysteries of the kingdom of God, to them all things are done in Parables, that seeing they may see and not perceive, and hearing they may hear and not understand.*

Mat. 13.
10, 11.
Mark 4.
11, 12.

The Art of these, was so to imply a secret Argument, that the Adversary might unawares be brought over to

Glos. Philo:
l. 2. par. 1.
Tract. 2.
Sect. 5.

C

an

an acknowledgment and confession of the thing we would have. Thus did *Nathan* unexpectedly discover to
 2 Sam. 12. *David*, the Cruelty and Injustice of his proceedings in the case of *Uriah*. Thus did another Prophet make *Ahab* condemn himself, for suffering the King of *Syria* to escape. And by this means did our Saviour, in the Parable of the Vineyard, and the unjust Husband-man, force the unbelieving Jews to a secret acknowledgment of those Judgments they had themselves deserved.

1 Kings

20. 39.

Mat. 21.

33.

Of this nature was that Argument of an ancient *Orator*, who when the Enemies had proposed Peace, upon this condition, that the City should banish their Teachers and Philosophers, he steps up and tells the People a Tale, of certain Wars betwixt the Wolves and the Sheep, and that the Wolves promised to make a League, if the Sheep would put away their Mastiff-Dogs. By this means better instructing them of the danger

ger

ger and madness there would be, in yielding to such a Condition.

The Jewish Doctors do generally in their *Talmud*, and all their other Writings, accustom themselves to a Parabolical way of Teaching; and 'tis observed, that many of those horrid Fables that are fathered upon them, do arise from a misapprehension of them in this particular. Whilst others interpret that according to the *Letter*, which they intended only for the *Moral*. As that which one *Rabby* relates, concerning a Lyon in the Forrest of *Elay*, that at the distance of four hundred Leagues, did with his roaring shake down the Walls of *Rome*, and make the Women Abortive. Wherein he did not affirm the existence of any such Monster, but only intimate the terribleness and power of the Divine Majesty. But this by the way.

*Schickard
Examen
Comm.
Rabbin
dis. 7.*

By this Art many men are able in their ordinary Discourses, so secretly to convey their Counsels, or

reproofs, that none shall understand them, but those whom they concern. And this way of teaching hath a great advantage above any other, by reason it hath much more power in exciting the Fancy and Affections. Plain Arguments and Moral Precepts barely proposed, are more flat in their Operation, not so lively and persuasive, as when they steal into a man's assent, under the covert of a Parable.

To be expert in this particular, is not in every man's power; like Poetry, it requires such a natural Faculty as cannot be taught. But so far as it falls under the rules and directions of Art, it belongs to the Precepts of *Oratory*.

In the general 'tis to be observed, That in these cases a man must be very careful to make choice of such a subject, as may bear in it some proper Analogy and resemblance to the chief business. And he must before-hand in his thoughts, so aptly contrive the several parts of the Similitude, that they

they may fitly answer unto those particular passages which are of greatest consequence.

CHAP. III.

Concerning that Secrecy of Speech, which consists in the words, Either

By inventing new ones, } *Canting.*
as in } *Conjuring.*

Or by a changing } *Inversion.*
of the known } *Transmutation.*
Language, whe- } *Diminution.*
ther } *Augmentation.*

THe secret ways of Speaking, which consists in the matter of Discourse, have been already handled. Those that are in the words are two-fold. Either

1. By inventing new words of our own, which shall signifie upon compact.

2. Or by such an alteration of any known Language, that in pronuncia-

tion it shall seem as obscure, as if it were altogether barbarous.

To the first kind we may refer the *Canting* of Beggars; who though they retain the common Particles, yet have imposed new names upon all such matters as may happen to be of greatest Consequence and Secrecy.

And of this nature the Charms of Witches, and Language of Magicians seem to be. Though of these it may well be doubted, whether they have any signification at all. And if they have, whether any understand them but the Devil himself. 'Tis probable he did invent such horrid and barbarous sounds, that by them he might more easily delude the weak Imaginations of his credulous Disciples. *Martinus de Arles*, an Archdeacon in *Navar*, speaking of a Conjur-ing-book, that was found in a Parish under his Visitation, repeats out of it these forms of discoursing with the Devil. *Conjuro te per alim,*
per

*Tract. de
superstitio-
nibus.*

per alion, per seboan, per adonay, per allelujah, per tanti, per archabulon, &c. And a little after, *Sitis alligati & constricti per ista sancta nomina Dei, Hir, alli, habet, sat, mi, flisga, adrotiagundi, tat, chamiteram, &c.* And in another place, *Coriscion, Matatron, Caladafon, Ozcozo, Yosiel, &c.*

In which forms the common Particles and words of usual Sence, are plainly set down in ordinary Latin; but many of the other, which seem to have the greatest Efficacy, are of such secret sence, as I think no Linguist can discover.

The Inventions of this kind do not fall under any particular Rule or Maxim, but may be equally infinite to the variety of articulate Sounds.

The second way of secrecy in Speech, is by an alteration of any known Language, which is far more easie, and may prove of as much use for the privacy of it, as the other. This may be performed four ways.

*Porta de
furi. lit. 1. 1.
cap. 5.
Selenus de
Cryptogra-
phia, lib. 2.
cap. 1.*

1. By *Inversion*, when either the *Letters* or *Syllables* are spelled backwards.

Mitto tibi MEYULAS cancos imitare legendo, where the word *SALUTEM* is expressed by an inversion of the Letters. Or as in this other example, *Stisbo est ad, vecabiti*, which by an inversion of the Syllables, is *Hostis adest, cave tibi*.

2. By *Transmutation*, or a mutual changing of one letter for another in pronunciation, answerable to that form of writing mentioned in the seventh Chapter. And though this may seem of great difficulty, yet use and experience will make it easie.

3. By *contracting* some words, and leaving part of them out; pronouncing them after some such way as they were wont to be both written and printed in ancient Copies. Thus *ā* stands for *anima*, *Arl's* for *Aristoteles*. But this can be but of small use in the English Tongue, because that does consist most of *Monosyllables*.

4. By

4. By *augmenting* words with the addition of other letters. Of which kind is that secret way of discoursing in ordinary use, by doubling the Vowels that make the Syllables, and interposing G or any other Consonant K, P, T, R, &c. or other Syllables, as *Porta lib. 1. cap. 5. de furtiv. liter. notis.* Thus if I would say, *Our Plot is discovered*, it must be pronounced thus, *Ougour plogot igis digiscogovegereged.* Which does not seem so obscure in writing, as it will in speech and pronunciation. And it is so easie to be learnt, that I have known little Children, almost as soon as they could speak, discourse to one another as fast this way, as they could in their plainest English.

But all these latter kinds of secrecy in Speech, have this grand inconvenience in them, that they are not without suspicion.

There are some other ways of speaking by inarticulate sounds, which I shall mention afterwards.

Chap. 17.
18.

CHAP.

CHAP. IV.

Concerning the Secret Conveyances of
any written Message in use amongst
the Ancients,

Either by $\left\{ \begin{array}{l} \text{Land.} \\ \text{Water.} \\ \text{the open Air.} \end{array} \right.$

THE secrecy of any written Mes-
sage may consist $\left\{ \begin{array}{l} \text{Conveyance.} \\ \text{Writing.} \end{array} \right.$
either in the

1. In the *Conveyance*, when a Letter is so closely concealed in the carriage of it, as to delude the search and suspicion of the Adversary. Of which kind the ancient Historians do furnish us with divers relations, reducible in the general unto these three Heads. Those that are

1. By Land.
2. By Water.
3. Through the open Air.

1. The

I. The secret Conveyances by Land, r. By Land.
 may be of numberleſs variety; but
 thoſe ancient Inventions of this na-
 ture, which to my remembrance are
 moſt obvious and remarkable, are
 theſe.

That of *Harpagus* the *Mede* (men-
 tioned by *Herodotus* and *Juſtin*) who
 when he would exhort *Cyrus* to a Con-
 ſpiracy againſt the King his Uncle,
 (and not daring to commit any
 ſuch Meſſage to the ordinary way of
 Conveyance, eſpecially ſince the
 King's Jealouſie had ſtopped up all
 paſſages with Spies and Watchmen)
 he puts his Letters into the Belly of
 a Hare, which, together with certain
 Hunters Nets, he delivered unto a
 truſty Servant, who under this diſ-
 guiſe of a Huntsman, got an unſu-
 ſpected paſſage to *Cyrus*. And *Aſtyages*
 himſelf was by this Conſpiracy be-
 reaved of that Kingdom which was
 then the greateſt Monarchy in the
 World.

Herod. l. 1.

cap. 123.

Juſtin. l. 1.

To

Justin. l. 2.
See the
like rela-
ted of *Ha-*
mucar. lb.
lib. 21.

* Such as
formerly
they were
wont to
write
upon,
whence
the phrase
Rasa tabu-
la, and lite-
ra, a litura.

To this purpose likewise is that of *Demaratus* King of *Sparta*, who being banished from his own Country, and received in the Persian Court, when he there understood of *Xerxes* his design and preparation for a War with *Greece*, he used these means for the discovery of it unto his Country-men. Having writ an Epistle in a * Tablet of Wood, he covered over the Letters with Wax, and then committed it unto a trusty Servant, to be delivered unto the Magistrates of *Lacedæmon*; who, when they had received it, were for a long time in a perplexed Consultation what it should mean, they did see nothing written, and yet could not conceive but that it shou'd import some weighty Secret; till at length the King's Sister did accidentally discover the Writing under the Wax: By which means the *Grecians* were so well provided for the following War, as to give a Defeat to the greatest and most numerous

merous Army that is mentioned in History.

The Fathers of the Council of *Isaac Casa-*
Ephesus, when *Nestorius* was con- *Noris in*
Enea Po-
*lior. c. 31.*demned, being strictly debarred from
all ordinary ways of Conveyances,
were fain to send unto *Constantinople*
by one in the disguise of a Beggar.

Some Messengers have been sent
away in Coffins as being Dead: Some
others in the Disguise of Brute Crea-
tures, as those whom *Josephus* menti-
ons in the Siege of *Jotapata*, who crept *De Bello*
Judaic. l. 3.
*c. 8.*out of the City by night like Dogs.

Others have conveyed Letters to
their imprisoned Friends, by putting
them into the Food they were to re-
ceive, which is related of *Polycrita*.
Laurentius Medices involving his Epi- *Herman.*
Hugo de
Orig. Scrib.
*c. 15.*stles in a piece of Bread, did send
them by a certain Nobleman in the
form of a Beggar. There is another *Solemn. de*
Gryptogra-
phia, l. 8.
*c. 7.*relation of one, who rolled up his
Letters in a Wax-candle, bidding the
Messenger tell the Party that was to
receive it, that the Candle would give
him

Poliocet.
c. 31.

him light for his business. There is yet a stranger Conveyance spoken of in *Aeneas*, by writing on leaves, and afterwards with these leaves, covering over some sore or putrid Ulcer, where the enemy would never suspect any secret Message.

Others have carried Epistles inscribed upon their own Flesh, which is reckoned amongst those secret Conveyances mentioned by *Ovid*.

De Arte
Amand.

Caveat hoc custos, pro charta, conscia
tergum
Præbeat, inque suo corpore verba
ferat.

Herod. l. 5.
c. 35.
Notæ Atti.
l. 17. c. 10.

But amongst all the ancient Practices in this kind, there is none, for the Strangeness, to be compared unto that of *Hystieus*, mentioned by *Herodotus*, and out of him in *Aulus Gellius*; who whilst he resided with *Darius* in *Persia*, being desirous to send unto *Aristagoras* in *Greece*, about revolting from the *Persian* Government, (concerning

cerning which they had before conferred together) but not knowing well how at that distance to convey so dangerous a business with sufficient Secrecy, he at length contrived it after this manner: He chose one of his Household-Servants that was troubled with sore Eyes, pretending that for his recovery his Hair must be shaved, and his Head scarrified; in the performance of which *Hystianus* took occasion to imprint his secret Intentions on his Servant's Head; and keeping him close at home till his Hair was grown, he then told him, That for his perfect Recovery, he must Travel into Greece unto *Aristagoras*, who by shaving his Hair the second time, would certainly restore him. By which relation you may see what strange Shifts the Ancients were put unto, for want of Skill in this Subject that is here discoursed of.

'Tis reported of some fugitive Jews at the Siege of *Jerusalem*, who more securely to carry away their Gold, did

*Joseph. de
Bello Judæ.
l. 6. c. 15.*

did first melt it into Bullets, and then swallow it down, venting it afterwards amongst their other Excrements. Now if a man had but his Faculty, who could write *Homer's Iliads* in so small a Volume as might be contained in a Nut-shell, it were an easie matter for him, by this trick of the Jews, securely to convey a whole Packet of Letters.

*Solin. Poly-
bist. c. 6.*

2. By Water.

*De Stratag.
l. 3. c. 13.*

2. When all the Land-passages have been stopped up, then have the Ancients used other secret Conveyances by Water; writing their Intentions on thin plates of Lead, and fastning them to the Arms or Thighs of some expert Swimmer. * *Frontinus* relates, that when *Lucullus* would inform a besieged City of his coming to succour them, he put his Letters into two Bladders, betwixt which a common Souldier in the disguise of a Sea-monster, was appointed to swim into the City. There have been likewise more exquisite Inventions to pass under the Water, either by

a mans self, or in a Boat, wherein he might also carry provision, only having a long Trunk or Pipe, with a tunnel at the top of it, to let down fresh air. But for the prevention of all such conveyances, the Ancients were wont in their strictest Sieges, to cross the Rivers with strong * Nets, to fasten stakes in several parts of the Channel with sharp Irons, as the blades of Swords, sticking upon them.

* Plin. l. 10.
c. 37.

3. Hence was it that there have been other means attempted through the open Air, either by using Birds, as Pigeons and Swallows instead of Messengers, of which I shall treat more particularly in the sixteenth Chapter. Or else by fastning a writing to an Arrow, or the weight that is cast from a sling.

3. through
the open
Air.

Somewhat of this nature, was that intimation agreed upon betwixt *David* 1 Sam. 20. and *Jonathan*, though that invention does somewhat favour of the ancient simplicity and rudeness. It was a more exact invention mentioned by *Hero* Urania sive l. 8. c. 128.

D

dotus

The Secret and Swift

dotus concerning *Artabazus* and *Timo Xenus*, who when they could not come together, were wont to inform one another of any thing that concerned their affairs, by fastning a letter unto an Arrow, and directing it unto some appointed place, where it might be received.

Polyanus,
l. 2.
See *Plus-*
tarch in
Cimon.

Thus also *Cleonymus* King of *Lacedaemon*, in the siege of the City *Trezena*, enjoined the Soldiers to shoot several Arrows into the Town, with notes fastned unto them having this Inscription, *Ἡκω τὴν πόλιν ἐλευθερώσω.* *I come that I may restore this place to its Liberty.* Upon which the credulous and discontented Inhabitants were very willing to let him enter.

When *Cicero* was so straightly besieged by the *Gauls*, that the Soldiers were almost ready to yield; *Cesar* being desirous to encourage him with the news of some other Forces that were to come unto his aid, did shoot an Arrow into the City, with these words fastned unto it, *Cesar Ciceroni*
fiduciam

fiduciam optat, expecta auxilium. By which means the Soldiers were persuaded to hold out so long, till these new Succours did arrive and break up the Siege.

The same thing might also be done more securely, by rolling up a note within the head of an Arrow, and then shooting of it to a Confederates Tent, or to any other appointed place.

To this purpose is that which *Lycias* relates out of *Appian*, concerning an ancient custom for the besieged to write their minds briefly in a little piece of lead, which they could with a sling cast a great distance, and exactly hit any such particular place as should be agreed upon, where the confederate might receive it, and by the same means return an answer.

Poliocet.
l. 4. c.
Dialog. 2.
mentioned also by
Heliodor.
Hist. Æthiö.
l. 9.

Of this nature likewise, are those kind of Bullets, lately invented in these *German Wars*, in which they can shoot, not only Letters, Corn, and the like, but (which is the strangest) Powder also into a besieged City.

World in
the Moon,
chap. 14.

But amongst all other possible conveyances through the Air, imagination it self cannot conceive any one more useful, than the invention of a flying Chariot, which I have mentioned elsewhere. Since by this means a Man may have as free a passage as a Bird, which is not hindred either by the highest Walls, or the deepest Rivers and Trenches, or the most watchful Sentinels. But of this perhaps I may have occasion to treat more largely in some other discourse.

CHAP. V.

Of that secrecy which consists in the materials of writing, whether the Paper or Ink.

THE several Inventions of the Ancients, for the private conveyance of any written message, were the subject of the last Chapter.

The secrecy of *Writing* may consist,

either in $\left\{ \begin{array}{l} \text{The Materials,} \\ \text{or} \\ \text{The Form.} \end{array} \right.$

I. The *Materials* of writing are the Paper and Ink, (or that which is instead of them) both which may be so privately ordered, that the inscribed sence shall not be discoverable without certain helps and directions.

