



## 

Roger Ascham was born in Kirby Wiske, Yorkshire, in 1515, the youngest son of John and Margaret Ascham.

In 1530 Ascham entered St. John's College, Cambridge, where he applied himself to the study of Greek. He received his bachelor's degree at the age of eighteen on February 18, 1534 and became fellow of the college in March. In 1537, at the age of twenty-one, Ascham became master of arts and began tutoring younger students. Ascham became reader in Greek around 1538 until Henry VIII found a lecturer to take his place.

One of Ascham's favorite pastimes was archery. In 1545 Ascham published the treatise Toxophilus or the Schole or Partitions of Shooting partly in defense of archery against those who found the sport unbefitting a scholar. The work was dedicated to Henry VIII who enjoyed the treatise so much that he granted Ascham a pension: ten pounds a year. Ascham was further honoured by being assigned to tutor Prince Edward.

In 1548, after the death of Princess Elizabeth's tutor, Ascham was appointed to the post of teaching the young woman who would become Queen Elizabeth I. He held the post until 1550 when he left the post without her consent. He was appointed secretary to Sir Richard Morisine and accompanied him to Germany later the same year. During his trip Ascham wrote his Report and Discourse of the Affairs in Germany containing his impressions on the people and culture of Germany. Ascham also visited Italy, later recounting "the vices of Venice" in The Scholemaster. Morisine was recalled to England at the death of Edward in 1553, and Ascham returned to Cambridge.

During Ascham's absence he had been appointed Latin secretary to King Edward, a post he was instated in under Queen Mary I. In 1554 Ascham married Margaret Howe. Upon Queen Mary's death in 1558, he was appointed secretary to Queen Elizabeth, and in 1559 he was given the prebend of Wetwang in Yorkshire.

In 1563 Ascham was invited by Sir Edward Sackville to write a treatise on education. This became The Scholemaster, published posthumously in 1570. Ascham took ill in 1568 with an unidentified disease and died at the age of fifty-three. Hearing of his death Queen Elizabeth is said to have exclaimed: "I would rather have cast ten thousand pounds in the sea than parted from my Ascham."

## TOXOPHILUS. THE SECOND BOOK OF THE SCHOOL OF SHOOTING.

PHILOLOGUS. Phi TOXOPHILUS. Tox

Phi. What is the chief point in shooting, that every man laboureth to come to?

Tox. To hit the mark.

Phi. How many things are required to make a man evermore hit the mark?

Tox. Two.

Phi. Which two?

Tox. Shooting straight, and keeping of a length.

Phi. How should a man shoot straight, and how should a man keep a length?

Tox. In knowing and having things belonging to shooting; and when they be known and had, in well handling of them; whereof some belong to shooting straight, some to keeping of a length, some commonly to them both, as shall be told severally of them in place convenient.

Phi. Things belonging to shooting, which be they?

Tox. All things be outward and some be instruments for every sere archer to bring with him, proper for his own use: other things be general to every man, as the place and time serveth.

Phi. Which be instruments?

Tox. Bracer, shooting glove, string, bow, and shaft.

Phi. Which be general to all men?

Tox. The weather and the mark; yet the mark is ever under the rule of the weather.

Phi. Wherein standeth well handling of things?

Tox. Altogether within a man himself: some handling is proper to instruments, some to the weather, some to the mark, some is within a man himself.

Phi. What handling is proper to the instruments?

Tox. Standing, knocking, drawing, holding, loosing, whereby cometh fair shooting, which neither belong to wind nor weather, nor yet to the mark; for in a rain and at no mark, a man may shoot a fair shoot.

Phi. Well said: what handling belongeth to the weather?

Tox. Knowing of his wind, with him, against him, side wind, full side wind, side wind quarter with him, side wind quarter against him, and so forth.

Phi. Well then, go to; what handling belongeth to the mark?

Tox. To mark his standing, to shoot compass, to draw evermore like, to loose evermore like, to consider the nature of the prick, in hills and dales, in straight plains and winding places, and also to espy his mark.

Phi. Very well done. And what is only within a man himself?

Tox. Good heed-giving, and avoiding all affections: which things oftentimes do mar and make all. And these things spoken of me generally and briefly, if they be well known, had, and handled, shall bring a man to such shooting, as few or none ever yet came unto; but surely if he miss in any one of them, he can never hit the mark; and in the more he doth miss, the farther he shooteth from his mark. But, as in all other matters, the first step or stair to be good, is to know a man's fault, and then to amend it; and he that will not know his fault, shall never amend it. Phi. You speak now, Toxophile, even as I would have you to speak; but let us return again unto our matter, and those things which you have packed up in so short a room, we will loose them forth, and take every piece, as it were, in our hand, and look more narrowly upon it.

Tox. I am content; but we will rid them as fast as we can, because the sun goeth so fast down, and yet somewhat must needs be said of every one of them.

Phi. Well said; and I trow we began with those things which be instruments, whereof the first, as I suppose, was the bracer.

Tox. Little is to be said of the bracer. A bracer serveth for two causes, one to save his arm from the stripe of the string, and his doublet from wearing; and the other is, that the string gliding sharply and quickly off the bracer, may make the sharper shot. For if the string should light upon the bare sleeve, the strength of the shoot should stop and die there. But it is best, by my judgement, to give the bow so much bent, that the string need never touch a man's arm, and so should a man need no bracer, as I know many good archers which occupy none. In a bracer a man must take heed of three things; that it have no nails in it, that it have no buckles, that it be fast on with laces without agglets. For the nails will sheer in sunder a man's string before he be ware, and so put his bow in jeopardy: buckles and agglets at unwares shall raze his bow, a thing both evil for the sight, and perilous for fretting. And thus a bracer is only had for this purpose, that the string may have ready passage.

Phi. In my bracer I am cunning enough; but what say you of the shooting glove?