*Selenus de
Cryptogra.
l. 8. c. 1. 4.*

1. The Paper.

1. The chief contrivance of secrecy by the Paper, in use amongst the Ancients, was the *Lacedemonian Scytale*, the manner of which was thus, There were provided two round staves of an equal length and size, the Magistrates always retaining one of them at home, and the other being carried abroad by the General, at his going forth to War. When there was any secret business to be writ by it, their manner was to wrap a narrow thong of Parchment about one of these Staves, by a serpentine revolution, so that the edges of it might meet close together; upon both which edges they inscribed their Epistle, whereas the Parchment being taken off, there appeared nothing but pieces of letters on the sides of it, which could not be joyned together into the right sence, without the true *Scytale*. Thus is it briefly and fully described by *Ausonius*.

Vel

Vel Lacedemoniam Scytalen imitare Ausonius ad Paulinum.
libelli,
Segmina Pergamei, tereti, circumdata
ligno,
Perpetuo inscribens versu, deinde so-
lutus,
Non respondentes sparso dabit ordine
formas.

You may read in *Plutarch*, how by this means *Pharnabaz* did deceive In Vita Lyfandri:
Lyfander.

'Tis true, indeed, that this way was not of such inextricable secrecy, but that a little examination might have easily discovered it, (as *Scaliger* truly Exerc. 327. observes) however in those Ages, which were less versed in these kinds of Experiments, it seem'd much more secret than now it does unto us; and in these times there are such other means of private discoursing, which even *Scaliger's* Eyes (as good as they were) could not discover. And therefore it was too inconsiderate and

Vossius de
Arte Gram.
l. 1. c. 40.

magisterial a sentence of him, from thence to conclude all this kind of learning to be vain and useles, serving only for imposture, and to perplex the inquirer.

Veget. de re
milit. l. 3.

'Tis certain that some occasions may require the exactest privacy; and 'tis as certain, that there may be some ways of secrecy, which it were madness for a man to think he could unfold. *Furori simile esse videtur, sibi aliquem persuadere, tam circumspectum, hominem esse posse, ut se à furtivo quodam scripto, abditaq; machinatione tueri possit: nam astans quilibet, vel procul distans loquitur, & factum nunciat, ut non solum à nemine percipiatur, sed ne sic quidem significare quippiam posse existimet, saith Vegetius.* And Baptista Porta (who had a strange and incredible ability in discovering of secret writings, yet doth ingeniously confess, *Multa esse posse furtiva scripta, qua se interpretaturum quenquam polliceri, furorem ac delirium plane existimarem.*

Proem. l. 3.
de furtivis
notis.

So that though the ancient inventions of this kind, were too easily discoverable, yet *Scaliger* had no reason to conclude this to be a needless Art, or that therefore he could unfold any other way that might be invented. But this by the way.

2. The other material of writing is the Ink, or that liquor which is used instead of it, by which means also, there are sundry ways of secrecy, commonly mentioned in natural *Magick*.

2. The Ink.
Porca Magia, l. 16.
Wecker. de Secret. l. 14.
Joach. Fortius Experiment.

Thus if a man write with salt *Ammoniack*, dissolved in water, the letters will not appear legible, till the paper be held by the fire: This others affirm to be true also in the juyce of Onions, Lemons, with diverse the like acid and corroding moistures.

Cardan. Subt. l. 17.
Item de Varietate, l. 12 c. 61.

And on the contrary, those letters that are written with dissolved *Allum*, will not be discernable till the paper be dipped in water.

Ibid.

There are some other Juices that do not appear, till the paper be held betwixt a Candle and the Eye.

Bibliander de Ratione com. linguarum.

That

*De furtiv.
lit. l. i. c. 15.*

That which is written with the water of putrified Willow, or the distilled Juice of Glow-worms, will not be visible but in the dark, as *Porta* affirms from his own experience.

There is also a secret way of writing with two several Inks, both of them alike in colour, but the one being of that nature, that it will easily be rubbed or washed off, and the other not.

A man may likewise write secretly with a raw Egg, the letters of which being thoroughly dried, let the whole paper be blacked over with Ink, that it may appear without any inscription, and when this Ink is also well dried, if you do afterwards gently scrape it over with a Knife, it will fall off from those places, where before the words were written.

Those letters that were described with Milk, or Urin, or Fat, or any other glutinous moisture, will not be legible unless dust be first scattered upon them, which by adhering to those places,

places, will discover the writing. This way is mentioned by *Ovid*,

*De Art.
Amant.*

*Tuta quoque est, fallitque oculos è
lacte recenti*

*Litera, carbonis pulvere tange,
leges.*

And 'tis thought that *Attalus* made use of this device, the better to excite the courage of his Soldiers. Being before the Battel to sacrifice to the gods for success, as he pulled out the intrails of the Beast, he described upon them these words, *Regis Victoria*, which he had before written backward in his hand with some gummy juice. The intrails being turned up and down by the Priest, to find out their signification, the letters did by that means gather so much dust as to appear legible. By which *omen* the Soldiers were so strangely heightned in their hopes and valour, that they won the day.

Unto

*Gust. Selenu
nus deCryp-
tographia,
l. 8. c. 3.*

Unto these Experiments of secrecy in the *Materials* of writing, some add those other ways of expressing any private intimation by drawing a string through the holes of a little Tablet or Board; these holes should be of the same number with the letters, unto which by compact they should be severally applied. The order of the threads passing through them, may serve to express any words, and so consequently any sence we would discover.

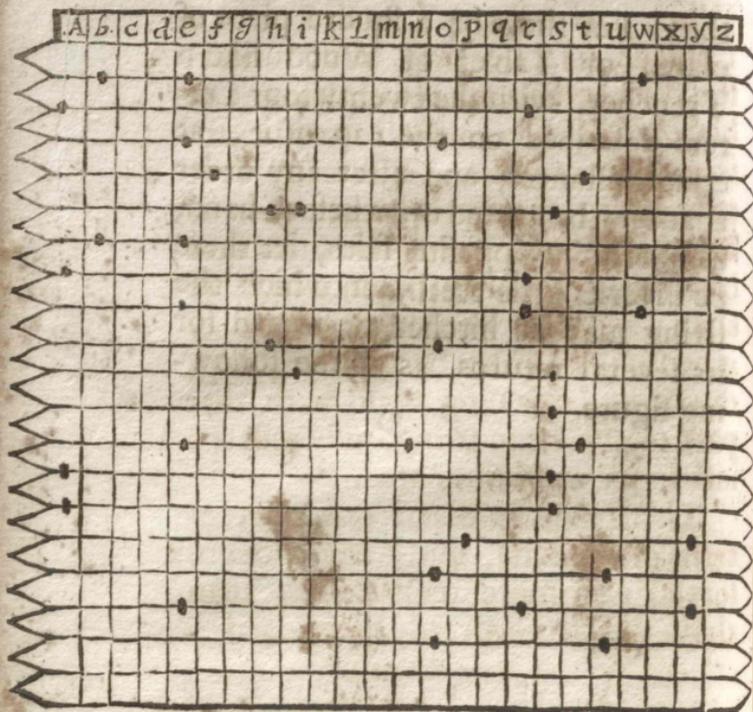
To this purpose likewise is that other way of secret information, by divers knots tied upon a string, according to certain distances, by which a man may as distinctly, and yet as *Secretly*, express his meaning, as by any other way of discourse. For who would mistrust any private News or Treachery to lye hid in a thread, wherein there was nothing to be discerned, but sundry confused knots, or other the like marks?

The

The manner of performing it is thus: Let there be a square piece of plate, or Tablet of Wood like a Trencher, with the twenty four Letters described on the top of it, at equal distances, and after any order that may be agreed upon before-hand, on both the opposite sides, let there be diverse little teeth, on which the string may be hitched or fastned for its several returns, as in the following figure.



Where



Where the string is supposed to be fastned by a loop on the first tooth, towards the letter A, and afterwards to be drawn successively over all the rest. The marks upon it do express the secret meaning. *Beware of this Beare*

Bearer who is sent as a Spy over you.
When it is taken off, and sent to a Confederate, he may easily understand its intention, by applying it to his own Tablet, which must be answerable unto this. The instrument may be made much longer than is here expressed; but if the matter to be revealed should happen to be more than the Tablet would bear, then may it be supplied either by another string, or else by beginning again with that part of the same string, wherein the last letter was terminated.

There may be divers other inventions of this kind, but I have not observed any more remarkable, than those which are already mentioned.

C H A P.

C H A P. VI.

*Secret writing with the common letters;
by changing of their places.*

*Selenus de
Cryptogra-
phia, l. 2.
c. 5.
Ars nota-
rum occul-
tandi inter
artes Subti-
litate præ-
stātes an-
numeranda
est. Cardan.
Subtil. l. 17.*

*De Doctrin
Christiana,
l. 2. c. 26.*

THat secrecy which does consist in the form of writing, is when the words or letters are so framed by compact, that they are not of ordinary signification. The inventions of this kind may, both for their pleasure and benefit, justly challenge a place amongst our other studies.

St. *Austin* speaking of such human inventions as are to be embraced or avoided, and rejecting all magical Institutions and Commerce with the Devil, he adjoyns, *Ea verò quæ homines cum hominibus habent, assumenda, & maxime literarum figura, &c. Ex eo genere sunt etiam nota, quas qui didicerunt, proprie notarii appellantur. Utilia sunt ista, nec discuntur illicite, nec superstitiose implicant, nec*

LXXII

luxu enervant, si tantum occupent, ut majoribus rebus, quibus inservire debent, non sint impedimento.

This way of secret writing may be contrived, either

1. By the common letters.

2. Or by some invented notes and characters instead of them.

Both these being distinguishable into those kinds that contain either,

1. Equal.

2. Or more.

3. Or fewer signs than are naturally required to the true framing of the word.

The particulars of these may be altered to such great variety as cannot be reckoned, and therefore I shall specify those only which seem most remarkable, either for their Antiquity or Usefulness.

The way of secret writing by equal letters, is either by changing of

1. Their places, or

2. Their powers.

E

1. By

The Secret and Swift

1. By altering of the places ;

Either of the } Lines.
 Letters.
 Both.

i. By trans-
posing the
lines.

1. A man may obscure the sense, by perplexing the order of the *Lines*. If they be written, not only from the left hand to the right, but also from the right hand to the left, as in the Eastern Languages, or from the top to the bottom, and so upward again, as is commonly related to be usual amongst the Inhabitants of *Taprobana* in the South-Sea, with those in *China* and *Japan*. According to this following example.

Diodor. Sic.
Biblioth.
l. 2.
Herman.
Hugo de
Orig. Scrib.
s. 8.

e	r	f	d	l	e	e	l	l	t
i	e	t	o	o	f	w	i	i	h
l	f	u	u	h	h	s	n	t	e
p	h	o	t	o	a	v	c	s	p
p	a	h	t	t	l	t	r	h	e
u	n	t	h	e	l	s	e	t	s
f	d	i	e	l	n	g	a	o	t
y	f	w	f	b	o	n	f	d	i
d	p	e	i	a	t	o	e	c	l
e	e	g	e	e	b	m	a	n	e
		↑		↑		↑		↑	In

In the reading of which, if you begin at the first letter towards the right hand, and so downwards, and then upwards again, you may find these words expressed.

The Pestilence doth still increase amongst us, we shall not be able to hold out the Siege without fresh and speedy supply. *supplie*

2. A man may obscure the sense of his writing, by transposing each Letter according to some unusual order. As suppose the first letter should be at the latter end of the line, the second at the beginning, or the like.

² By transposing the letters.

3. The meaning of any written message may be concealed, by altering the order both of the letters and the lines together. As if a man should write each letter in two several lines, thus,

³ By transposing both the lines and letters.

Teoliraelmsfmesplvoweu
 hfudesralota ihd, upysremsyid

*The Souldiers are almost famished ;
 Supply us, or we must yield.*

E 2

This

* Or as many more as the length of the Epistle shall require.

This way may be yet further obscured, by placing them in * four lines, and after any discontinuate order. As suppose that the first letter be in the beginning of the first line, the second in the beginning of the fourth line, the third in the end of the first, the fourth in the end of the fourth, the fifth in the beginning of the second line, the sixth in the beginning of the third, the seventh in the end of the second, the eighth in the end of the third, and so of the rest. As in this example,

W m r p i t a h h s c t e i n p k e
 s h a t h f o n o i h k f t o e n i l
 b a n o e r r o c g t t t h m n v r l
 e a u o m h t e i n l e n e t t e f

Which in its resolution is this :

We shall make an Irruption upon the Enemy, from the North, at ten of the clock this night.

*Walchius
 Feb. 9.*

This way will yet seem more obscure, if each line be severed into such words as may seem barbarous.

All

All these kinds may be varied unto divers other more intricate Transpositions, according as a mans fancy or occasion shall lead him.

CHAP. VII.

Concerning secret writing with equal letters, by changing their powers. The use of this amongst the Jews and Romans. The Key-character.

AS a written message may be concealed by changing the places of the letters, so likewise by changing of their *Powers*, putting one of them for another, as suppose L for A, and A for L or the like. Answerable to that kind of Cabalism in the Jewish Learning, which the Rabbies call צירוף or *Combinatio*, when the letters of the Alphabet are severally transposed, and taken one for another, after any known order. Of which there be as many kinds, as there may

*Shickard
in Bechinath.
Haperus.
Disp. l. 4.
Glassius
Philolog.
l. 2. part 1.
tract. 2.
sect. 3. act. 7.*

E 3

be

The Secret and Swift

be several combinations of the letters; But amongst the rest, they observe two of more frequent use. The first is stiled from the four first correspondent letters אלכס *Albam*; in which they are thus opposite to one another.

א ב נ ד ה ו ז ה ט י כ
ל מ נ ס ע פ צ ק ר ש ת

The other is from the same reason called אתוש *Atbass*, wherein the letters are thus mutually opposed,

א ב ג ד ה ו ז ה ט י כ
ת ש ר ק צ כ ע ס נ מ ל

Both these kinds of secret writing, the Jewish Doctors think to be frequently used by the sacred Pen-men of Holy Writ, amongst whom the Prophet *Isaiab* and *Jeremiah* are observed to be of more especial note for their skill in Cabalisms.

By the first of these combinations called *Albam*, that place of *Isaiab* 7.6. is usually interpreted, where there is a person

person mentioned under the unknown name of **טבאל** *Tabaal*, whom the Prophet affirms to aspire unto the Crown of *Judah*, meaning by a secret transmutation of the letters **ומרה** *Remaliah* the King of *Israel*, whom he was loath more expressly to nominate. And therefore he veils it by this kind of secrecy, instead of **ר** writing the letter above it **ט**; for **ט** the correspondent letter **ב**, and so **ל** for **א**, and **א** for **ל**. Which being joyned together, do make **למאל**, instead of **ומרה**.

By the second of these combinations called *Athbash*, is that place *Jerem.* 51. 1. translated; where by the original **לב קמי** *Cor insurgentium contra me*, is meant **כשויב** the Chaldeans; and therefore both the *Targum* and the *Septuagint* do unanimously translate it so, as if in their version of it, they had chiefly respected unto this kind of Cabalism. So likewise in 41. verse of the same Chapter, by the fained name of **שש** is meant **בבל**.

*Item c. 25.
v. 26. fide
Hieron.
com. in eun-
dem locum.*

E 4

This

Sueton. in
vitâ ejus
Aul. Gellius
Noct. Attic.
l. 17. c. 9.

This way of secret writing, hath been also in use amongst the ancient Romans: Thus *Suetonius* relates of *Julius Caesar*, when he would convey any private business, he did usually write it, *per quartam elementorum litteram*, that is D for A, E for B, and so of the rest. After this order,

defghiklmnopqrftvwxyzabc
 abcdefghiklmnopqrstvwxyz

Hasten unto me.

Ldwxhq yqxr ph.

And the same Author reports of *Octavius Augustus*, that in the writing of his secrets, he did *Secundum elementum proprii loco substituere*, set down the second letter for the first, as B for A, C for B, and for A a double xx.

But now, because such an Epistle might be easily unfolded, being altogether written by the same way; therefore this kind of secrecy, hath by later invention, been further obscured, by writing each several word or line, or letter, by a divers Alphabet.

For

For the performance of this, two Friends must before-hand by compact, agree upon some certain form of words, that may be instead of a key, serving both to close, and to unlock the writing; which words would be less discoverable, if they be barbarous and of no signification.

But for the easier apprehending of this, I shall explain it in an example.

Suppose the key agreed upon, were only this one word *Prudentia*.

Having first framed several Alphabets according to each of its letters:

Thus.