Tox. A shooting glove is chiefly for to save a man's fingers from hurting, that he may be able to bear the sharp string to the uttermost of his strength. And when a man shooteth, the might of his shoot lieth on the foremost finger, and on the ringman; for the middle finger which is the longest, like a lubber, starteth back, and beareth no weight of the string in a manner at all; therefore the two other fingers must have thicker leather, and that must have thickest of all whereon a man looseth most, and for sure loosing, the foremost finger is most apt, because it holdeth best; and for that purpose, nature hath, as a man would say, yoked it with the thumb. Leather, if it be next a man's skin, will sweat, wax hard, and chafe; therefore scarlet, for the softness of it and thickness withal, is good to sew within a man's glove. If that will not serve, but yet your finger hurteth, you must take a searing cloth, made of fine virgin wax and deers' suet, and put next your finger, and so on with your glove. If yet you feel your finger pinched, leave shooting, both because then you shall shoot naught; and again by little and little, hurting your finger, ye shall make it long and long too or you shoot again. A new glove plucks many shoots, because the string goeth not freely off; and therefore the fingers must be cut short and trimmed with some ointment, that the string may glide well away. Some with holding in the nock of their shaft too hard, rub the skin off their fingers. For this there be two remedies, one to have a goose quill splitted and sewed against the nocking, betwixt the lining and the leather, which shall help the shoot much too; the other way is to have some roll of leather sewed betwixt his fingers, at the setting on of the fingers, which shall keep his fingers so in sunder that they shall not hold the nock so fast as they did. The shooting glove hath a purse, which shall serve to put fine linen cloth and wax in, two necessary things for a shooter. Some men use gloves or other such like thing on their bow-hand for chafing, because they hold so hard. But that cometh commonly when a bow is not round, but somewhat square; fine wax shall do very well in such a case to lay where a man holdeth his bow; and thus much as concerning your glove.

And these things, although they be trifles, yet because you be but a young shooter, I would not leave them out.

Phi. And so you shall do me most pleasure. The string I trow be the next.

Tox. The next indeed; a thing, though it be little, yet not a little to be regarded. But herein you must be content to put your trust in honest stringers. And surely stringers ought more diligently to be looked upon by the officers, than either bowyer or fletcher, because they may deceive a simple man the more easilier. An ill string breaketh many a good bow, nor no other thing half so many. In war, if a string break, the man is lost, and is no man, for his weapon is gone; and although he have two strings put on at once, yet he shall have small leisure and less room to bend his bow; therefore God send us good stringers both for war and peace.

Now what a string ought to be made on, whether of good hemp, as they do now-a-days, or of flax, or of silk, I leave that to the judgement of stringers, of whom we must buy them. Eustathius, upon this verse of Homer.

Twang quoth the bow, and twang quoth the string, out quickly the shaft flew,

doth tell, that in old time, they made their bow-strings of bullocks' thermes,[4] which they twined together as they do ropes; and therefore they made a great twang. Bow-strings also hath been made of the hair of an horse tail, called, for the matter of them, Hippias, as doth appear in many good authors of the Greek tongue. Great strings and little strings be for divers purposes: the great string is more surer for the bow, more stable to prick withall, but slower for the cast. The little string is clean contrary, not so sure, therefore to be taken heed of, lest with long tarrying on it break your bow, more fit to shoot far, than apt to prick near; therefore, when you know the nature of both big and little, you must fit your bow according to the occasion of your shooting. In stringing of your bow (though this place belong rather to the handling than to the thing itself, yet because the thing, and the handling of the thing, be so joined together, I must need sometimes couple the one with the other) you must mark the fit length of your bow. For, if the string be too short, the bending will give, and at the last slip, and so put the bow in jeopardy. If it be long, the bending must needs be in the small of the string, which being sore twined, must needs snap in sunder, to the destruction of many good bows. Moreover, you must look that your bow be well nocked, for fear the sharpness of the horn sheer asunder the string. And that chanceth oft when in bending, the string hath but one wap to strengthen it withal. You must mark also to set your string straight on, or else the one end shall writhe contrary to the other, and so break your bow. When the string beginneth never so little to wear, trust it not, but away with it; for it is an ill saved halfpenny, that costs a man a crown. Thus you see how many jeopardies hangeth over the silly poor bow, by reason only of the string. As when the string is short, when it is long, when either of the nocks be naught, when it hath but one wap, and when it tarrieth over long on.

Phi. I see well it is no marvel, though so many bows be broken.

Tox. Bows be broken twice as many ways beside these. But again, in stringing your bow, you must look for much bend or little bend, for they be clean contrary. The little bend hath but one commodity, which is in shooting faster, and farther shoot, and the cause thereof is, because the string hath so far a passage or it part with the shaft. The great bend hath many commodities; for it maketh easier shooting, the bow being half drawn before. It needeth no bracer, for the string stoppeth before it come at the arm. It will not so soon hit a man's sleeve or other gear, by the same reason. It hurteth not the shaft feather, as the low bend doth. It suffereth a man better to espy his mark. Therefore let your bow have good big bend, a shaftment and two fingers at the least, for these which I have spoken of.

Phi. The bracer, glove, and string, be done; now you must come to the bow, the chief instrument of all.

Tox. Divers countries and times have used always divers bows, and of divers fashions. Horn bows are used in some places now, and were used also in Homer's days; for Pandarus bow, the best shooter among all the Trojans, was made of two goat horns joined together; the length whereof, saith Homer, was sixteen hand-breadths, not far differing from the length of our bows. Scripture maketh mention of brass bows. Iron bows, and steel bows, have been of long time, and also now are used among the Turks; but yet they must needs be unprofitable. For if brass, iron, or steel, have their own strength and pith in them, they be far above man's strength: if they be made meet for man's strength, their pith is nothing worth to shoot any shoot withal. The Ethiopians had bows of palm-tree, which seemed to be very strong; but we have none experience of them. The length of them was four cubits. The men of Inde had their bows made of a reed, which was of a great strength. And no marvel though bow and shafts were made thereof; for the reeds be so great in Inde, as Herodotus saith, that of every

joint of a reed a man may make a fisher's boat. These bows, saith Arrianus in Alexander's life, gave so great a stroke, that no harness or buckler, though it were never so strong, could withstand it. The length of such a bow was even with the length of him that used it. The Lycians used bows made of a tree, called in Latin Cornus (as concerning the name of it in English, I can sooner prove that other men call it false, than I can tell the right name of it myself,) this wood is as hard as horn, and very fit for shafts, as shall be told after. Ovid showeth that Syringa the nymph, and one of the maidens of Diana, had a bow of this wood whereby the poet meaneth, that it was very excellent to make bows of.