A b c

A	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
P	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o
R	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q
U	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	
D	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c
E	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d
N	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m
T	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s
I	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h
A	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

I may write each line, or word, or letter, according as the order of these Alphabets shall direct. As in these

1. In the lines.

Ixt hdkasytgh bkiycn
 xfi nrel fx matlmrek ;
 npkks pn, im oczs qdff
 uhyrox xr xlh hqmpmh.

2. In

2. In the words.

Ixt kfmcuawik gpodhs
 iru aery bs oiwnotem ;
 bdyrtg vs, dg lzwp qdff
 uhyrox ys gur ygcfcy.

3. In the letters.

Izz wshemitin in pzgcwy
 vfm zean xfkaxxznebr
 skgkoc hm, xr izzb awet
 rtm iox gh cht whnqwy.

Which examples being unfolded,
 do each of them express this inward
 meaning.

*The Souldiers mutiny
 for want of Victuals ;
 Supply us, or they will
 Revolt to the enemy.*

These ways may be yet further ob-
 scured, if the first Alphabet, (accord-
 ing

ing to which the rest are described) be contrived after any mixed order. As suppose instead of the ordinary *A b c, &c.* there be written these letters after this manner.

Rz k m p s e l a u f t c y g w h x o q i n d.

And then will they be liable to all those other differences of secrecy, that are usually invented by the *Wheel-character*, which you may see largely described by *Porta*.

There may be divers other ways to this purpose, but by these you may sufficiently discern the nature of the rest.

C H A P. VIII.

Of secret writing by more letters than are requisite to the intended meaning.

THe different kinds of secrecy by *equal letters* have been already handled. The next particular to be discussed, is concerning the ways of hiding any private sence under *more letters* than are required to the words of it.

Of which kind there may be divers particulars, some of them in use amongst the Ancients.

1. A writing may be so contrived, that only one letter in a verse shall be significant. As it was in those remarkable *Acrosticks* made by a *Sybill* concerning our Saviour; where the letters at the beginning of each verse, being put together, made up these words, *Ἰησους χριστος δεσ υἱου σωτηρ.*

*Sybillæ
Erythrææ.*

σωτηρ. *Jesus Christ the Son of God a Saviour.*

Beda lib. de Sybillis.

The translation of these you may see in St. *Augustin de Civit. Dei lib. 18. cap. 23.* And the original are mentioned by *Ludovicus Vives*, in his notes upon that place.

According unto this doth *Plautus* contrive the names of his **C**omedies in the first letters of their Arguments. But this way is so ordinary in practise, that it needs not any further explication.

2. The inward sence hath likewise been conveyed by some single letters of several words in the same verse. As in that common Distich.

Vale.

*Mitto tibi caput Veneris, ventremque
Diana*

Latronisque caput, posteriora canE.

3. Sometimes one letter in each word was only significant. By which way of secret expression, the Holy Ghost (say the Rabbies) hath purposely

posely involved many sacred Myf-
teries in Scripture. When these signifi-
cant letters were at the beginning of
each word, the Cabalists, in their learn-
ing, called such an implicit writing
ראשי תיבות *Capita dictionum*. When
they were at the latter end, then was
it stiled סופי תיבות *Fines dictionum*.
Both being reckoned as species of
that Cabalifm which they called
נוטריקון *Notaricon*, imposed by some
later Rabbies from the Latin word
Notarius.

Of the first sort, is that collection The capi-
tal letters.
from those eminent words, *Gen. 49. 10*
וְבָא שִׁלֹה וְלוֹ Shilo shall come, and in him,
&c. where the capital letters make
up the word ישו *Jesu*.

So *Pfal. 73. 17.* וְנוֹן שְׁמוֹ וְיִתְבַרְכֵנו
*His Name shall continue, and in him
shall be blessed, &c.* which place
does expressly treat concerning the
Messias his name, and therefore
seems unto the Jews, to be of
strong consequence for the proof
of Christianity. For so much is
that

that Nation befooled in their absurd dotage, upon these trivial literal collections, that a reason of this nature is of greater force unto them, than the most evident, solid demonstration that may be urged. *Ludovicus Carret*, a famous Jew, Physician to the French King, being himself converted, and writing an Epistle to this purpose, unto those of his own Nation, he does chiefly insist upon the Arguments of this kind, as being in his opinion of greatest efficacy to prove the truth of Christian Religion.

*Lib. Viso-
rum Divi-
norum.*

The final
letters.

Of the other sort is that passage *Gen. 1. 1.* ברא אלהים את where the final letters make up the word אמת or *Truth*. Which kind of Cabalifim is six times repeated in the History of the Creation. As if *Moses* by such an artificial contrivance of the letters at the beginning of his writings, did purposely commend unto our belief his following Books. Unto this *David* is thought to allude

allude *Pfal.* 119. 160. *The beginning of thy word is אמת Truth.* Of this nature likewise is that observation from *Exod.* 3. 13. *לוי מה שמו מה.* *When they shall say unto me, what is his name, &c.* Where the final letters answer יהוה *Jehovah.*

It were an easie matter for a man that had leasure and patience for such enquiries, to find out sundry Arguments of this kind for any purpose.

4. There is another way of hiding any secret sence under an ordinary Epistle, by having a * plate with certain holes in it, through which (being laid upon the paper) a man may write those letters or words, that serve to express the inward sence; the other spaces being afterwards filled up with such other words, as in their conjunction to these former, shall contain some common unsuspected business.

5. There is also another intricate way to this purpose, much insisted on by *Tritemius*, *Porta*, and *Sylenus*. When each usual word or form of

Cardan de subtil. l. 17. Porta de furt. l. 2. c. 18.

Such as Printers use when they are to insert diverse red letters amongst the black.

an Epistle, is varied to as many differences as there are letters, unto which they must all of them be severally assigned. But these two latter inventions (though they be of great secrecy, yet) because they require so much labour and trouble in the writer, I shall therefore pass them over without any further enlargement.

CHAP.

CHAP. IX.

Of concealing any written sence under barbarous words, and such as shall not seem to be of any signification. How all the letters may be expressed by any five, three, or two of them. Of writing with a double Alphabet. How from these two last ways together, there may be contrived the best kind of Secret writing.

ALL the ways of secrecy by *more letters*, already specified, do make the writing appear under some other sence, than what is intended, and so consequently are more free from suspicion: There are likewise some other inventions to express any inward sence by barbarous words, wherein only the first, and middle, and last letters shall be significant. As in this Example,

*Fildy, fagotur myndeeldrare discogure
rantibrad.*

Which in its resolution is no more
than this.

Fly for we are discovered.

To this purpose likewise is that
other way of expressing the whole
Alphabet, by any five, or three, or
two of the letters repeated. And
though such a writing, to ordinary
appearance, will seem of no signifi-
cation at all, and so may seem of
less use: Yet because a right appre-
hension of these ways, may conduce
to the explication of some other par-
ticulars that follow, it will not be
amiss therefore to set them down
more distinctly.

All the letters may be expressed by
any five of them doubled. Suppose
ABCDE.

A B C D E F G H I K L M N
 aa ab ac ad ae ba bb bc bd be ca cb cc
 O P Q R S T V W X Y Z. &
 cd ce da db dc dd de ea eb ec ed. ee

According to which, these words,
I am betrayed, may be thus described.

Bd aacb abaedddbaeceaad.

Three letters being transposed
 through three places, do give suffi-
 cient difference, whereby to express
 the whole Alphabet.

A B C D E F G H I
 aaa aab aac baa bba bbb bbc caa cca
 K L M N O P Q R S
 ccb ccc aba abb abc aka acb acc bca
 T V W X Y Z &
 bcb bcc bab cba cbb cbc bac

Hasten unto me.

Caa aaa bca bcb bba abb bcc abb
 bcb abc aba bba.

The whole
Alphabet
expressed
by any two
letters in
five places.

Two letters of the Alphabet, being transposed through five places, will yield thirty two differences, and so will more than serve for the four and twenty letters; unto which they may be thus applied.

A. B. C. D. E.
aaaaa. aaaab. aaaba. aaabb. aabaa.

F. G. H. I. K.
aabab. aabba. aabbb. abaaa. abaab.

L. M. N. O. P.
ababa. abaab. abbaa. abbab. abbaa.

Q. R. S. T. V.
abbbb. baaaa. baaab. baaba. baabb.

W. X. Y. Z.
babaa. babab. babba. babbb.

aaabababababba aaaaababaaaaababba.

f l y a w a y

There

There is yet another way of secrecy by more letters than are naturally required to the inward sence, if we write with a double Alphabet, wherein each letter shall in the fashion of it, bear some such small distinction from the other of the same kind, as is usual in common mixed writing.

Writing
by a dou-
ble Alpha-
bet.

For Example.

The first Alphabet.

F 4

A a

Aa. Bb. Cc. Dd. Ee. Ff. Gg. Hh
 Ii. Kk. Ll. Mm. Nn. Oo. Pp. Qq.
 Rr. Ss. Tt. Vv. Ww. Xx. Yy. Zz.

the second Alphabet.

Aa. Bb. Cc. Dd. Ee. Ff. Gg. Hh
 Ii. Kk. Ll. Mm. Nn. Oo. Pp. Qq.
 Rr. Ss. Tt. Vv. Ww. Xx. Yy. Zz.

1. Write an Epistle of an ordinary matter, or (if it be needful) contrary to what you intend. Let the body of it consist chiefly of the first Alphabet, only inserting (as you have occasion) such letters of the second,

second, as may express that inward meaning which you would reveal to a Confederate.

For example, from those that are besieged.

*We prosper still in our af-
faires. and shall (without
having any further help)
endure the siege.*

In which clause, the letters of the second Alphabet are only significant, expressing this inward sense.

We

Wesperish with hunger
helpe us.

But because the differences betwixt these two Alphabets may seem more easily discoverable, since they are both generally of the same kind; the letters of the second being all of them more round and full than the other: Therefore for their better secrecy in this particular, it were safer to mix them both by compact, that they might not, in themselves, be distinguishable.

The best
way of
secret
writing.
Bacon.
Augment.
scient. l. 6.
c. 8.

Now if this kind of writing, be mixed with the latter way of Secrecy, by two letters transposed through five places; we may then write *omnia per omnia*, which (as a learned man speaks) is the highest degree of this Cyphering.

For

All things do happen according to our desires, the particulars you shall vnderstand when wee meete at the appointed time and place of which you must not faile by any means The success of our affairs dos much depend vpon the meeting that wee have agreed vpon.

The involved meaning of which
clause is this :

*Fly, for we are discovered, I am forced
to write this.*

If you suppose each letter of the
first Alphabet to be instead of A, and
those of the second for B, then will
the former clause be equivalent to this
following description.

Aabab ababa babba aabab abbab baaaa babaa
F l y f o r w

aabaa aabaa aaaaa baaaa aabaa aaabb
e e a r e d

abaaa baaab aaaba abbab baabb aabaa
i f c o v e

baaaa aabaa aaabb abaaa aaaaa ababb
r e d, I a m

aabab

aabab abbab baaaa aaaba aabaa aaabb
 f o r c e d

baaba abbab babaa baaaa abaaa baaba
 t o w r i t

aabaa baaba aabbb abaaa baaab.
 e t h i s.

This way of secrecy may be serviceable for such occasions as these. Suppose a man were taken Captive, he may by this means discover to his Friends the secrets of the enemies Camp, under the outward form of a letter persuading them to yield. Or suppose such a man were forced by his own hand-writing to betray his Cause and Party, though the words of it in common appearance may express what the enemy does desire; yet the involved meaning, (which shall be legible only to his Confederates) may contain any thing

thing else, which he has a mind to discover to them: As in the former example.

But now if there be a threefold Alphabet, (as is easie to contrive) then the inward writing will bear unto the outward but a triple proportion, which will be much more convenient for inlarging of the private intimations.

And this way of writing is justly to be preferred before any of the other, as containing in it more eminently, all those conditions that are desirable in such kind of inventions. As,

1. 'Tis not very laborious either to write or read.
2. 'Tis very difficult to be deciphered by the enemy.
3. 'Tis void of suspicion.

But

But by the way, 'tis to be generally observed, that the mixture of divers kinds of secret writing together (as suppose this with the Key-character) will make the inward sense to be much more intricate and perplexed.

CHAP. X.

Of writing any secret sense by fewer letters than are required to the words of it. The use of this amongst the Jews and Romans.

AS the sense may be obscured by writing it with more letters than are required to the words of it, so likewise by fewer. Abbreviations have been anciently used in all the learned Languages, especially in common forms, and Phrases of frequent use. Sometimes by contracting words, when some parts of them did stand for the whole. So in the Hebrew וכו' for וכו' *et totum illud*, which is all one with our *et cetera*, &c. כד for כד *Secundum dicere*, equivalent to our *viz.* or *v. g. verbi gratia*. So likewise in the Greek Χρ̄ς for Χρισ̄ος, and αν̄θ for αν̄θ *σποδος*. And in the Latin Dns̄ for Dominus; aā for Anima, and the like. But these were rather for the speed of writing, than the Secrecy.

Buxtorf. de
Abbreviat.
in initio.

G Some-

Ibid.

Sometimes words were expressed only by their first letters. Thus did the Jews write all their Memorials, and common Forms, which are largely handled by *Buxtorfe*. Hence was it, that their Captain *Judas* had his name of *Maccaby*; for being to fight against *Antiochus*, he gave that saying for his watchword, *Exod. 15.* מי כמך בארדוים יהוה. *Who is like unto thee (O Lord) amongst the God?* inscribing in his ensigns the capital letters of it, מנבי *Macabi*. Whereupon after the Victory, the Soldiers filed their Captain by that name.

'Tis observed by the *Rabbies*, that many grand Mysteries are this way implied in the words of Scripture. Thus, where it is said, *Psalms 3.* רבים Many rise up against me, 'tis interpreted from the several letters, *Resh* the Romans, *Beth* the Babylonians, *Jod* the Ionians or Grecians, *Mem* the Medes. Answerable unto which, that place in *Gen. 49. 10.* (speaking of *Shilo*, unto whom יקחת the gathering of the people shall

shall be) is by another *Rabby* applied to the *Jews, Christians, Heathens, and Turks.*

Upon these grounds likewise, is that Argument to prove the Trinity, from the first verse of *Genesis*. ברא אלהים. The word אלהים *Elohim*, being of the plural number, is thought to be that Divine name, which denoteth the Persons of the Deity; which Persons are more particularly intimated in the letters of the Verb ברא, that answers unto it: ב *Beth* being put for בן the Son, ר *Resh* for רוּח the Holy Ghost, א *Aleph* for אב the Father. And if you will believe the *Jews*, the Holy Spirit hath purposely involved in the words of Scripture, every secret that belongs to any Art or Science, under such Cabalisms as these. And if a man were but expert in unfolding of them, it were easie for him to get as much knowledge as *Adam* had in his Innocency, or Humane Nature is capable of.

These kind of mysterious Interpretations from particular letters, do seem to be somewhat favoured, by Gods addition of the letter η unto the name of *Abram* and *Sara*, upon the renewing of his Covenant with them; which in all likelihood was not without some secret Mystery. That being the chief letter of the *Tetragrammaton*, might perhaps intimate that amongst their other Posterity, with the promise of which he had then Blessed them, they should also be the Parents of the *Messias*, who was *Jehovah*.

Vide Tertul. lib. de præscr. c. 50

This likewise others have confirmed from the example of Christ, who calls himself *Alpha* and *Omega*, *Rev. i. 8.*

But though such conjectures may be allowable in some particulars, yet to make all Scriptures capable of the like secrets, does give such a latitude to mens roving and corrupt Fancies, as must needs occasion many wild and strange Absurdities. And therefore *Irenæus* does fitly observe, that from

Iren. l. i. c. 13.

such

such idle collections as these, many Heresies of the *Valentinians* and *Gnosticks* had their first beginnings.

As this way of short writing by the first letters, was of ancient use amongst the *Fews*, so likewise amongst the *Romans*, which appears from many of their Contractions yet remaining, as *S. P. D. Salutem plurimam dicit.*
S. P. Q. R. Senatus populusque Romanus.
C. R. Civis Romanus. V. C. Urbs condita.
 And the like.

These single letters were called *Sygla*, per *Syncope*, from the obsolete word *Sigilla*, whence *Sigillatim*. They were usually inscribed in their Coins, Statues, Arms, Monuments, and publick Records. You may see them largely treated of by *Valerius Probus*, where he affirms the study of them to be very necessary for one that would understand the *Roman Affairs*. *His enim exprimebant nomina Curiarum, Tribuum, Comitiorum, Sacerdotiorum, Potestatum, Magistratuum, Praefectura- rum, Sacrorum ludorum, Rerum urba- narum,*

*Lib. de li-
ter. anti-
quis.*
As it is set
forth by
*Jacobus
Mazochius*

and did therefore suspend their judgments.