As for Brazil, elm, wych, and ash, experience doth prove them to be but mean for bows; and so to conclude, yew, of all other things, is that whereof perfect shooting would have a bow made. This wood as it is now general and common amongst Englishmen, so hath it continued from long time, and had in most price for bows, amongst the Romans, as doth appear in this half verse of Virgil:

Taxi torquentur in arcus. Yew fit for a bow to be made on.

Now, as I say, a bow of yew must be had for perfect shooting at the pricks; which mark, because it is certain, and most certain rules may be given of it, shall serve for our communication at this time. A good bow is known, much-what as good counsel is known, by the end and proof of it; and yet both a bow and good counsel may be made both better and worse, by well or ill handling of them, as oftentimes chanceth. And as a man both must and will take counsel of a wise and honest man, though he see not the end of it; so must a shooter, of necessity, trust an honest and good bowyer for a bow, afore he know the proof of it. And as a wise man will take plenty of counsel afore-hand, whatsoever need, so a shooter should have always three or four bows in store, whatsoever chance.

Phi. But if I trust bowyers always, sometime I am like to be deceived.

Tox. Therefore shall I tell you some tokens in a bow, that you shall be the seldomer deceived. If you come into a shop, and find a bow that is small, long, heavy, and strong, lying straight, not winding, not marred with knot gall, wind-shake, wem, fret or pinch, buy that bow of my warrant. The best colour of a bow that I find, is when the back and the belly in working be much-what after one manner, for such oftentimes in wearing do prove like virgin wax or gold, having a fine long grain, even from the one end of the bow to the other; the short grain, although such prove well sometime, are for the most part very brittle. Of the making of the bow, I will not greatly meddle, lest I should seem to enter into another man's occupation, which I can no skill of. Yet I would desire all bowyers to season their staves well, to work them and sink them well, to give them heats convenient, and tillerings plenty. For thereby they should both get themselves a good name, (and a good name increaseth a man's profit much,) and also do great commodity to the whole realm. If any men do offend in this point, I am afraid they be those journeymen, which labour more speedily to make many bows for their money sake, than they work diligently to make good bows for the commonwealth sake, not laying before their eyes this wise proverb, "Soon enough, if well enough: "wherewith every honest handy-craftsmen should measure, as it were with a rale, his work withal. He that is a journeuman, and rideth upon another man's horse. if he ride an honest pace, no man will disallow him; but if he make post haste, both he that owneth the horse, and he peradventure also that afterward shall buy the horse, may chance to curse him. Such hastiness, I am afraid, may also be found amongst some of them which, throughout the realm, in divers places, work the King's artillery for war; thinking, if they get a bow or a sheaf of arrows to some fashion, they be good enough for bearing gear. And thus that weapon, which is the chief defence of the realm, very oft doth little service to him that should use it, because it is so negligently wrought of him that should make it; when truly I suppose that neither the bow can be too good and chief wood, nor yet too well seasoned or truly made, with heatings and tillerings, neither that shaft too good wood, or too thoroughly wrought, with the best pinion feathers that can be gotten; wherewith a man shall serve his Prince, defend his country, and save himself from his enemy. And I trust no man will be angry with me for speaking thus, but those which find themselves touched therein : which ought rather to be angry with themself for doing so, than to be miscontent with me for saying so. And in no case they ought to be displeased with me, seeing this is spoken also after that sort, not for the noting of any person severally, but for the amending of every one generally.

But turn we again to know a good shooting bow for our purpose. Every bow is made either of a bough, of a plant, or of the bole of the tree. The bough commonly is very knotty, and full of pins, weak, of small pith, and soon will follow the string, and seldom weareth to any fair colour; yet for children and young beginners it may serve well enough. The plant proveth many times well, if it be of a good and clean growth; and, for the pith of it, is quick enough of cast, it will ply and bow far afore it break, as all

other young things do. The bole of the tree is cleanest without knot or pin, having a fast and hard wood, by reason of his full growth, strong and mighty of cast, and best for a bow, if the staves be even cloven, and, be afterwards wrought, not overthwart the wood, but as the grain and straight growing of the wood leadeth a man; or else by all reason, it must soon break, and that in many shivers. This must be considered in the rough wood, ard when the bow staves be over-wrought and fashioned. For in dressing and piking it up for a bow, it is too late to look for it.

But yet in these points, as I said before, you must trust an honest bowyer, to put a good bow in your hand, somewhat looking yourself to those tokens I showed you. And you must not stick for a groat or twelvepence more than another man would give, if it be a good bow. For a good bow twice paid for, is better than an ill bow once broken.

Thus a shooter must begin, not at the making of his bow, like a bowyer, but at the buying of his bow, like an archer. And, when his bow is bought and brought home, afore he trust much upon it, let him try and trim it after this sort.

Take your bow into the field, shoot in him, sink him with dead heavy shafts, look where he cometh most, provide for that place betimes, lest it pinch, and so fret: when you have thus shot in him, and perceived good shooting wood in him, you must have him again to a good, cunning, and trusty workman, which shall cut him shorter, and pike him and dress him fitter, make him come round compass everywhere, and whipping at the ends, but with discretion, lest he whip in sunder, or else fret, sooner than he is ware of: he must also lay him straight, if he be cast, or otherwise need require; and if he be flat made, gather him round, and so shall he both shoot the faster for far shooting, and also the surer for near pricking.

Phi. What if I come into a shop, and spy out a bow, which shall both then please me very well when I buy him, and be also very fit and meet for me when I shoot in him; so that he be both weak enough for easy shooting, also quick and speedy enough for far casting; then, I would think, I shall need no more business with him, but be content with him, and use him well enough, and so, by that means, avoid both great trouble, and also some cost, which you cunning archers very often put yourselves unto, being very Englishmen, never ceasing piddling about your bow and shafts, when they be well, but either with shorting and piking your bows, or else with new feathering, piecing and heading your shafts, can never have done until they be stark naught.

Tox. Well, Philologe, surely if I have any judgment at all in shooting, it is no very great good token in a bow, whereof nothing when it is new and fresh need be cut away; even as Cicero saith of a young man's wit and style, which you know better than I. For every new thing must always have more than it needeth, or else it will not wax better and better, but ever decay, and be worse and worse. New ale, if it run not over the barrel when it is new tunned, will soon lease [lose] his pith[6] and his head afore he be long drawn on. And likewise as that colt, which, at the first taking up, needeth little breaking and handling, but is fit and gentle enough for the saddle, seldom or never proveth well: even so that bow, which at the first buying, without any more proof and trimming, is fit and easy to shoot in, shall neither be profitable to last long, nor yet pleasant to shoot well. And therefore as a young horse full of courage, with handling and breaking is brought unto a sure pace and going, so shall a new bow, fresh and quick of cast, by sinking and cutting be brought to a stedfast shooting. And an easy and gentle bow, when it is new, is not much unlike a soft-spirited boy, when he is young. But yet, as of an unruly boy with right handling, proveth oftenest of all a well-ordered man; so of an unfit and staffish bow, with good trimming, must needs follow always a stedfast shooting bow. And such a perfect bow, which never will deceive a man, except a man deceive it, must be had for that perfect end which you look for in shooting.

Phi. Well, Toxophile, I see well you be cunninger in this gear than I; but put case that I have three or four such good bows, piked and dressed as you now speak of, yet I do remember that many learned men do say, that it is easier to get a good thing, than to save and keep a good thing; wherefore, if you can teach me as concerning that point, you have satisfied me plentifully as concerning a bow.

Tox. Truly it was the next thing that I would have come unto, for so the matter lay. When you have brought your bow to such a point as I speak of, then you must have an herden or woollen cloth waxed, wherewith every day you must rub and chafe your bow, till it shine and glitter withal: which thing shall cause it both to be clean, well favoured, goodly of colour, and shall also bring, as it were, a crust over it, that is to say, shall make it every where on the outside so slippery and hard, that neither any wet or weather can enter to hurt it, nor yet any fret, or pinch, be able to bite upon it; but

that you shall do it great wrong before you break it. This must be done oftentimes, but especially when you come from shooting.

Beware also when you shoot off your shaft heads, dagger, knives, or agglets, lest they rase your bow; a thing, as I said before, both unseemly to look on, and also dangerous for frets. Take heed also of misty and dankish days, which shall hurt a bow more than any rain. For then you must either always rub it, or else leave shooting.

Your bow-case (this I did not promise to speak of, because it is without the nature of shooting, or else I should trouble me with other things infinite more: yet seeing it is a safeguard for the bow, something I will say of it) your bow-case, I say, if you ride forth, must neither be too wide for your bows, for so shall one clap upon another, and hurt them, nor yet so strait that scarce they can be thrust in, for that would lay them on side, and wind them. A bow case of leather is not the best; for that is oft-times moist, which hurteth the bows very much.

Therefore I have seen good shooters which would have for every bow a sere case, made of woollen cloth, and then you may put three or four of them, so cased, into a leather case if you will. This woollen case shall both keep them in sunder, and also will keep a bow in his full strength, that it never give for any weather. At home these wood[7] cases be very good for bows to stand in. But take heed that your bow stand not too near a stone wall, for that will make him moist and weak, nor yet too near any fire, for that will make him short and brittle. And thus much as concerning the saving and keeping of your bow; now you shall hear what things you must avoid, for fear of breaking your bow.

A shooter chanceth to break his bow commonly four ways; by the string, by the shaft, by drawing too far, and by frets. By the string, as I said before, when the string is either too short, too long, not surely put on with one wap, or put crooked on, or shorn in sunder with an evil nock, or suffered to tarry over-long on. When the string fails the bow must needs break, and especially in the middle; because both the ends have nothing to stop them; but whips so far back, that the belly must needs violently rise up, the which you shall well perceive in bending of a bow backward. Therefore a bow that followeth the string is least hurt with breaking of strings.

By the shaft a bow is broken, either when it is too short, and so you set it in your bow, or when the nock breaks for littleness, or when the string slips without the nock for wideness, then you pull4t to your ear and lets it go, which must needs break the shaft at the least, and put string and bow and all in jeopardy, because the strength of the bow hath nothing in it to stop the violence of it. This kind of breaking is most perilous for the standers-by, for in such a case you shall see some time the end of a bow fly a whole score from a man, and that most commonly, as I have marked oft, the upper end of the bow.

The bow is drawn too far two ways. Either when you take a longer shaft than your own, or else when you shift your hand too low or too high for shooting far. This way pulleth the back in sunder, and then the bow flieth in many pieces. So when you see a bow broken, having the belly risen up both ways or tone, the string brake it. When it is broken in two pieces, in a manner even off, and specially in the upper end, the shaft nock brake it. When the back is pulled asunder in many pieces, too far drawing brake it. These tokens either always be true, or else very seldom miss.

The fourth thing that breaketh a bow is frets, which make a bow ready and apt to break by any of the three ways aforesaid. Frets be in a shaft as well as in a bow, and they be much like a canker, creeping and increasing in those places in a bow, which be weaker than other. And for this purpose must your bow be well trimmed and piked of a cunning man, that it may come round in true compass every where. For frets you must beware if your bow have a knot in the back, lest the places which be next it be not allowed strong enough to bear with the knot, or else the strong knot shall fret the weak places next it. Frets be first little pinches, the which when you perceive, pike the places about the pinches, to make them somewhat weaker, and as well coming as where it pinched, and so the pinches shall die, and never increase further into great frets.

Frets begin many times in a pin, for there the good wood is corrupted, that it must needs be weak; and because it is weak, therefore it frets. Good bowyers therefore do raise every pin, and allow it more wood for fear of fretting.

Again, bows most commonly fret under the hand, not so much as some men suppose for the moistness of the hand, as for the heat of the hand. The nature of heat, saith Aristotle, is to loose, and not to knit fast, and the more looser the more weaker, the more weaker the readier to fret.