But because of those many Ambiguities which this contracted way of writing was liable unto, and the great Inconveniencies that might happen thereupon in the misinterpretation of Laws; therefore the Emperor *Justinian* did afterwards severely forbid any further use of them, as it were, calling in all those Law-books that were so written. *Neq; enim licentiam*
aperimus ex tali codice in iudicium ali-
quid recitari.

Lib. 1. Cod.
Tit. 17. leg.
 l. 2.

The chief purpose of these ancient Abbreviations amongst the *Romans*, was properly for their *speed*. But it is easie to apprehend, how by compact, they may be contrived also for *Secrecy*.

C H A P. XI.

Of writing by invented Characters.

The distinction of these into } Letters.
such as signifie either } Words.
 } Notions.

*The general Rules of unfolding and ob-
 scuring any Letter-characters. How to
 expresse any sense, either by Points, or
 Lines, or Figures.*

BESIDES the ways of secret writing by the common letters, there may likewise be divers others by invented notes.

The difference of characters, whereby several Languages are exprest, is part of the second general curse in the confusion of Tongues; for as before there was but one way of speaking, so also but one way of writing. And as now, not only Nations, but particular Men, may discover their thoughts by any different articulate sounds, so likewise by any written signs.

These

These invented Characters in the general, are distinguishable into such as signifie either

1. *Letters.*
2. *Words.*
3. *Things, and Notions.*

First, Concerning those that signifie Letters: To which kind, some learned men refer the Hebrew character that is now in use; affirming that *Ezra* first invented it, thereby the better to conceal the secrets of their Law, and that they might not have so much as their manner of writing common with the *Samaritans* and other Schismaticks.

The Letter character.

Hieronym. pref. ad lib. Regum. Joseph Scal. notis ad Euseb.

'Twere but needless to set down any particulars of this kind, since it is so easie for any ordinary man to invent or vary them at pleasure.

The rules that are usually prescribed for the unfolding of such characters, are briefly these.

1 Endeavour to distinguish betwixt the Vowels and Consonants. The Vowels may be known by their frequency,

quency, there being no word without some of them. If there be any single character in English, it must be one of these three Vowels, *a. i. o.*

2. Search after the several powers of the letters: For the understanding of this, you must mark which of them are most common, and which more seldom used. (This the Printers in any Language can easily inform you of, who do accordingly provide their sets of letters.) Which of them may be doubled, and which not, as *H. Q. X. Y.* And then for the number of Vowels or Consonants in the beginning, middle, or end of words, a man must provide several Tables, whence he may readily guess at any word, from the number and nature of the letters that make it: As what words consist only of Vowels; what have one Vowel and one Consonant, whether the Vowel be first; as in these words, *Am. an. as. if. in. is. it. of. on. or. us.* Or last, as in these words, *Be. he. me. by. dy. ly. my. ty. do. to. so. &c.* And so for all

all other words according to their several quantities and natures.

These Tables must be various according to the difference of Languages. There are divers the like rules to be observed, which are too tedious to recite; you may see them largely handled by *Baptista Porta*, and *Gustavus Selenus*.

The common rules of unfolding being once known, a man may the better tell how to delude them; either by leaving out those letters that are of less use, as *H. K. Q. X. Y.* and putting other characters instead of them, that shall signifie the Vowels: So that the number of this invented Alphabet will be perfect; and the Vowels, by reason of their double character, less distinguishable. Or a man may likewise delude the rules of discovery, by writing continuately, without any distinction betwixt the words, or with a false distinction, or by inserting *nulls* and *non-significants*, &c.

In these cases Orthography is not to be regarded.

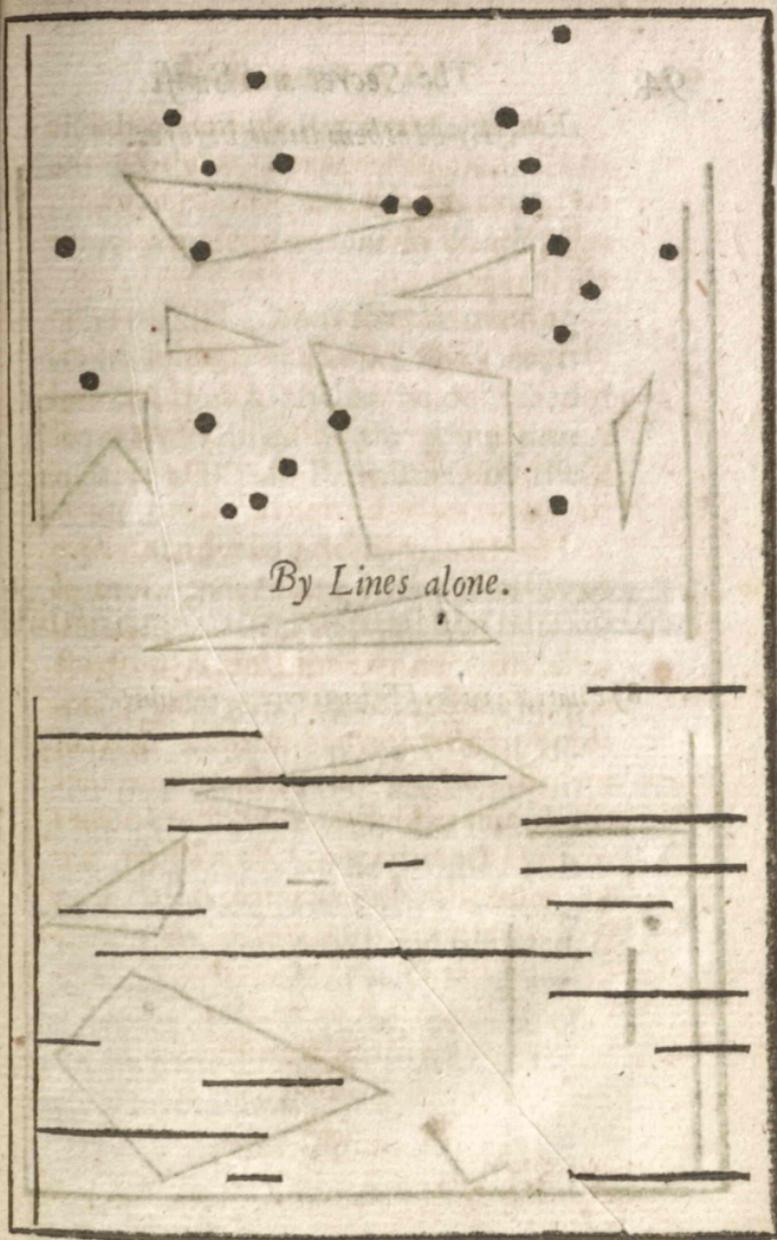
These

These Characters are besides liable to all those other ways, whereby the common letters may be obscured, whether by changing their *places*, or their *powers*.

The particulars of this kind may be of such great variety as cannot be distinctly recited. But it is the grand inconvenience of all these ways of secrecy by invented Characters, that they are not without suspicion.

For the remedying of which, there have been some other inventions of writing by Points or Lines, or Figures, wherein a man would never mistrust any private message; there being nothing to be discerned in these kinds of intimation, but only, either some confused, and casual, or else some Mathematical Descriptions. As you may see in these following examples.

By Points alone.



By Lines alone.

This may likewise be otherwise performed, if the Alphabet be contrived in a Triangular form, the middle part of it being cut out.

And so for
a square
or round
form.



The larger these directories are, by so much the less liable unto error will the writing be, that is described from them.

*Joh. Wal-
chius,
fab. 9.*

It is easie to apprehend, by these particulars, how a man may contrive any private saying in the form of a Landskip or other picture. There may be divers the like ways, whereby this invention of Secrecy may be further obscured; but they are in themselves so obvious, that they need not any larger explication.

CHAP. XII.

Of Characters that exprefs words. The first invention of these. Of those that signifie things and notions, as Hieroglyphicks, Emblems.

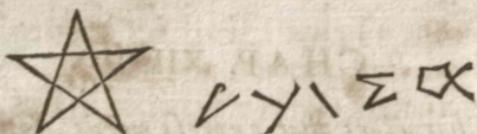
THe next particular to be discoursed of, is concerning Characters that exprefs words. The writing by these is properly stiled *Stenography*, or Short-hand, *Scripturæ compendium, cum verba non perscribimus sed signamus*, saith *Lypsius*. The art of them is to contrive such figures for several syllables as may easily be joyned together in one form, according as different words shall require. Thus 'tis ordinary to represent any proper name, by some such unusual character, as may contain in it all the letters of that name for which it is intended. Of this nature was that angular figure, so much used by the *Grecians* of old, which might be resolved into the letters *υμεα*.

Gent. 1. ad Belg. Epist. 27.

Schikard, Happer. Disp. 5.

H

This



This mark was esteemed so sacred amongst the Ancients, that *Antiochus Soter*, a perpetual Conqueror, did always instamp it upon his Coin, and inscribe it on his Ensigns; unto which he did pretend to be admonished in a Dream, by an Apparition of *Alexander the Great*. And there are many superstitious women in these times, who believe this to be so lucky a character, that they always work it upon the swadling cloaths of their young children, thinking thereby to make them more healthful and prosperous in their lives. Unto this kind also, some refer the characters that are us'd in Magick, which are maintained to have, not only a secret signification, but likewise a natural efficacy.

This short-hand writing is now so ordinary in practice (it being usual for any common Mechanick both to write and

and invent it) that I shall not need to set down any particular example of it. In ancient times it was not so frequently used: But then there was a two-fold kind of it.

Private.

Publick.

These private characters were practised by the *Roman* Magistrates, and others of eminent favour amongst them, who being often importuned to write in the commendation of those persons they knew not, were fain to agree upon some secret notes, whereby their *serious* Epistles might be distinguished from those of *form*. Whence the Proverb arose, *De meliori nota commendare*.

The other characters of publick and common use, are many of them explained by *Valerius Probus* in his Book *de literis antiquis*. And there is a whole Volume or Dictionary of them, set forth by *Janus Gruterus*. From the practice of these came the word *Notarius*, as * *St. Austin* observes.

And therefore *Panzerollus* reckons it amongst these later inventions, *lib. de Repert. tit. 14.*

Casaubon. notis in Æne. Polit. orcet. c. 31.

De notis Tyronis & Senec. De doct. Christ. l. 21 c. 26.

The first invention of them is commonly ascribed to *Tyro*, who was a servant unto *Cicero*. So * *Eusebius*, and † *Polyd. Virgil*. But *Trithemius* affirms, That *Cicero* himself writ a Treatise on this subject, which was afterwards augmented by *St. Cyprian*. And that he had found in an old Library the copy of a Psalter written in these characters, inscribed by some ignorant man, with this Title: *Psalterium in lingua Armenicâ*.

Lib. 13. ad Attic. ep. 32

That *Cicero* was not unacquainted with these notes, may be evident from that passage to *Atticus*: *Quod ad te de legatis scripsi, parum intellexit, credo quia διά σημείων scripseram.*

Prolog. not. Conrad.

Imp. Isidor. Orig. l. 1. c. 21.

Pet. Diaconus attributes the first invention of these to the old Poet *Ennius*; whose beginnings in this kind, did afterwards receive successive addition from the works of *Tyro*, *Philargirus*, *Aquila*, and *Seneca the Father*, by whom they were increased to the number of 5000.

But

But *Hermannus Hugo*, a late Jesuit, De Orig. Scribendi, c. 18. juxta finem. will have this short-hand writing to be of far more ancient use; affirming that *David* alludes to the practise of it in that phrase, *Psal. 45. 1. The pen of a ready writer.* And that the writing upon the wall in *Daniel 5. 25.* which so puzzled the *Chaldean Wizards*, was described in such kind of Characters. But whether this were so or not, is not much material: It is sufficiently pertinent to the present enquiry, that the use of these word-characters may well enough conduce to the secrecy of any written message.

The third and last sort of signs that have been anciently used for the expression of *things* and *notions*, are either *Hieroglyphicks* or *Emblems*.

1. Concerning *Hieroglyphicks*. The word signifies *Sacred Sculptures*, which were engraven upon Pillars, Obelisks, Pyramids, and other Monuments before the invention of letters. Thus the *Egyptians* were wont to express their minds, by the pictures of such

Of Hieroglyphicks.

*Tacit. An-
nal. l. 11.*

*Polyd. Vir.
de Invent.
l. 3. c. 11.*

*De honestâ
disciplinâ
l. 7. c. 2.
* Lib. de
vita Mosi.*

*Lib. 1. Stro-
mat.*

Lucan. l. 3.

Creatures as did bear in them some natural resemblance to the thing intended. By the shape of a Bee they represented a King, intimating that he should be endowed with Industry, Hony, and a Sting. By a Serpent with his tail in his mouth, the year, which returns into it self. And (which was a kind of propheticall Hieroglyphick) by the sign of a Cross they did anciently denote *spem ventura salutis*, or *vitam aeternam*, as *Pet. Crinitus* relates out of *Ruffinus*. * *Philo* reckons up the knowledge of these, amongst those other abstruse *Egyptian Arts*, wherein *Moses* is said to be so expert. And *Clemens* relates of *Pythagoras*, how he was content to be circumcised, that so he might be admitted to the understanding of those many and great Mysteries, which were this way delivered by the ancient Priests, who did conceal all their Learning under such kind of Magical expressions as the Poet stiles them.

Nondum

*Nondum flumineas Memphis contexere byblos
Noverat, & saxis tantum volucresq; feræque,
Sculptaq; servabant magicas animalia linguas.*

Plutarch speaks of a Temple in Egypt Libro de
Isid. &
Ostride. dedicated to *Minerva*, in the front of which there was placed the Image of an *Infant*, an *old man*, a *Hawk*, by which they did represent God; a *Fish*, the expression of Hatred; and a *Sea-horse*, the common Hieroglyphick of Impudence. The construction of all being this, *O ye that are born to die, know that God hateth Impudence.*

Of this nature were those presents sent unto *Darius*, when he was almost wearied in his War against the *Scythians*, which were a Bird, a Mouse, a Frog, and certain Arrows; intimating that unless the *Persians* could fly as *Birds*, or hide themselves under water as *Frogs*, or inhabit the Caverns of the Earth as *Mice*, they should not escape the *Scythian Arrows*. Of this kind likewise were some Military signs amongst the *Romans*. When any thing was to be carried with silence and se-

H 4 crecy,

Herodot.
Melpom. l. 4:
c. 130.
Clem. Alex.
Strom. 5.

Pierius
Hieroglyph.
l. 3. c. 38.

crecy, they lifted up the representation of a *Minotaur*, thereby teaching the Captains, that their counsels and contrivances must be as inextricable as a Labyrinth, which is feigned to be the habitation of that Monster.

Emblems
from the
Greek
word ἐμ-
βάλλειν,
interferere,
injicere.

2. Like unto these Hieroglyphicks, are the expressions by Emblems. They were usually inserted as ornaments, upon vessels of gold; and other matters of state or pleasure. Of this nature are the stamps of many ancient Medals, the impresses of Arms, the Frontispieces of Books, &c.

The kinds of them are chiefly twofold.

1. *Natural*, Which are grounded upon some resemblance in the property and essence of the things themselves. So a Dolphin, which is a swift Creature, being described upon an Anchor, which serves for the stay and rest of a Ship, signifies *Festina-lentè*, Deliberation in counsel, and Dispatch in execution. A young Stork carrying the old one, Filial gratitude.

2. *Histo-*

2. *Historical*, Those that refer to some common relation. So the picture of *Prometheus* gnawed by a Vulture, signifies the desert of over-much curiosity. *Phaeton*, the folly of rashness. *Narcissus*, the punishment of self-love.

It was formerly esteemed a great sign of wit and invention, handsomely to convey any noted saying, under such kind of expressions.

C H A P. XIII.

Concerning an universal Character, that may be legible to all Nations and Languages. The benefit and possibility of this.

AFTER the Fall of *Adam*, there were two general Curses inflicted on Mankind: The one upon their *Labours*, the other upon their *Language*.

Against the first of these we do naturally endeavour to provide, by all those common Arts and Professions, about which the World is busied; seeking thereby to abate the sweat of their Brows in the earning of their Bread.

Against

Against the other, the best help that we can yet boast of, is the Latin tongue, and the other learned Languages, which by reason of their generality, do somewhat restore us from the first confusion. But now if there were such an universal character to express things and notions, as might be legible to all People and Countries, so that men of several Nations might with the same ease both write and read it, this invention would be a far greater advantage in this particular, and mightily conduce to the spreading and promoting of all Arts and Sciences: Because that great part of our time which is now required to the Learning of words, might then be employed in the study of things. Nay, the confusion at *Babel* might this way have been remedied, if every one could have expressed his own meaning by the same kind of Character. But then perhaps the art of Letters was not invented.

That such a manner of writing is already used in some parts of the
World,

World, the Kingdoms of the high *Levant*, may evidently appear from divers credible Relations. *Trigaultius* Histor. Sinenf. l. 1. c. 5 affirms, that though those of *China* and *Japan* do as much differ in their Language, as the *Hebrew* and the *Dutch*, Bacon Augment. Scient. l. 6. c. 13 yet either of them can, by this help of a common character, as well understand the books and letters of the others, as if they were only their own. Voss. Gr. l. 1. c. 41. Herm. Hugo de Orig. scrib. c. 4.