A bow is not well made which hath not wood plenty in the. hand. For if the ends of the bow be staffish, or a man's hand any thing hot, the belly must needs soon fret. Remedy for frets to any purpose I never heard tell of any, but only to make the fretted place as strong, or stronger, than any other. To fill up the fret with little shivers of a quill and glue, as some say will do well, by reason must be stark nought. For put case the fret did cease then; yet the cause which made it fret afore, (and that is weakness of the place,) because it is not taken away, must needs make it fret again. As for cutting out of frets, with all manner of piecing of bows, I will clean exclude from perfect shooting. For pieced bows be much like old housen, which be more chargeable to repair than commodious to dwell in. And again, to swaddle a bow much about with bands, very seldom doth any good, except it be to keep down a spell in the back, otherwise bands either need not, when the bow is anuthing worth, or else boot not, when it is marred and past best. And although I know mean and poor shooters will use pieced and banded bows sometime, because they are not able to get better when they would: yet, I am sure, if they consider it well, they shall find it both less charge and more pleasure, to bestowel at any time a couple of shillings of a new bow, than to bestow ten pence of piecing an old bow. For better is cost upon somewhat worth, than spence [expence] upon nothing worth. And this I speak also, because you would have me refer all to perfectness in shooting.

Moreover, there is another thing, which will soon cause a bow to be broken by one of the three ways which be first spoken of; and that is shooting in winter[when there is any frost. Frost is wheresoever is any waterish humour as is in all woods, either more or less; and you know that all things frozen and icy will rather break than bend. Yet, if a man must needs shoot at any such time, let him take his bow and bring it to the fire; and there, by little and little, rub and chafe it with a waxed cloth, which shall bring it to that point that he may shoot safely enough in it. This rubbing with wax, as I said before, is a great succour against all wet and moistness. In the fields also, in going betwixt the pricks, either with your hand, or else with a cloth, you must keep your bow in such a temper.

And thus much as concerning your bow, how first to know what wood is best for a bow, then to choose a bow, after to trim a bow, again to keep it in goodness; last of all, how to save it from all harm and evilness. And although many men can say more of a bow, yet I trust these things be true, and almost sufficient for the knowledge of a perfect bow.

Phi. Surely I believe so, and yet I could have heard you talk longer on it; although I cannot see what may be said more of it. Therefore, except you will pause a while, you may go forward to a shaft.

Tox. What shafts were made of in old time, authors do not so manifestly show, as of bows. Herodotus doth tell, that in the flood of Nilus there was a beast, called a Water Horse, of whose skin, after it was dried, the Egyptians made shafts and darts on. The tree called Cornus was so common to make shafts of, that, in good authors of the Latin tongue, Cornus is taken for a shaft, as in Seneca, and that place of Virgil,

## Volat Itala cornus.

Yet, of all things that ever I marked of old authors, either Greek or Latin, for shafts to be made of, there is nothing so common as reeds. Herodotus, in describing the mighty host of Xerxes, doth tell, that three great countries used shafts made of a reed; the Ethiopians, the Lycians (whose shafts lacked feathers, whereat I marvel most of all), and the men of Inde. The shafts in Inde were very long, a yard and an half, as Arrianus doth say; or at the least a yard, as Q. Curtius doth say, and therefore they gave the greater stripe; but yet, because they were so long, they were the more unhandsome and less profitable to men of Inde, as Curtius doth tell.

In Crete and Italy they used to have their shafts of reed also. The best reed for shafts grew in Inde, and in Rhenus, a flood of Italy. But, because such shafts be neither easy for Englishmen to get, and, if they were gotten, scarce profitable for them to use, I will let them pass, and speak of those shafts which Englishmen, at this day, most commonly do approve and allow. A shaft hath three principal parts, the stele, the feathers, and the head; whereof every one must be severally spoken of. Steles be made of divers woods: as, Brazil, Service-tree, Turkey wood, Hulder [Alder], Fustic, Blackthorn, Sugar-chest, Beech, Hardbeam, Elder, Birch, Asp, Ash, Sallow. Oak,

These woods, as they be most commonly used, so they be most fit to be used: yet some one fitter than another for divers men's shooting, as shall be told afterward. And in this point, as in a bow, you must trust an honest fletcher. Nevertheless, although I cannot teach you to make a bow or a shaft, which belongeth to a bowyer and a fletcher to come to their living, yet will I show you some tokens to know a bow and a shaft, which pertaineth to an archer to come to good shooting.

A stele must be well seasoned for casting, and it must be made as the grain lieth, and as it groweth, or else it will never fly clean, as cloth cut overthwart, and against the wool, can never hose a man clean. A knotty stele may be suffered in a big shaft, but for a little shaft it is nothing fit, both because it will never fly far; and, besides that it is ever in danger of breaking, it flyeth not far because the strength of the shoot is hindered and stopped at the knot, even as a stone cast into a plain even still water, will make the water move a great space; yet, if there be any whirling plat in the water, the moving ceaseth when it cometh at the whirling plat, which is not much unlike a knot in a shaft, if it be considered well. So everything as it is plain and straight of his own nature, so is it fittest for far moving. Therefore a stele which is hard to stand in a bow without knot, and straight, (I mean not artificially straight as the fletcher doth make it, but naturally straight as it groweth in the wood,) is best to make a shaft of, either to go clean, fly far, or stand surely in any weather.

Now how big, how small, how heavy, how light, how long, how short, a shaft should be particularly for every man, seeing we must talk of the general nature of shooting, cannot be told; no more than you rhetoricians can appoint any one kind of words, of sentences, of figures, fit for every matter; but even as the man and the matter requireth, so the fittest to be used. Therefore as concerning those contraries in a shaft, every man must avoid them, and draw to the mean of them, which mean is best in all things. Yet if a man happen to offend in any of the extremes, it-is better to offend in want and scantness, than in too much and outrageous exceeding. As it is better to have a shaft a little too short than over-long, somewhat too light than over-lumpish, a little too small than a great deal too big; which thing is not only truly said in shooting, but in all other things that ever man goeth about; as in eating, talking, and all other things like; which matter was once excellently disputed upon in the schools, you know when.