And for some particulars, this general kind of writing is already attained amongst us also.

1. Many Nations do agree in the characters of the common numbers, describing them either the *Roman* way by letters, as I. II. V. X. C. D. M. or else the *Barbarian* way by figures, as 1. 2. 3. 10. &c. So likewise for that which we call Philosophical number, which is any such measure whereby we judge the differences betwixt several substances, whether in weight, or length, or capacity; each of these are express'd in several Languages by the same character. Thus Θ signifies a Scruple,

Scruple, 3 a Drachm, and so of the rest.

2. The Astronomers of several Countries do express both the heavenly Signs, and Planets, and Aspects by the same kind of notes: As, γ , δ , π , σ , &c. η , μ , θ , ρ , &c. ϕ , \ast , \triangle , \square , \circ . Which characters (as it is thought) were first invented by the ancient Astrologers for the secrecy of them, the better to conceal their sacred and mysterious profession from vulgar capacity.

3. The Chymical Treatises that are written in different languages, do all of them agree in the same form of writing their Minerals. Those that are attributed to any of the Planets, are decyphered by the character of the Planet to which they belong. The rest by other particular signs, as \triangle for Salt Ammoniack, \circ for Arsnick, &c.

4. Musical notes in most Countries are the same: Nor is there any reason why there may not be such a general kind of writing invented for the expression

pression of every thing else as well as these particulars.

In the contrivance of this there must be as many several characters as there are primitive words. To which purpose the *Hebrew* is the best pattern, because that Language consists of fewest Radicals.

Each of these primitives must have some particular marks to distinguish the Cases, Conjugations, or other necessary variations of those Derivatives that depend upon it.

In the reading of such a writing, though men of several Countries should each of them differ in their voices, and pronounce several words, yet the sense would be still the same. As it is in the picture of a Man, a Horse, or Tree, which to all Nations do express the same conceit, though each of these Creatures be stiled by several names, according to the difference of Languages.

Suppose that Astronomical sign ☿ were to be pronounced, a Jew would call
call

call it טור ; a Grecian, Ταυρον ; an Italian, Toro ; a Frenchman, Taureau ; a German, Stier ; an Englishman, a Bull.

So likewise for that character, which in *Tiro's* notes signifies the World, a Jew would read it תורל ; a Grecian, Κόσμος ; an Italian, *il monde* ; a Frenchman, *le monde* ; a German, *Belt*. Though several Nations may differ in the expression of things, yet they all agree in the same conceit of them.

The learning of this character will not be more difficult than the learning of any one Language, because there needs not be more signs for the expression of things, than there is now for the expression of words. Amongst those in *China* and *Japan*, there is said to be about seven or eight thousand.

The perfecting of such an invention were the only way to unite the seventy two Languages of the first confusion ; and therefore may very well deserve their endeavours, who have both abilities and leisure for such kind of Enquiries.

CHAP. XIV.

Concerning the third way of secret discoursing by signs and gestures, which may signifie either

ex } congruo.
 } placito.

THe third way of discoursing was by signs and gestures, which (as they are serviceable to this purpose) may be distinguished into such as are significant, either

1. *Ex congruo.*
2. Or *ex placito.*

1. *Ex congruo*, when there is some natural resemblance and affinity betwixt the action done, and the thing to be exprest. Of which kind are all those outward gestures, whereby not only dumb Creatures, but men also do exprest their inward passions, whether of Joy, Anger, Fear, &c. For,

Sape tacens vocem verbaq; vultus habet.

And

And the Wise man notes it of the
 Prov 6.13. Scorner, That *he winketh with his eyes,*
he speaketh with his feet, he teacheth with
his fingers.

Of this kind likewise are many religious actions, and circumstances of Divine worship, not only amongst the ancient Heathen, but some that were particularly enjoyed the Priests and Levites of the old Law, and some too that are now in use in these times of the Gospel. For by such bodily gestures and signs, we may as well speak unto God as unto men.

To this kind also are reducible those actions of *form*, that are required as necessary circumstances in many civil affairs and publick solemnities, which are usually such, as in themselves are apt to signify the thing for which they are meant.

But now, sometimes the intended meaning of these gestures is concealed under a secret similitude. As it was in that act of *Thrasylulus*, who being consulted with, how to maintain a tyranny
 that

that was newly usurped : He bid the Messenger attend him in the Field ; where with his Wand he whipt off those higher Ears of Corn that did over-top the rest ; intimating, that it consisted in cutting off the Peers and Nobility, who were likely to be most impatient of Subjection. This I may call a *Parabolical* way of speaking by Gestures.

2. *Ex placito*, when these signs have their signification from use and mutual compact ; which kind of speaking, as it refers to lascivious intimations, is largely handled by *Ovid. de Arte Amandi*.

Verba superciliis sine voce loquentia dicam,

Verba leges digitis, &c.

By the help of this it is common for men of several Nations, who understand not one anothers Languages, to entertain a mutual Commerce and Traffick. And 'tis a strange thing to behold, what Dialogues of Gestures
I there

there will pass betwixt such as are born both Deaf and Dumb; who are able by this means alone, to answer and reply unto one another as directly as if they had the benefit of Speech. 'Tis a great part of the State and Majesty belonging to the Turkish Emperor, that he is attended by Mutes, with whom he may discourse concerning any private business, which he would not have others to understand.

It were a miserable thing for a rational Soul to be imprisoned in such a Body, as had no way at all to express its Cogitations; which would be so in all that are born Deaf, if that which nature denied them, were not in this respect supplied by a second nature, custom and use.

But (by the way) 'tis very observable which * *Vallesius* relates of *Pet. Pontius* a Friend of us, who by an unheard-of Art taught the Deaf to speak. *Docens primum scribere, res ipsas digito indicando, quæ characteribus illis significarentur;*

* *Sacris*

Philos. c. 3.

carentur; deinde ad motus lingue, qui characteribus responderent provocando.

First learning them to write the name of any thing he should point to; and afterwards provoking them to such motions of the Tongue as might answer the several words. 'Tis probable that this invention well followed, might be of singular use for those that stand in need of such helps. Though certainly that was far beyond it, (if true) which is related of an ancient Doctor, *Gabriel Neale*, that he could understand any word by the meer motion of the Lips, without any utterance.

The particular ways of discoursing by Gestures, are not to be numbred, as being almost of infinite variety, according as the several Fancies of men shall impose significations upon all such signs or actions as are capable of sufficient difference.

But some there are of more especial note for their use and antiquity. Such is that upon the joynts and fingers of

* Lib. de lo-
quela per
gestum di-
gitorum
sive de in-
digitatione.
† Hierogly-
phic. l. 37.
c. 1. &c.
Caelius An-
tig. lect.
l. 23. c. 12.
Satyr. 10.

the hand, commonly stiled *Arthrologia*, or *Dactylogia*, largely treated of by the venerable * *Bede*, † *Pierius*, and others. In whom you may see, how the Ancients were wont to express any number, by the several postures of the hands and fingers: The numbers under a hundred, were denoted by the left hand, and those above, by the right hand. Hence *Juvenal*, commending *Pyllias* for his old Age, says, That he reckoned his years upon his right hand.

*Fœlix nimirum qui tot per secula vitam
Distulit, atque suos jam dextra computat
annos.*

There are divers passages in the ancient Authors, both Sacred and Profane, which do evidently allude to this kind of reckoning.

Hence it is easie to conceive, how the letters, as well as the numbers, may be thus applied to the several parts of the hand, so that a man might with divers touches, make up any sense, that he

he hath occasion to discover unto a Confederate.

This may be performed, either as the numbers are set down in the Authors before cited, or else by any other way of compact that may be agreed upon.

As for example : Let the tops of the fingers signifie the five vowels ; the middle parts, the five first consonants ; the bottoms of them, the five next consonants ; the spaces betwixt the fingers, the four next. One finger laid on the side of the hand may signifie T, two fingers V the consonant, three W, the little finger crossed X, the wrist Y, the middle of the hand Z.

But because such various gesticulations as are required to this, will not be without suspicion, therefore it were a better way, to impose significations upon such actions as are of more common unsuspected use ; as scratching of the head, rubbing the several parts of the face, winking of the eyes, twisting of the beard, &c. Any of which, or

all of them together, may be as well contrived to serve for this purpose, and with much more secrecy.

In which Art, if our gaming Cheats, and Popish Miracle-impostors, were but well versed, it might much advantage them, in their cousening trade of Life.

CHAP. XV.

Concerning the swiftness of informations, either by qualities, as the impression of imagination, and the sensitive species; or by spiritual Substances, as Angels.

HAVING already treated concerning the several ways of *secrecy* in discoursing, I shall in the next place enquire, How a man may with the greatest *swiftness* and *speed*, discover his intentions to one that is far distant from him.

There is nothing (we say) so swift as thought, and yet the impression of these

these in another, might be as quick almost as the first act, if there were but such a great power in imagination, as some later * Philosophers have attributed to it.

* *Maxfil.*
Ficin. Theol.
log. Platon.
l. 3. c. 1.
Pomponatius de In-
cantat.
Paracelsus.

Next to the acts of thought, the species of sight do seem to be of the quickest motion. We see the light of the East will in a moment fill the Hemisphere, and the eye does presently discern an object that is very remote. How we may by this means communicate our thoughts at great distances, I shall discourse afterwards.

The Substances that are most considerable for the swiftness of their motion, are

Either $\left\{ \begin{array}{l} \text{Spiritual.} \\ \text{Corporeal.} \end{array} \right.$

Amongst all created Substances, there are not any of so swift a motion as Angels or Spirits. Because there is not either within their natures, any such Indisposition and Reluctancy, or without them in the medium, any such impediment as may in the least man-

ner retard their courses. And therefore have the ancient Philosophers imployed these as the causes of that mad celerity of the celestial Orbs ; though according to their suppositions, I think it would be a hard match, if there were a Race to be run betwixt the *Primum mobile* and an Angel. It being granted that neither of them could move in an instant, it would be but an even lay, which should prove the swifter.

From the fitness of Spirits in this regard, to convey any message, are they in the learned Languages called Messengers.

ἄγγελος
ἄγγελος
Angelus.

Plutarch.
Maximus
Tyrius.
Dissertat.
26, 27.

Now if a man had but such familiarity with one of these, as *Socrates* is said to have with his Tutelary *Genius* : If we could send but one of them upon any errand, there would be no quicker way than this for the dispatch of business at all distances.

That they have been often thus imployed, is affirmed by divers relations. *Vatinius* being at *Rome*, was informed by

by an Apparition, of that Victory which *Paulus* their General had obtained over King *Perses* in *Macedon*, the very same day wherein the Battel was fought; which was a long time before any other Messenger could arrive with the news.

Last ont.

Inst. l. 2.

ep. 8.

Val. Max.

l. 1. c. 8.

Florus, l. 2.

c. 12.

And it is storied of many others, that whilst they have resided in remote Countries, they have known the death of their Friends, even in the very hour of their departure; either by Bleeding, or by Dreams, or some such way of intimation. Which, though it be commonly attributed to the operation of Sympathy; yet it is more probably to be ascribed unto the Spirit or Genius. There being a more especial acquaintance and commerce betwixt the Tutelary Angels of particular Friends, they are sometimes by them informed (though at great distances) of such remarkable accidents as befall one another.

But this way there is little hopes to advantage our enquiry, because it is
not

not so easie to imploy a good Angel, nor safe dealing with a bad one.

The Abbot *Trithemius*, in his Books concerning the severall ways of secret and speedy discoursing, does pretend to handle the forms of conjuration, calling each kind of Character by the name of Spirits, thereby to deter the vulgar from searching into his Works. But under this pretence, he is thought also to deliver some Diabolical Magick. Especially in one place, where he speaks of the three Saturnine Angels, and certain Images, by which, in the space of twenty four hours, a man may be informed of news from any part of the World. And this was the main reason, why by *Junius* his advice, *Frederick* the second, Prince Palatine, did cause the original Manuscript of that work to be burned. Which action is so much (though it should seem unjustly) blamed by *Selenus*.

Vossius

Gram. l. 1. c. 41.

Polygraph. l. 3. c. 16.

Cryptogra. l. 3. c. 15.

CHAP.

C H A P. XVI.

*Concerning the swiftness of conveyance
by Bodies, whether Inanimate, as
Arrows, Bullets; or Animate, as Men,
Beasts, Birds.*

THe Bodies that are most eminent
for their swiftness, may be di-
stinguished into such as are

either $\left\{ \begin{array}{l} \text{Inanimate.} \\ \text{Animate.} \end{array} \right.$

These inanimate Bodies, as Arrows, Inanimate
Bodies, Bullets, &c. have only a violent motion, which cannot therefore be continued to so great a distance as some occasions would require: But for so much space as they do move, they are far swifter than the natural motion of any animated body. How these have been contrived to the speedy conveyance of secret messages, hath been formerly

merly discoursed, in the fourth Chapter, which I now forbear to repeat.

Those living bodies that are most observable for their speed and celerity in Messages, are either Men, Beasts, Birds: Though I doubt not, but that Fishes also may be serviceable for this purpose, especially the Dolphin, which is reported to be of the greatest swiftness, and most easily cicurated or made tame.

Men.

Amongst the ancient Footmen, there are some upon record for their incredible swiftness. *Ladas* is reported to be so quick in his running, *Ut arenis pendentibus & cavo pulvere, nulla indicia relinqueret vestigiorum*, that he left no impression of his footsteps on the hollow sands. And it is related of a Boy amongst the *Romans*, being but eight years old, that did run five and forty mile in an afternoon. *Anistius* and *Philonides*, two Footmen unto *Alexander* the Great, are said to have run 1200 *stadia* in a day. Which relations will seem less incredible, if we consider the

Solinus.
Polyhist.
c. 6.

Ibid.

the ancient Exercises and Games of this kind, together with the publick fame and rewards for those that were most eminent.

Amongst the variety of Beasts, there are some of more especial note for their strength and swiftness. *Scaliger* mentions a story, (though he distrusts the truth of it) of a certain Beast called *Ellend*, two of which being joyned in a little Cart, are said to pass three hundred leagues a day upon the Ice. Swiftnes
of Beasts.
Exer. 205.

In former Ages, and in other Countries, the Dromedary, and Camel, and Mule, were of more common use: But in these times and places the Horse (for the most part) serves instead of them all; by the help of which, we have our swiftest means of ordinary conveyance. The Custom of riding Post, by renewing both Horse and Man at set Stages, is of ancient Invention. *Herodotus* relates it to be used by *Xerxes* in the *Grecian* War, and that it was by the *Persians* called *Ἀγγασίων*. The particulars that concern these kind of
Con-

Conveyances amongst the Ancients, are largely handled by *Hermannus Hugo lib. de origine scribendi, cap. 14.*

Nat. Hist.

l. 8. c. 42.

Pliny tells us of certain Mares in *Lu- sitania*, which do conceive merely by the West Wind, that alone (without the copulation of any Male) serving to actuate their heat, and to generate their young. Which are likewise mentioned by *Virgil*,

Georg. 3.

*Exceptantq; auras leves, & saepe sine ullis
Conjugiis, vento gravidae, &c.*

Methinks these children of the wind, should for their fleetness make excellent Post-horses, and much conduce to the speedy conveyance of any Message.

The *Paracelsians* talk of natural means to extract the metal and spirit out of one Horse, and infuse it into another, of enabling them to carry a man safely and swiftly, through enemies, precipices, or other dangerous places. And such Horses (say they) were used by

by the Wise men of the East at our Saviour's Nativity; for they had not otherwise been able to have kept pace with a Star, or to have passed so great a Journey as it was to *Jerusalem*, which is thought to be five or six hundred miles at the least, from the places of their habitation. If this conceit were feasible, it would much promote the speed of conveyances; but I think it may justly be referred amongst the other Dreams of the Melancholick Chymicks.

Amongst all animate bodies, there is not any that have naturally so swift a motion as Birds, which if a man could well imploy in the dispatch of any errand, there would be but little fear that such Messengers should be either intercepted or corrupted.

The swiftness of Birds.

That this hath been attempted, and effected by many of the Ancients, is affirmed by divers relations. *Pliny* tells us of *Volaterranus*, that he discovered a Conquest he had gotten, unto the City of *Rome*, by sending out Swallows, which

Nat. Hist.
l. 10. c. 24.

which should fly thither, being anointed over with the colour of Victory. And of another, who sending one of these Birds into a besieged City, (whence she was before taken from her young ones) and tying a string unto her with certain knots upon it, did thereby shew, after what number of days their Aids would come, at which time they should make an Irruption upon the enemy.

And elsewhere in the same Book, he relates, How *Hircius* the Consul, and *Brutus*, who was besieged in *Mutina*, did this way maintain mutual intelligence, by tying their Letters unto such Pigeons, as were taught before-hand to fly from the Tents to the City, and from thence to the Tents again.

Histor. Animalium,
l. 6. c. 7.

How *Thaurosthenes* did by this means send the news of his Victory at *Olympia*, to his Father at *Ægina*, is related by *Ælian*.

Anacreon has an Ode upon such a Pigeon, which he himself had often used

used as a Messenger, wherein the Bird
is feigned to say,

Ἐγὼ δ' Ἀναγλιότι
Διαγοῶ τοσαῦτα
Καὶ νῦν ὄρας ὀκείνῃς
Ἐπιστολαῖς ηὐμέζω.

Unto this invention also *Juvenal* is Satyr. 4.
juxta finem.
thought to allude, where he says,

— *tanquam è diversis partibus orbis,
Anxia precipiti venisset epistola pennâ.*

Lysius relates out of *Varro*, that it Saturn.
Serm. l. 2.
c. 6.
was usual for the *Roman* Magistrates,
when they went unto the Theatre, or
other such publick meetings, whence
they could not return at pleasure, to
carry such a Pigeon with them, that if
any unexpected business should hap-
pen, they might thereby give warning
to their Friends or Families at home.

By which relations you may see,
how commonly this invention was
practised amongst the Ancients. Nor
hath it been less used in these later
times,

times, especially in those Countries, where by reason of continual Wars and Dissentions, there have been more particular and urgent necessity for

Not. in Aeneae. Poliorcet. c. 31.

Comment. in Veget. l. 3. c. 5.

such kind of conveyances. *Nunc vulgarissima res est, columbas habere, ad ejusmodi jussa paratus, saith Casaubon. Harum opere, nostrates hoc bello civili, frequenter adjuti sunt, saith Godesc. Stewechius.*

See Nunt. Inanimat. concerning Amiralus.

Porta de furt. lit. l. 2. c. 21.

concerning Marches.

Herm. Hugo. de Orig. scribendi, c. 15.

Thuanus Hist. l. 17.

There are divers other stories to this purpose, but by these you may sufficiently discern the common practices of this kind. As it is usual to bring up Birds of prey, as Hawks, Cormorants, &c. to an obedience of their keepers; so likewise have some attempted it in these other Birds, teaching them the art of carrying messages. There is a smaller sort of Pigeon, of a light body and swift flight, which is usually made choice of for such particulars; and therefore the kind of them is commonly called by the name of Carriers.

C H A P. XVII.

Of secret and swift informations by the species of sound.

HAVING in the former Chapters treated severally concerning the divers ways of secrecy and swiftness in Discourse; it remains that I now enquire (according to the method proposed) how both these may be joyned together in the conveyance of any message. The resolution of which, so far as it concerns the particulars already specified, were but needless to repeat.

That which does more immediately belong to the present *Quere*, and was the main occasion of this discourse, does refer to other ways of intimation, besides these in ordinary use, of speaking, or writing, or gestures. For in the general we must note, That *Whatever is capable of a competent difference, perceptible to any sense, may be a*
K 2 *sufficiens*

sufficient means, whereby to express the Cogitations. It is more convenient indeed, that these differences should be of as great variety as the letters of the Alphabet; but it is sufficient if they be but twofold, because two alone may, with somewhat more labour and time, be well enough contrived to express all the rest. Thus any two letters or numbers, suppose A. B. being transposed through five places, will yield thirty two differences, and so consequently will superabundantly serve for the four and twenty Letters, as was before more largely explained in the ninth Chapter.

Now the sensitive species, whereby such informations must be conveyed, are either the species of *sound*, or the species of *sight*. The Ear and the Eye being the only senses that are of quick perception, when their objects are remote.

De re militari, l. 3. c. 5. Vegetius distinguisheth all signifi-
catory signs into these three sorts.

1. *Vocalia.*

1. *Vocalia*. By articulate sounds.
2. *Semivocalia*. By inarticulate sounds.
3. *Muta*. By the species of sight.

The two last of these are chiefly pertinent to the present enquiry. Concerning which, in the general it may be concluded, that any sound, whether of Trumpets, Bells, Cannons, Drums, &c. or any object of sight, whether flame, smoak, &c. which is capable of a double difference, may be a sufficient means whereby to communicate the thoughts.

The particular application of these, to some experiments, I shall treat more distinctly in the remainder of this discourse.

First, Concerning the secrecy and swiftness of any message by the species of sound. Though these audible species be much slower than those of sight, yet are they far swifter than the natural motion of any corporeal messenger. The chief use of these, is for such as are within some competent

Secret and speedy information by the species of sound.

nearness, as perhaps a mile off. But they may also by frequent multiplications be continued to a far greater distance.

*Proem. in
lib. Plutar.
de defectu
oraculorum*

There is a relation in *Joach. Camera-rius*, of some that have heard their Friends speaking to them distinctly, when they have been many miles asunder. *Habui notos homines, neque leves, & non indoctos, qui affirmabant, se audisse secum colloquentes diserte, eos quos tunc multorum millium passuum abesse certe scirent.* But this he justly refers to Diabolical Magick, and the Illusion of Spirits.

*De rerum
Inventor.
lib. 2.*

There are other *natural* Experiments in this kind, of more especial note for their Antiquity. Such was that of King *Xerxes*, related by *Cleomenes*, as he is cited by *Sardus*. *Cleomedes in libro de circulis cœlestibus scribit Xerxem toto itinere à Perside in Græciam stationes statuisse, & in iis homines ita prope, ut vocem alterius alter exaudiret; quo modo quadraginta horarum spatio, ex Græciâ in Persidem res nunciari poterat.* But this Invention, besides

besides the great trouble and uncertainty of it, is also too gross for imitation, favouring somewhat of the rudeness of those former and more barbarous Ages.

Much beyond it was that experiment of the *Romans*, in the contrivance of the *Picts* wall, related by our learned *Cambden*; this Wall was built by *Severus* in the North part of *England*, above a hundred miles long. The Towers of it were about a mile distant from one another. Betwixt each of these Towers there passed certain hollow pipes or trunks in the curtains of the wall, through which the Defendants could presently inform one another of any thing that was necessary, as concerning that place wherein the enemy was most likely to assault them, &c.

Since the wall is ruined, and this means of swift advertisement taken away, there are many inhabitants thereabouts, which hold their Land by a Tenure in *Cornage* (as the

K 4

Lawyers

Britan. de Vallo sive the Picts Wall. p. 654. Boter. Geog. l. 2. & l. 4. where he mentions also another wall of 8000 furlongs in China.

Lawyers speak) being bound by blowing of a Horn to discover the irruption of the enemy.

Fabul. 9. There is another experiment to this purpose mentioned by *Walchius*, who thinks it possible so to contrive a trunk or hollow pipe, that it shall preserve the voice entirely for certain hours or days, so that a man may send his words to a friend instead of his *writing*. There being always a certain space of intermission, for the passage of the voice, betwixt its going into these cavities, and its coming out; he conceives, that if both ends were seasonably stopped, whilst the sound was in the midst, it would continue there till it had some vent. *Huic tubo verba nostra infusuramus, & cum probe munitur tabellario committamus, &c.* When the Friend to whom it is sent, shall receive and open it, the words shall come out distinctly, and in the same order wherein they were spoken. From such a contrivance as this, (saith the same Author) did *Albertus Magnus* make his Image, and
Frier

Frier *Bacon* his Brazen Head, to utter certain words. Which conceit (if it have any truth) may serve somewhat to extenuate the gross absurdity of that Popish Relick concerning *Joseph's* [Hah] or the noise that he made (as other Carpenters use) in fetching of a blow; which is said to be preserved yet in a glass amongst other ancient Relicks.

But against these Fancies it is considerable, that the species of sound are multiplied in the Air, by a kind of continuation and efflux from their first original, as the species of light are from any luminous body; either of which being once separated from their causes, do presently vanish and die. Now as it would be a mad thing for a man to endeavour to catch the Sunbeams, or inclose the light; upon the same grounds likewise must it needs be absurd, for any one to attempt the shutting in of articulate sounds: Since both of them have equally the same intrinsical and inseparable dependance

dependance upon their efficient causes.

True, indeed, the species of sound may seem to have some kind of self-continuance in the Air, as in Ecchoes; but so likewise is it in proportion with those of sight, as in the quick turning round of a fire-stick, which will make the appearance of a fiery circle: And though the first kind of these be more lasting than the other, by reason their natural motion is not so quick, yet neither of them are of such duration as may be sufficient for the present enquiry.

None of all these inventions already specified, do sufficiently perform the business that is here enquired after; nor are they either so generally or safely applicable for all places and exigences.

The discovery that is here promised, may be further serviceable for such cases as these.

Suppose a Friend were perfidiously clapped up in some close Dungeon, and
that

that we did not know exactly where, but could only guess at the place, within the latitude of half a mile or somewhat more; a man might very distinctly, by these other inventions, discourse unto him. Or suppose a City were straitly besieged, and there were either within it or without it, such a Confederate, with whom we should necessarily confer about some design; we may by these means safely discover to him our intentions. By which you may guess, that the Messenger which is here imployed, is of so strange a nature, as not to be barred out with walls, or deterred by enemies.

To the performance of this, it is requisite that there be two Bells of different notes, or some such other audible and loud sounds, which we may command at pleasure, as Muskets, Cannons, Horns, Drums, &c. By the various sounding of these (according to the former Table) a man may easily express any letter, and so consequently *cap. 9.*
any sense.

These

These Tables I shall again repeat in this place: That of two letters may be contrived thus:

A.	B.	C.	D.	E.
aaaaa.	aaaab.	aaaba.	aaabb.	aabaa.
F.	G.	H.	I.	K.
aabab.	aabba.	aabbb.	abaaa.	abaab.
L.	M.	N.	O.	P.
ababa.	ababb.	abbaa.	abbab.	abbba.
Q.	R.	S.	T.	V.
abbbb.	baaaa.	baaab.	baaba.	baabb.
W.	X.	Y.	Z.	
babaa.	babab.	babba.	babbb.	

Suppose the word *Victuals* were this way to be exprest, let the bigger found be represented by A, and the lesser by B, according to which, the word may be thus made up by five of these sounds for each letter.

V.	I.	C.	T.	U.
baabb.	abaaa.	aaaba.	baaba.	baabb.
A.	L.	S.		
aaaaa.	ababa.	baaab.		

That

That is, the lesser note sounded once, and then the bigger twice, and then again the lesser twice, as (baabb) will signifie the letter (Y.) So the bigger once, and then the lesser once, and after that the bigger thrice together, as (abaaa) will represent the letter (I,) and so of the rest.

If the sounds be capable of a triple difference, then each letter may be expressed by a threefold sound, as may appear by this other Alphabet.

A. B. C. D. E. F. G. H.
 aaa. aab. aac. baa. bab. bba. bbb. bbc.

I. K. L. M. N. O. P. Q.
 caa. cba. cbb. cbc. cca. ccb. ccc. aba.

R. S. T. V. W. X. Y. Z.
 abb. abc. aca. acb. acc. bca. bcb. bcc.

V. I. C. T. U. A. L. S.
 acb. caa. aac. aca. acb. aaa. cbb. abc.

If these sounds do contain a quintuple difference, then may every letter be signified by two sounds only, (which will

will much conduce to the speed and dispatch of such a message.) As you may see in this other Table.

A. B. C. D. E. F. G. H. I. K. L. M.
 aa. ab. ac. ad. ae. ba. bb. bc. bd. be. ca. cb.
 N. O. P. Q. R. S. T. V. W. X. Y. Z.
 cc. cd. ce. da. db. dc. dd. de. ea. eb. ec. ed.

V. I. C. T. U. A. L. S.
 de. bd. ac. dd. de. aa. ca. dc.

De furt. lit.
 l. 1. c. 6.

'Tis related by *Porta*, that when the Citizens in the siege of *Navarre* were reduced to such great extremities that they were ready to yield, they did discover to their Friends the greatnes and kind of their wants, by discharging divers Cannons and Ordinances in the night-time, according to a certain order before agreed upon; and by this means did obtain such fitting supplies as preserved the City.

CHAP. XVIII.

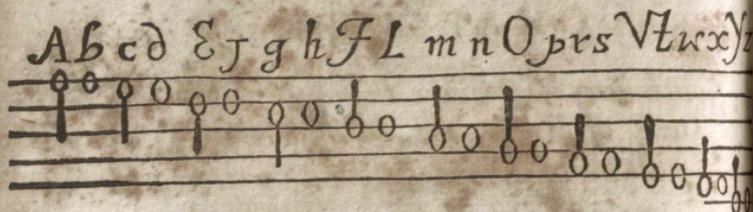
Concerning a Language that, may consist only of Tunes and Musical Notes, without any articulate sound.

IF the Musical Instrument that is used to this purpose, be able to express the ordinary Notes, not only according to their different *Tones*, but their *Times* also, then may each Letter of the Alphabet be rendred by a single sound.

Whence it will follow, that a man may frame a Language, consisting only of Tunes and such inarticulate sounds, as no Letters can express. Which kind of Speech is fancied to be usual amongst the Lunary Inhabitants, who (as * *Domingo Gonsales* hath discovered) have contrived the Letters of the Alphabet upon the Notes after some such order as this :

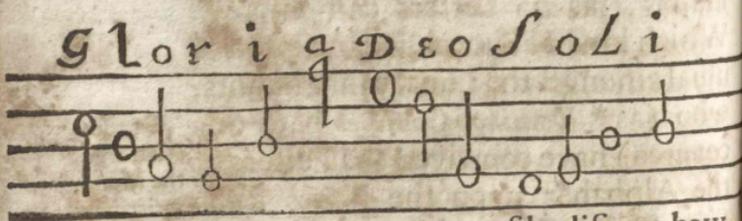
* Or the
Man in
the Moon,
written by
the same
Author of
Nuntius
Inanimat:

Where



Where the five Vowels are represented by the Minnum9 on each of the five lines, being most of them placed according to their right order and consequence, only the letters K. and Q. are left out, because they may be otherwise expressed.

According to this Alphabet of Notes, these words, *Gloria Deo soli*, must be thus contrived.



By this you may easily discern how two Musicians may discourse with one another, by playing upon their Instruments

ments of *Musick*, as well as by talking with their instruments of *Speech*. And (which is a singular curiosity) how the words of a Song may be contrived in the tune of it.

I suppose that these letters and notes might be disposed to answer one another, with better advantage than here they are expressed. And this perhaps, would be easie enough for those that are thoroughly versed in the grounds of *Musick*, unto whose further enquiry I do here only propose this invention.

But now if these inarticulate sounds be contrived for the expression, not of *words* and *letters*, but of *things* and *notions*, (as was before explained, concerning the universal Character) then might there be such a general Language, as should be equally speakable by all People and Nations; and so we might be restored from the second general curse, which is yet manifested, not only in the confusion of *writing*, but also of *speech*.

L

The

The *utterance* of these Musical tunes may serve for the universal *Language*, and the *writing* of them for the universal *Character*. As all Nations do agree in the same conceit of things, so likewise in the same conceit of Harmonies.

This Curiosity (for ought I know) has not yet been mentioned by any Author, but it may be (if well considered) of such excellent use, as to deserve a more full and particular enlargement in a Treatise by it self.

C H A P. XIX.

Of those common relations that concern secret and swift informations by the species of sight, which are either Fabulous, or Magical.

THe usual relations that concern secret and swift conveyances by the species of sight, may be distinguished into such as are, either

1. *Fabulous.*
2. *Magical.*
3. *Natural and true.*

First of those that are *Fabulous*: In which kind, that of the Loadstone is most remarkable, as it is maintained by * *Famianus Struda* in his imitation of *Lucretius* his stile, and divers others. The manner that is usually prescribed for the performance of it, is thus. Let there be two Needles provided, of an equal length and bigness, being both of them touched with the same Loadstone: Let the letters of the Alphabet be placed in the circles on which they

1. Of those fabulous relations to this purpose. *Lib. 2. prolus. 6.*

are moved, as the points of the compass under the needle of the Mariners Chart. Let the Friend that is to travel take one of them with him, first agreeing upon the days and hours wherein they should confer together: At which times, if one of them move the needle of his instrument to any letter of the Alphabet, the other needle, by a Sympathy, will move unto the same letter in the other instrument, though they be never so far distant. And thus by several motions of the needle to the letters, they may easily make up any words or sence which they have a mind to express.

*O utinam hæc ratio scribendi prodeat usu ;
Cantior & citior properaret epistola, nullas
Latronum verita insidias, fluviosque morantes,
Ipse suis princeps manibus sibi conficeret rem, &c.*

Saith *Strada*: But this invention is altogether imaginary, having no foundation in any real experiment. You may see it frequently confuted, in those that treat concerning magne-
tical

tical vertues. *Non solum exhibilandi sunt, sed etiam male mulctandi Philosophicâ ferulâ, fabularum isti procursores, qui suis portentis deterrent homines à præclarissimo causarum studio, saith Cælius,* to this purpose.