And to offend in these contraries, cometh much, if men take not heed, through the kind of wood whereof the shaft is made; for some wood belongs to the exceeding part, some to the scant part, some to the mean, as Brazil, Turkey wood, fustic, sugar-chest, and such like, make dead, heavy, lumpish, hobbling shafts. Again, alder, blackthorn, service tree, beech, elder, asp, and sallow, either for their weakness or lightness, make hollow, starting, studding, gadding shafts. But birch, hardbeam, some oak, and some ash, being both strong enough to stand in a bow, and also light enough to fly far, are best for a mean, which is to be sought out in every thing. And although I know that some men shoot so strong, that the dead woods be light enough for them, and other some so weak, that the loose woods be likewise for them big enough, yet generally, for the most part of men, the mean is the best. And so to conclude, that is always best for a man which is meetest for him. Thus no wood of his own nature is either too light or too heavy, but as the shooter is himself which doth use it. For that shaft, which one year for a man is too light and scudding, for the self-same man the next year may chance to be heavy and hobbling. Therefore cannot I express, except generally, which is best wood for a shaft; but let every man, when he knoweth his own strength, and the nature of every wood, provide and fit himself thereafter. Yet, as concerning sheaf arrows for war, (as I suppose) it were better to make them of good ash, and not of asp, they be now-a-days. For of all other woods that ever I proved, ash being big is swiftest, and again heavy give a great stripe withal, which asp shall not do. What heaviness doth in a stripe, every man by experience can tell; therefore ash being both swifter[11] and heavier, is more fit for sheaf arrows than asp: And thus much for the best wood for shafts.

Again, likewise, as no one wood can be greatly meet for all kinds of shafts, no more can one fashion of the stele be fit for every shooter. For those that be little-breasted and big toward the head, called, by their likeness, taper fashion, resh grown, and of some merry fellows bobtails, be fit for them which shoot under-hand, because they shoot with a soft loose, and stresses not a shaft much in the breast, where the weight of the bow lieth, as you may perceive by the wearing of every shaft. Again, the big-breasted shaft is fit for him which shooteth right afore him, or else the breast being weak, should never withstand that strong pithy kind of shooting: thus, the under-hand must have a small breast to go clean away out of the bow, the fore hand must have a big breast to bear the great might of the bow. The shaft must be made round, nothing flat, without gall or wem, for this purpose. For because roundness (whether you take example in heaven or in earth) is fittest shape and form both for fast moving, and also for soon piercing of any thing. And therefore Aristotle saith, that nature hath made the rain to be round, because it should the easilier enter through the air.

The nock of the shaft is diversely made; for some be great and full, some handsome and little; some wide, some narrow, some deep, some shallow, some round, some long, some with one nock, some with a double nock, whereof every one hath his property. The great and full nock may be well felt, and many ways they save a shaft from breaking. The handsome and little nock will go clean away from the hand; the wide nock is naught, both for breaking of the shaft and also for sudden slipping out of the string, when the narrow nock doth avoid both those harms. The deep and long nock is good in war for sure keeping in of the string. The shallow and round nock is best for our purpose in pricking for clean deliverance of a shoot. And double nocking is used for double surety of the shaft. And thus far as concerning a whole stele. Piecing of a shaft with Brazil and holly, or other heavy woods, is to make the end compass heavy[12] with the feathers in flying for the stedfaster shooting. For if the end were plump heavy with lead, and the wood next it light, the head end would ever be downwards, and never fly straight. Two points in piecing be enough, lest the moistness of the earth enter too much into the piecing, and so loose the glue. Therefore many points be more pleasant to the eue, than profitable for the use. Some use to piece their shafts in the nock with Brazil or hollu. to counterweigh with the head; and I have seen some for the same purpose bore a hole a little beneath the nock, and put lead in it. But uet none of these ways be any thing needful at all: for the nature of a feather in flying, if a man mark it well, is able to bear up a wonderful weight; and I think such piecing came up first thus: when a good archer hath broken a good shaft in the feathers, and for the fantasy he hath had to it, he is loth to lose it, and therefore doth he piece it. And then by and by, other, either because it is gay, or else because they will have a shaft like a good archer, cutteth their whole shafts, and pieceth them again; a thing, by my judgment, more costly than needful. And thus have you heard what wood, what fashion, what nocking, what piecing, a stele must have. Now followeth the feathering.

Phi. I would never have thought you could have said half so much of a stele; and, I think as concerning the little feather, and the plain head, there is but little to say.

Tox. Little! yes, truly: for there is no one thing in all shooting so much to be looked on as the feather. For, first, a question may be asked: Whether any other thing beside a feather, be fit for a shaft or no? If a feather only be fit, whether a goose feather only or no? If a goose feather be best, then whether there be any difference as concerning the feather of an old goose and a young goose; a gander or a goose; a fenny goose or an uplandish goose? Again, which is best feather in any goose, the right wing or the left wing; the pinion feather or any other feather: a white, black, or grey feather; Thirdly, in setting on of your feather, whether it is pared or drawn with a thick rib or a thin rib, (the rib is the hard quill which divideth the feather,) a long feather better or a short, set on near the nock or far from the nock, set on straight or somewhat bowing; and whether one or two feathers run on the bow? Fourthly, in couling or sheering, whether high or low, whether somewhat swine-backed (I must use shooters' words) or saddle-backed, whether round or square shorn? And whether a shaft at any time ought to be plucked, and how to be plucked?

Phi. Surely, Toxophile, I think many fletchers, although daily they have these things in use, if they were asked suddenly, what they would say of a feather, they could not say so much. But I pray you let me hear you more at large express those things in a feather, the which you packed up in so narrow a room. And first, whether any other thing may be used for a feather or not?