*Philosop.
Magnet.
l. 4. c. 10.*

The first occasion of these relations, was the proof of that strange immaterial powers of the Loadstone, whereby it did work through thick and solid bodies, as a Table, or Wall, or the like; as also of that directive vertue, whereby it always tends to the poles; from whence others have conjectured, that it might be serviceable also for such a business, at so great a distance.

But against this, it is considerable,

1. That every natural agent is supposed to have some certain sphere, which determines its activity.

2. That magnetical operations do not arise (as some fondly conceive) from a Sympathetical conformation of natures, which is the same at all distances; but from such a diffusion of these magnetical qualities through

the *medium*, that they may be continued from the Agent to the Patient. And so these natural powers will not be of so great an extent, as they are supposed in this experiment.

The utmost distance, at which we may discourse with another by these magnetical vertues, is two or three foot or thereabouts; and this we may do, though it be through a wall of that thicknes.

S. Ward
magnetis
Reduct.

c. 40.

See Gabaeus

Phil. Magn.

l. 4. c. 11.

Fieri enim posse me docuit experientia, ut ope Magnetis, & instrumenti ad id aptati, amicus cum amico, in cubiculo proximo, trans crassum murum (puta bipetalem) colloquatur, animi sui sententiam impertiat, & ad quaesita respondeat, (saith a late Author.) But in this experiment, it is not only the secondary vertue of the needles that can be thus effectual (as is supposed in the former invention) but there must be the help also of the Loadstone it self.

As for the reason why these magnetical powers are able to work through solid bodies; 'tis considerable, that any quality may be diffused through

through such a substance, as hath no natural repugnancy unto it. We see the light does pass as well through hot bodies as cold, through solid as fluid, &c. only Opacity keeps it out, because that quality alone is contrary to its nature. So likewise is it with magnetical vertues, which do equally spread themselves through all kind of bodies, whether *rare* or *dense*, *diaphanous* or *opacous*, there being no quality contrary to this, because it is that general endowment of the whole globe, that universal quality to which all other particulars are naturally subservient.

The second sort of relations to this ^{Magical} purpose, are such as refer to *diabolical Magick*; of which kind is that invention thought to be, which is commonly ascribed to *Pythagoras*, of whom it is reported, that he could write any thing in the body of the Moon, so as it might be legible to another at a great distance. *Agrippa* affirms this to be naturally possible, and the way of performing it, not unknown to himself,

*Occult. Philo-
soph. l. 1. c. 6.*

Optic. l. 3.
prop. 36.
Speculorum
persuasio
huc perua-
sit, &c.

with some others in his time. And *Fridericus Risner* seems to believe it; for speaking of the strange experiments to be wrought by some glasses, he adds, *Denique certo artificio, depictas imagines, aut scriptas literas, nocte, serenâ, plena luna sic opponi possunt, ut radiis lunam irradiantibus; ideoque reflexis, videas & legas, qua Constantinopoli Lutetiam tibi nuncientur.*

There is an experiment in Opticks, to represent any writing by the Sunbeams, upon a wall or front of a house; for which purpose the letters must be first described with Wax, or some other opacous colour, upon the surface of the glass, in an inverted form; which glass, afterwards reflecting the light upon any wall in the shade, will discover these letters in the right form and order. Unto some such invention, I did first (before I had well considered these particulars) attribute the performance of those strange promises in *Nuntius inanimatus*. But upon better thoughts, it will be found, that the species

World in
the Moon,
p. 7.

species of reflection, in this experiment, are so weak, that unless the glass and the letters be very big, and the wall somewhat near, there will be no distinct appearance of the writing. And therefore this way there can be no thoughts of contriving any reflected species, that shall be visible at so great a distance as the Moon. Nor is there any other natural means conceivable, by which so strange an effect may be performed, which is the reason that it is so frequently attributed to diabolical Magick, by almost all the Writers that have occasion to treat of it.

But *Agrippa* in another place speaking concerning this invention, affirms that it was performed thus: *Pythagoras* did first describe with blood any letters which he thought fit, in some great glass, and then opposing the glass against the full Moon, the letters would appear thorough it, as if they were writ in the circumference of her body. *Quæ collibuisse sanguine perscripsit*

*Agrippa
de Vanit.
Scient. c. 48.*

per scripsit in speculo, quo, ad pleni luminis lunæ orbem obverso, stanti à tergo, res exaratas in disco lunæ commonstravit. In which passage he seems to intimate, that this writing in the Moon could not be visible at any great distance (as it is related in common Tradition) but that it did appear to such only, betwixt whose eyes and the Moon this glass might be interposed. And according to this the wonder of the relation ceases, nor may it truly be referred to Diabolical Magick.

*Joach. Camerac. Pro-
am. in lib.
Plutarc. de
defect. Orac.*

More properly reducible to this kind, are those enchanted glasses mentioned in divers Authors: In which some Magicians are said to contain such familiar Spirits, as do inform them of any business they shall enquire after. I have heard a great pretender to the knowledge of all secret Arts, confidently affirm, that he himself was able at that time, or any other, to shew me in a glass what was done in any part of the World, what ships were sailing in the *Mediterranean*,
who

who were walking in any street of any City in *Spain*, or the like. And this he did aver, with all the laboured expressions of a strong confidence. The man, for his condition, was an Italian Doctor of Physick; for his parts, he was known to be of extraordinary skill in the abstruser Arts, but not altogether free from the suspicion of this unlawful Magick.

CHAP.

CHAP. XX.

Of informations by signficatory fires and smoaks. Their Antiquity. The true manner of using them to this purpose. That these were meant in Nuntius inanimatus.

THE Experiments of this kind that are true, and upon natural grounds, have been made either by fire in the night, or smoak and such other signs visible at a distance in the day-time.

These informations by signficatory fires, have been of ancient use. The first invention of them is commonly ascribed to *Sinon* in the *Trojan Wars*. *Specularem significationem Trojano bello Sinon invenit* (saith *Pliny*.) This was the sign upon which he agreed to unlock the wooden Horse.

Nat. Hist.
l. 7. c. 56.

Virgil.

———— *Flammæ cum regia puppis*
Extulerat. ————

But

But *Diodorus Siculus* affirms them to be practised by *Medea* in her Conspiracy with *Jason*. And they are frequently mentioned in other ancient Historians. * *Herodotus* speaks of them in the Grecian War against *Xerxes*. And † *Thucydides* testifies of them in the onsets that were made by the *Peloponnesians* against *Salamis*, and in the Siege of *Corcyra*. *Appian* speaking of *Scipio* at *Numantia*, how he divided his Camp into divers Companies, says that he assigned each of them to several Tribunes, with this charge, *Si impeterentur ab hoste, de die, * panno rubro in hasta sublato significarent, de nocte, igne*. If the enemy did charge any of them, they should signifie it to the others, in the day-time by holding up a red cloth, in the night by fires. *Vegetius* affirms it to be usual, when the Army was divided, to inform one another, in the day by smoak, in the night by fires. These significatory fires were by the

Bibliothec.

l. 4.

* *Polymn.*

l. 7. c. 182.

† *Hist. l. 2.**Item, l. 3.*So *Curtius*of *Alex. M.*

l. 5.

* To this purpose the flags of truce or defiance.

*De re mili-**tar. l. 3. c. 5.**Lyps. de mi-**lit. Roman.*

lib. 5. Dia-

log. 9.

Grecians

*Aeneas Po-
liorcer. c. 31*

Grecians called Φόρυγτοι (saith *Suidas*) and sometimes Πυροσία. The use of them was chiefly for the answer of some particular *Quære*, that was before agreed upon; as concerning the coming of Aids or Enemies; if the Enemies were coming, they were wont to shake these Torches; if the Aids, they held them still (saith the

*Schol. in l. 2.
Thucyd.*

Scholiast upon Thucydides.)

But they have by more exact Inventions, been enlarged to a greater latitude of signification. So that now, any thing which we have occasion to discover, may be expressed by them.

*Wecker de
Secretis,
l. 14. c. 1.
Port. de
furt. lit.*

*l. 1. c. 10.
Cardan. de
Variet. Re-
rum, l. 12.
c. 61.*

** Histor. l. 10
justa finem.
By ten
Torches.*

The ways by which they may be contrived to this purpose, are divers: I shall specify only the chief of them.

That which in ancient times was used by the *Grecians*, and is particularly treated of in * *Polybius*, adviseth thus.

Let

Let the letters be divided into five
Tablets or Colums.

	I	II	III	IV	V
1	a	f	l	q	w
2	b	g	m	r	x
3	c	h	n	s	y
4	d	i	o	t	z
5	e	k	p	u	

Let there be provided ten Torches,
five being placed on the right hand,
and five on the left: Let so many
Torches be lifted up on the right
hand, as may shew the number of
the Table; and so many on the left,
as may shew the number of that
letter in it, which you would ex-
press: As in this following example,
wherein the severall numbers, both at
the

the right and left hand, do signifie the word HASTEN.

The right hand.

II
I
IV
IV
I
III

The left hand.

H
A
S
T
E
N

3
1
3
4
5
3

That is, two lights being lifted upon the right hand, shew the second Column; and at the same time three Torches appearing on the left hand, denotes the third letter in that Column which is *H*. Thus a single Torch being discovered on both sides, doth signifie the first letter of the first Column, which is *A*, and so of the rest.

There

There is another way mentioned By three
Torches.
Lib. ds Ex-
perientia. by *Joachimus Fortius*, unto the performance of which, there are only three lights required: One Torch being shewed alone, shall signifie the eight first letters, *A.B.C.D.E.F.G.H.* Two together, the eight next, *I.K.L.M.N.O.P.Q.* And all three the rest, *R.S.T.V.W.X.Y.Z.*

One light being discovered once, signifies *A*; if twice, *B*: Two lights being shewed once, do denote the letter *I*; if twice, *K*, &c.

According to this way, if I would express the word *FAMINE*, the Torches must be contrived; one light must be lifted up six times for the letter *F*; one light once for *A*; two lights four times for *M*; two lights once for *I*; two lights five times for *N*.

But here it will be requisite that there be some intermission betwixt the expression of several letters, because otherwise there must needs be a great confusion amongst those that

M belong

belong to the same number of Torches. In which respect this way is much more tedious and inconvenient than the former invention out of *Polybius*.

By two
Torches.

It is easie to conceive, how by the Alphabet consisting of two letters transposed through five places, such a manner of discoursing may be otherwise contrived, only by two Torches. But then there must be five shews, to expresse every letter.

There is another way of speaking, by the differences of motion in two lights; which for its quickness and speed, is much to be preferred before any of the rest; the manner of it is thus: Provide two Torches on long poles: Let them be placed so far from one another, that they may seem unto your confederate to be about four Cubits distance. By the divers elevations or depressions of these, enclining of them to the right hand, or to the left, severally or both together, it is easie to expresse all the Alphabet.

One

One light alone being discovered, must stand for *A*; lifted up, for *E*; depressed, for *I*; enclined to the right hand, for *O*; unto the left hand, for *V*.

Two lights elevated, for *B*; depressed, for *C*; enclined to the right hand, for *D*; to the left hand, for *F*.

Two lights being still discovered, and the Torch at the right hand being lifted up, shall signifie *G*; being depressed, *H*; inclined to the right hand, *K*; to the left hand, *L*.

The Torch at the left hand, being elevated, shall stand for *M*; depressed, for *N*; inclined to the right hand, for *P*; to the left hand, for *Q*.

The Torch at the right hand being moved towards the left hand, and that at the left hand, being at the same time moved towards the right hand, shall signifie *R*: The right hand Torch being inclined to the left hand, and the other at the same time being elevated, signifies *S*; being depressed, *T*: The left hand Torch

being inclined to the right hand, and the other at the same time being elevated, signifies *W*; being depressed, *X*.

The right hand Torch being inclined to the right hand, and the other at the same time being elevated, may stand for *Y*; being depressed, for *Z*.

When any thing is thus to be expressed, the two Torches, being discovered, must remain without any motion, so long, till the Confederate shall by other lights shew some sign, that he is ready to take notice. After every one of these particular motions, the Torches must be carefully hidden and obscured, that so the several letters expressed by them, may be the better distinguished.

The day-time Informations by smoak, cannot so conveniently be ordered according to this latter contrivance, and therefore must be managed by some of those other ways that were specified before: To which purpose

purpose there must be some Tunnels provided, for the orderly inclosing and conveying up the smoak. The other particulars concerning this, are in themselves easie enough to be apprehended.

How these significatory signs will be visible at a great distance. How by multiplication of them in several places, they may be contrived for many scores of miles, will easily be discerned from the situation and use of Beacons, by which the intimations of publick danger and preparations, have been oftentimes suddenly spread over this whole Island.

*See Barclo.
Argen. l. 1.*

This may further be advantaged by the use of *Galileus* his perspective.

'Tis storied of the Inhabitants in *China*, that when any Merchants do happen upon the shores of that Kingdom, they are presently examined, whence they come, what Commodities they bring, and of what number they are: Which being known,

*Busbecquius
Epist. Turc.
ep. 4.*

the Watch (set for that purpose) do presently inform the King of their answers, by smoak in the day, and fires in the night: Who by the same means does as speedily return them his pleasure, whether they shall be admitted or kept out: And so that is easily dispatched in some few hours, which could not be performed the ordinary way, without the trouble of many days.

Polyt. l. 10. The practise of all these secret and swift Messages, may perhaps seem very difficult at the first; but so does also the Art of Writing and Reading to an unlettered man: Custom and experience will make the one as facile and ready as the other.

That these ways of information already explained, whether by the species of *sound* or *sight*, are the same with those intimated in *Nuntius inanimatus*, may be clearly evident to any one who does but thoroughly peruse that discourse, and compare it with divers other the like passages,
of

of the same Author, in his *Domingo Gonfales*.

1. For the species of sound, his words are these, *Auribus nihil percipi nisi personum, neminem fugit. Erit igitur necesse ut is, cui aliquid auditu mediante nunciatum fuerit, sonos audiat, eosque distinguibiles pro numero audientium; quæ cum sint infinita, infinita, etiam sit oportet, sonorum edendorum varietas. Satis tamen erit ut distinguantur vel genere, vel tempore, modo etiam & numero.* Which passage, together with that other invention in *Domingo Gonfales*, concerning the Language of the Lunary Inhabitants, before explained in the eighteenth Chapter: I say, both these, being compared with the discoveries and experiments of the same kind that are here discoursed of, may plainly manifest, that they are both performed by the same means.

2. For the Species of sight, his words are these, *Si oculis amici absentis aliquid cupis representare, idque citius*

citius quam corpus aliquod sublunare ad locum tam longo intervallo disjunctum possit perferri; oportet ut idee, sive formæ visibiles, augeantur quantitate, multiplicentur numero, & pro rerum significandarum varietate varientur, vel qualitate, vel quantitate, vel situ, vel ordine. Which passage being compared with that other way of compact, betwixt *Gonsales* and his *Man Diego*, mentioned in the other Discourse: It may evidently appear, that the ways of intimation which were there meant, are performed after the same manner, according to which they are here discoursed of.

Man in
the Moon,
p. 21.

He does indeed mention out of *Busbequius*, the practice of those informations amongst the Inhabitants of *China*, and thinks that they were used too by the *Romans*; but withall he wonders, how that now amongst us, they should be altogether forgotten; and the restoring of them to these places and times, seems to be his chief aim, in the promises of that discourse.

The

The particular example which he mentions, is this: Suppose that one at *London* would send a message to *Bristow, Wells, Exeter*, or though it were any remoter place: *Neque enim longinquitatem via multum moror, si detur facultas sternendi, & permeabilem efficiendi.* That is, the greatness of distance can be no impediment, if the space betwixt be fitted with such high Mountains, and Beacon Hills, as may serve for these kind of Discoveries. Suppose (I say) this Messenger should set forth from *London*, in the very point of noon, he would notwithstanding arrive at *Bristow* before twelve of the clock that day: That is, a Message may by these means be conveyed so great a distance, in fewer minutes than those which make the difference betwixt the two Meridians of those places.

If according to this, we should interpret that passage out of *Trithemius*, concerning the three *Saturaine* Angels, that in twenty four hours can

See before
Cap. 15.

convey

convey news from any part of the World; that Author might then, in one respect, be freed from the aspersions of Diabolical Magick, which for this very reason hath heretofore been imputed to him. But this by the way.

It may be, the resolution of those great promises in *Nuncius Inanimatus*, to such easie causes as they are here ascribed unto, will not be answerable to mens expectation, every one will be apt to mistrust some greater matter than is here exprest: But 'tis thus also, in every other the like particular; for Ignorance is the mother of Wonder, and Wonder does usually create unto it self many wild Imaginations, which is the reason why mens Fancies are so prone to attribute all unusual and unknown Events, unto stranger causes than either Nature or Art hath designed for them.