Tox. That was the first point indeed; and because there followeth many after, I will hie apace over them, as one that had many a mile to ride. Shafts to have had always feathers, Pliny in Latin, and Julius Pollux in Greek, do plainly show; yet only the Lycians I read in Herodotus to have used shafts without feathers. Only a feather is fit for a shaft for two causes; first because it is leath,[13] weak to give place to the bow, then because it is of that nature that it will start up after the bow. So plate, wood, or horn, cannot serve, because they will not give place. Again, cloth, paper, or parchment, cannot serve, because they will not rise after the bow; therefore a feather is only meet, because it only will do both. Now, to look on the feathers of all manner of birds, you shall see some so low, weak, and short, some so coarse, stoore, and hard, and the rib so brickie, thin and narrow, that it can neither be drawn, pared, nor yet will set on; that except it be a swan for a dead shaft, (as I know some good archers have used,) or a duck for a flight, which lasts but one shot, there is no feather but only of a goose that hath all commodities in it. And truly at a short butt, which some men doth use, the peacock feather doth seldom keep up the shaft either right or level, it is so rough and heavy; so that many men, which have taken them up for gayness, hath laid them down again for profit: thus, for our purpose, the goose is the best feather for the best shooter.

Phi. No, that is not so; for the best shooter that ever was, used other feathers.

Tox. Yea, are you so cunning in shooting? I pray you who was that?

Phi. Hercules, which had his shafts feathered with eagles' feathers, as Hesiodus doth say.

Tox. Well, as for Hercules, seeing neither water nor land, heaven nor hell, could scarce content him to abide in, it was no marvel though a silly poor goose-feather could not please him to shoot withal; and again, as for eagles, they fly so high, and build so far off, that they be very hard to come by. Yet, well fare the gentle goose, which bringeth to a man, even to his door, so many exceeding commodities. For the goose is man's comfort in war and in peace, sleeping and waking. What praise soever is given to shooting, the goose may challenge the best part in it. How well doth she make a man fare at his table? How easily doth she make a man lie in his bed? How fit even as her feathers be only for shooting, so be her quills fit only for writing.

Phi. Indeed, Toxophile, that is the best praise you gave to a goose yet; and surely I would have said you had been to blame, if you had overskipt it.

Tox. The Romans, I trow, Philologe, not so much because a goose with crying saved their capitol, and head tower, with their golden Jupiter, as Propertius doth say very prettily in this verse,

Anseris et tutum voce fuisse Jovem, Id est,

Thieves on a night had stolen Jupiter, had a goose not a kekede [cackled], did make a golden goose, and set her in the top of the capitolium, and appointed also the censors to allow out of the common hutch yearly stipends, for the finding of certain geese;-the Romans did not, I say, give all this honour to a goose for that good deed only, but for other infinite mo, which come daily to a man by geese; and surely if I should declaim in the praise of any manner of best living, I would choose a goose. But the goose hath made us flee too far from our matter. Now, Sir, ye have heard how a feather must be had, and that a goose feather only; it followeth of a young goose and an old, and the residue belonging to a feather; which thing I will shortly course over; whereof, when you know the properties, you may fit your shafts according to your shooting, which rule you must observe in all other things too, because no one fashion or quantity can be fit for every man, no more than a shoe or a coat can be. The old goose feather is stiff and strong, good for a wind, and fittest for a dead shaft: the young goose feather is weak and fine, best for a swift shaft; and it must be couled at the first sheering, somewhat high, for with shooting it will settle and fall very much. The same thing (although not so much) is to be considered in a goose and a gander. A fenny goose, even as her flesh is blacker, stoorer, unwholsomer, so is her feather, for the same cause, coarser, stoorer, and rougher; and therefore I have heard very good fletchers say, that the second feather in some place is better than the pinion in other some. Betwixt the wings is little difference, but that you must have divers shafts of one flight, feathered with divers wings, for divers winds; for if the wind and the feather go both one way, the shaft will be carried too much. The pinion feathers, as it hath the first place in the wing, so it hath the first place in good feathering. You may know it before it be pared, by a bought which is in it; and again when it is cold, by the thinness above, and the thickness at the ground; and also by the stiffness and fineness which will carry a shaft better, faster, and further, even as a fine sail-cloth doth a ship.

The colour of the feather is least to be regarded, yet somewhat to be looked on; for a good white you have sometime an ill greu. Yet, surely it standeth with good reason, to have the cock-feather black or grey, as it were to give a man warning to nock right. The cock-feather is called that which standeth above in right nocking; which if you do not observe, the other feathers must needs run on the bow, and so marr your shot. And thus far of the goodness and choice of your feather: now followeth the setting on. Wherein you must look that your feathers be not drawn for hastiness, but pared even and straight with diligence. The fletcher draweth a feather when it hath but one swap at it with his knife, and then plaineth it a little, with rubbing it over his knife. He pareth it when he taketh leisure and heed to make every part of the rib apt to stand straight and even on upon the stele. This thing if a man take not heed on, he may chance have cause to say so of his fletcher, as in dressing of meat is commonly said of cooks; and that is, that God sendeth us good feathers, but the devil naughty fletchers. If any fletchers heard me say thus, they would not be angry with me, except they were ill fletchers; and yet by reason, those fletchers too ought rather to amend themselves for doing ill, than be angry with me for saying truth. The rib in a stiff feather may be thinner, for so it will stand cleaner on; but in a weak feather you must leave a thicker rib, or else if the rib, which is the foundation and ground wherein nature hath set every cleft of the feather, be taken too near the feather, it must needs follow, that the

feather shall fall and droop down, even as any herb doth which hath his root too near taken on with a spade. The length and shortness of the feather serveth for divers shafts, as a long feather for a long, heavy, or big shaft, the short feather for the contrary. Again, the short may stand farther, the long nearer the nock. Your feather must stand almost straight on, but yet after that sort, that it may turn round in flying.

And here I consider the wonderful nature of shooting, which standeth altogether by that fashion which is most apt for quick moving, and that is by roundness. For first the bow must be gathered round, in drawing it must come round compass, the string must be round, the stele must be round, the best nock round, the feather shorn somewhat round, the shaft in flying must turn round; and, if it fly far, it flieth a round compass, for either above or beneath a round compass hindereth the flying. Moreover, both the fletcher in making your shaft, and you in nocking your shaft, must take heed that two feathers equally run on the bow. For if one feather run alone on the bow, it shall quickly be worn, and shall not be able to match with the other feathers; and again, at the loose, if the shaft be light, it will start; if it be heavy, it will hobble. And thus as concerning setting on of your feather. Now of couling.