Conclusion.

Conclusion.

The Poets have feigned *Mercury* to be the chief Patron of Thieves and Treachery,

*Horat. l. I.
Od. 10.
Ovid. Me-
tam. l. II.
Homer. in
Hymnis.*

Ἄρχὸς φιλητιῶν.

To which purpose they relate that he filched from *Venus* her Girdle, as she embraced him in congratulation of a Victory; that he robbed *Jupiter* of his Scepter, and would have stoln his Thunderbolt too, but that he feared to burn his fingers. And the Astrologers observe, that those who are born under this Planet, are naturally addicted to Theft and Cheating.

*Nat. Comes
Mytholog.
l. 5. c. 5.*

If it be feared that this Discourse may unhappily advantage others, in such unlawful courses; 'tis considerable, that it does not only teach how to deceive, but consequently also how to discover Delusions. And then besides, the chief experiments are of such nature,

nature, that they cannot be frequently practised, without just cause of suspicion, when as it is in the Magistrates power to prevent them. However, it will not follow, that every thing must be suppress'd which may be abused. There is nothing hath more occasioned Troubles and Contentions, than the Art of Writing, which is the reason why the Inventor of it is fabled to have sown Serpents Teeth: And yet it was but a barbarous act of *Thamus*, the Egyptian King, therefore to forbid the learning of Letters: We may as well cut out our Tongues, because that member is *a world of wickedness*. If all those useful Inventions that are liable to abuse, should therefore be concealed, there is not any Art or Science which might be lawfully profess'd.

*Cali. Rho-
antig. Lect.
122. c. 15.*

James 3.

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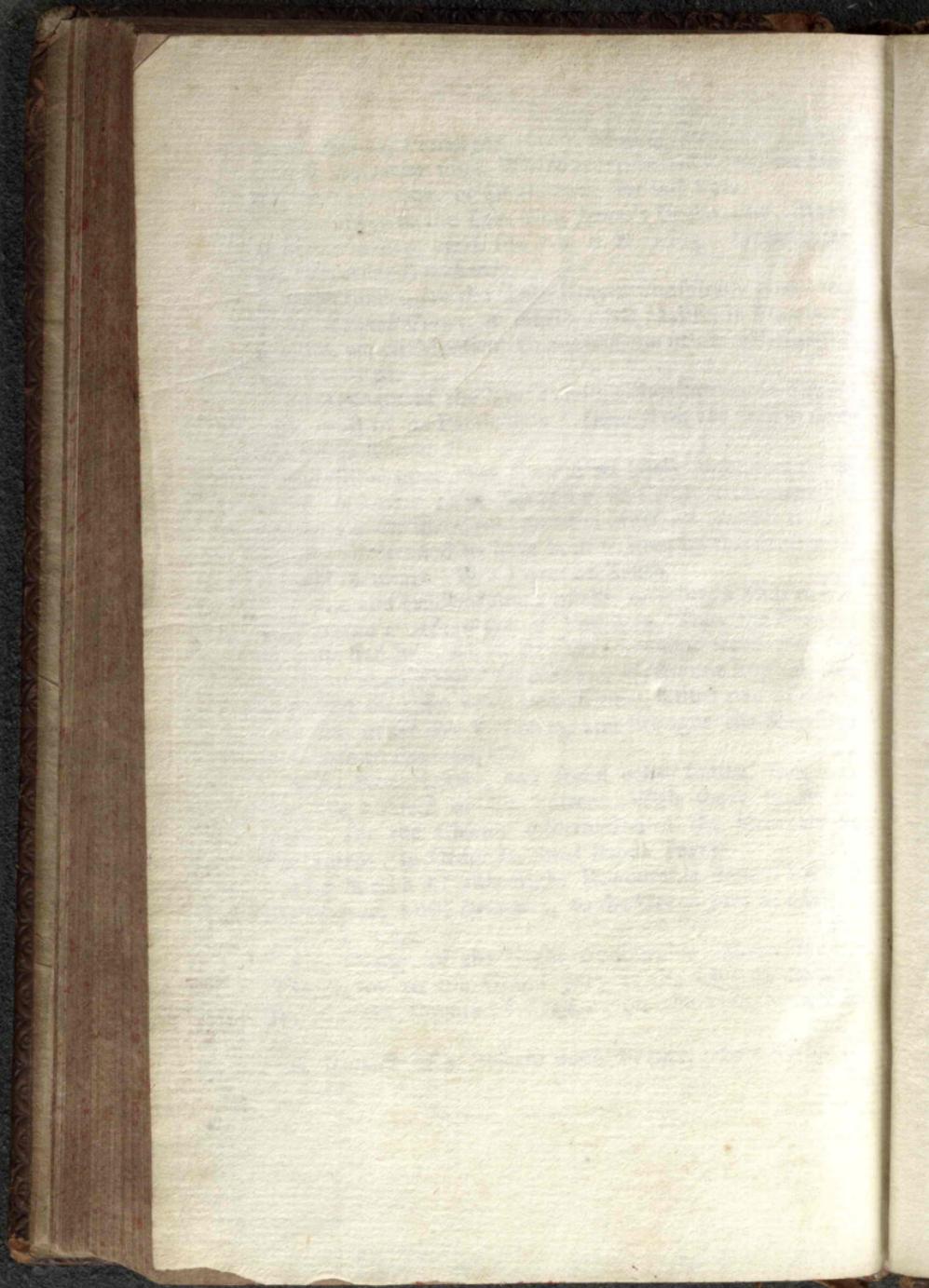
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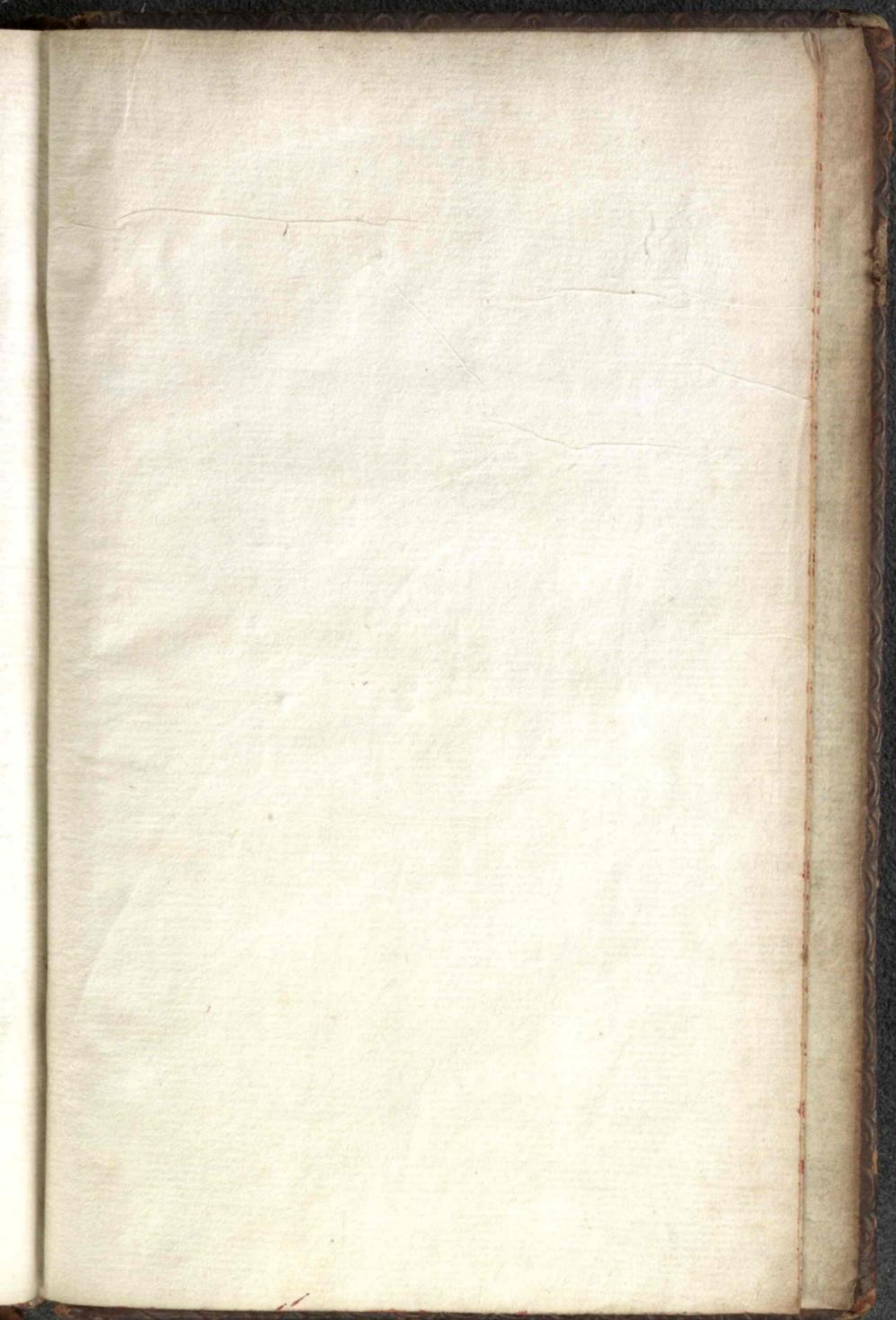
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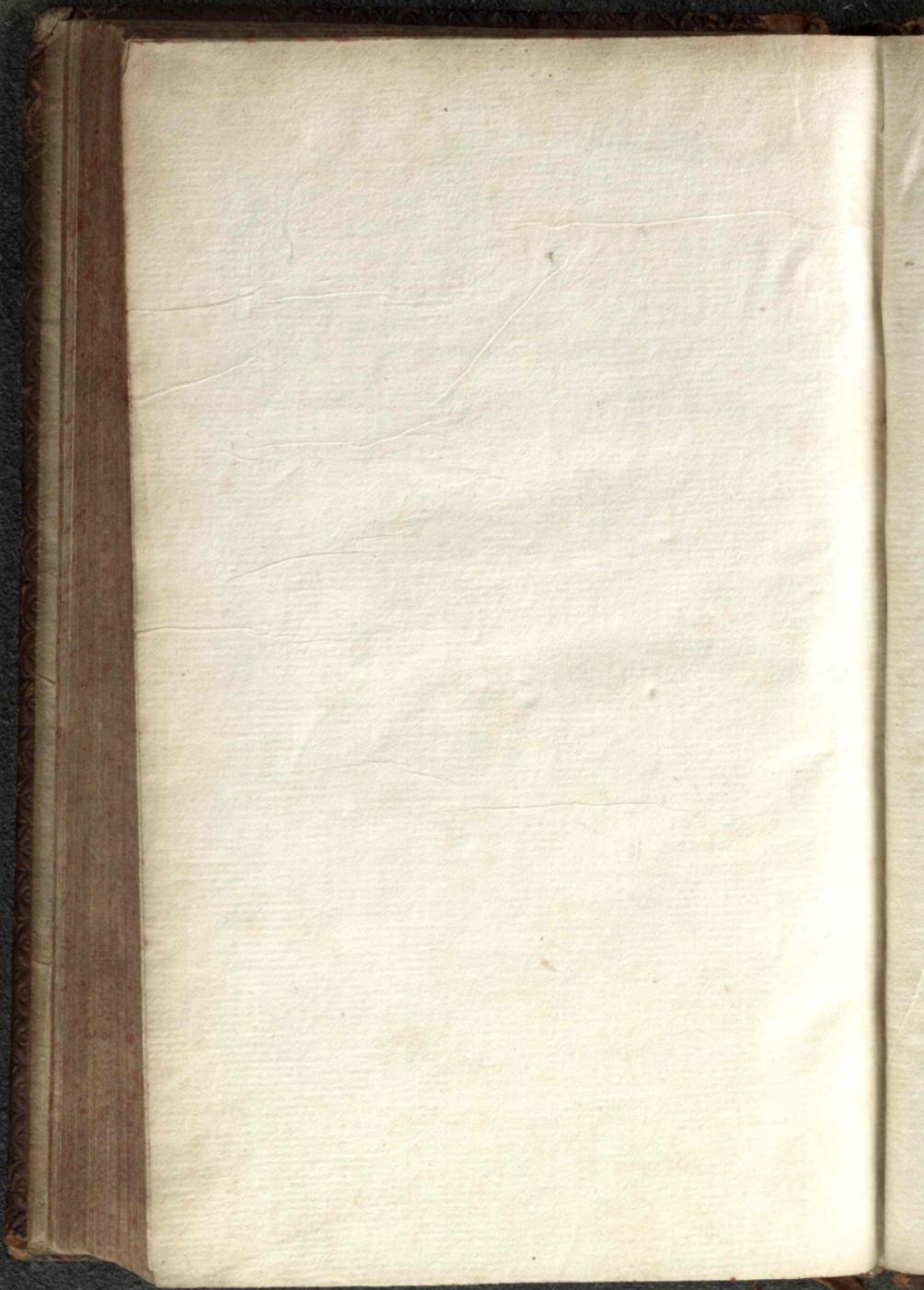
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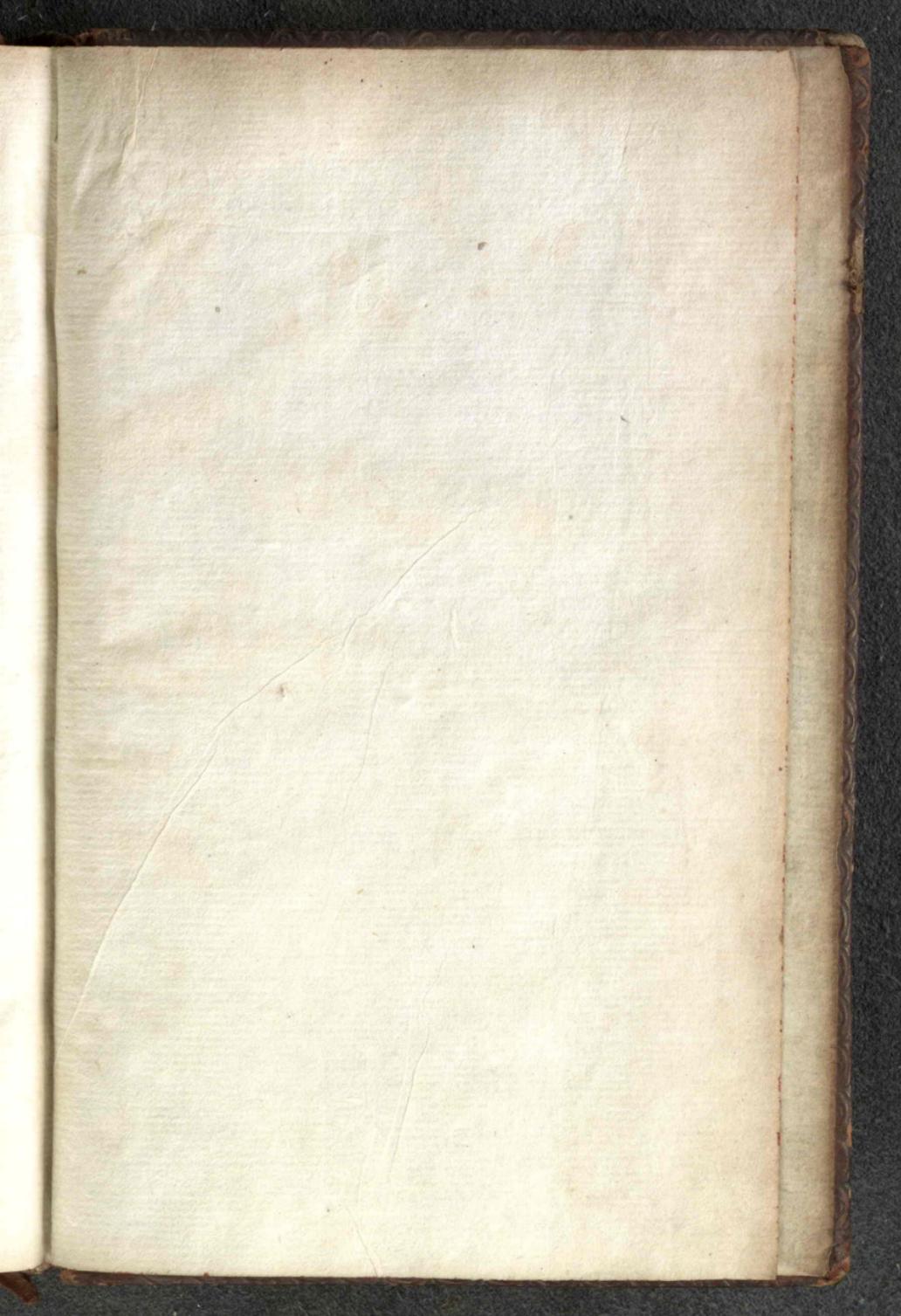
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