To sheer a shaft high or low, must be as the shaft is, heavy or light, great or little, long or short; the swine-backed fashion maketh the shaft deader, for it gathereth more air than the saddle-backed; and therefore the saddle-back is surer for danger of weather, and fitter for smooth flying. Again, to sheer a shaft round, as they were wont sometimes to do, or after the triangle fashion, which is much used now-a-days, both be good. For roundness is apt for flying of his own nature, and all manner of triangle fashion, (the sharp point going before) is also naturally apt for quick entering; and therefore saith Cicero, that cranes, taught by nature, observe in flying a triangle fashion always, because it is so apt to pierce and go through the air withal. Last of all, plucking of feathers is nought, for there is no surety in it; therefore let every archer have such shafts, that he may both know them and trust them at every change of weather. Yet, if they must needs be plucked, pluck them as little as can be, for so shall they be the less unconstant. And thus I have knit up in as short a room as I could, the best feathers, feathering, and couling of a shaft.

Phi. I think surely you have so taken up the matter with you, that you have left nothing behind you. Now you have brought a shaft to the head, which, if it were on, we had done as concerning all instruments belonging to shooting.

Tox. Necessity, the inventor of all goodness (as all authors in a manner do say), amongst all other things made it of strong matter, to last better: last of all, invented a shaft head, first to save the end from breaking; then it made it sharp, to stick better; after it made it of strong matter to last better: last of all, experience and wisdom of men hath brought it to such a perfectness, that there is no one thing so profitable belonging to artillery, either to strike a man's enemy sorer in war, or to shoot nearer the mark at home, than is a fit head for both purposes. For if a shaft lack a head, it is worth nothing for neither use. Therefore, seeing heads be so necessary, they must of necessity be well looked upon. Heads for war, of long time hath been made, not only of divers matters, but also of divers fashions. The Trojans had heads of iron, as this verse, spoken of Pandarus, showeth;

Up to the pap his string did he pull, his shaft to the hard iron.

The Grecians had heads of brass, as Ulysses' shafts were headed, when he slew Antoninus and the other wooers of Penelope.

---- Quite through a door flew a shaft with a brass head.

It is plain in Homer, where Menelaus was wounded of Pandarus shafts, that the heads were not glued on, but tied on with a string, as the commentaries in Greek plainly tell. And therefore shooters, at that time, used to carry their shafts without heads, until they occupied them, and then set on an head; as it appeareth in Homer, the twenty-first book Odyssei, where Penelope brought Ulixes bow down amongst the gentlemen which came on wooing to her, that he which was able to bend it and draw it might enjoy her; and after her followed a maid, saith Homer, carrying a bag full of heads, both of iron and brass.

The men of Scythia used heads of brass. The men of Inde used heads of iron. The Ethiopians used heads of a hard sharp stone, as both Herodotus and Pollux do tell. The Germans, as Cornelius Tacitus doth say, had their shafts headed with bone; and many countries, both of old time and now, use

heads of horn. But, of all other, iron and steel must needs be the fittest for heads. Julius Pollux calleth otherwise than we do, where the feathers be the head, and that which we call the head, he calleth the point.

Fashion of heads is divers, and that of old time: two manner of arrow heads, saith Pollux, was used in old time. The one he calleth greek describing it thus, having two points or barbs, looking backward to the stele and the feathers, which surely we call in English a broad arrow head, or a swallow tail. The other he calleth greek having two points stretching forward, and this Englishmen do call a fork head; both these two kinds of heads were used in Homer's days; for Teucer used forked heads, saying thus to Agamemnon:

Eight good shafts have I shot sith I came, each one with a fork head.

Pandarus heads and Ulysses' heads were broad arrow heads, as a man may learn in Homer, that would be curious in knowing that matter. Hercules used forked heads, but yet they had three points or forks, when other men's had but two. The Parthians at that great battle where they slew rich Crassus and his son, used broad arrow heads, which stuck so sore that the Romans could not pull them out again. Commodus the Emperor used forked heads, whose fashion Herodian doth lively and naturally describe, saying, that they were like the shape of a new moon, wherewith he would smite off the head of a bird, and never miss: other fashion of heads have not I read on. Our English heads be better in war than either forked heads or broad arrow heads. For first, the end being lighter, they fly a great deal the faster, and, by the same reason, giveth a far sorer stripe. Yea, and I suppose, if the same little barbs which they have were clean put away, they should be far better. For this every man doth grant, that a shaft, as long as it flieth, turns,[14] and when it leaveth turning, it leaveth going any further. And everything that enters by a turning and boring fashion, the more flatter it is, the worse it enters; as a knife, though it be sharp, yet, because of the edges, will not bore so well as a bodkin, for every round thing enters best; and therefore nature, saith Aristotle, made the rain-drops round, for quick piercing the air. Thus, either shafts turn not in flying, or else our flat arrow heads stop the shaft in entering.

Phi. But yet, Toxophile, to hold your communication a little, I suppose the flat head is better, both because it maketh a greater hole, and also because it sticks faster in.

Tox. These two reasons, as they be both true, so they be both naught. For first, the less hole, if it be deep, is the worse to heal again: when a man shooteth at his enemy, he desireth rather that it should enter far, than stick fast. For what remedy is it, I pray you, for him which is smitten with a deep wound, to pull out the shaft quickly, except it be to haste his death speedily? Thus heads which make a little hole and deep, be better in war, than those which make a great hole and stick fast in. Julius Pollux maketh mention of certain kinds of heads for war, which bear fire in them, and Scripture also speaketh somewhat of the same. Herodotus doth tell a wonderful policy to be done by Xerxes, what time he besieged the great tower in Athens: he made his archers bind their shaft heads about with tow, and then set it on fire and shoot them; which thing done by many archers, set all the places on fire, which were of matter to burn; and, besides that, dazed the men within, so that they knew not whither to turn them. But, to make an end of all heads for war, I would wish that the head-makers of England should make their sheaf-arrow heads more harder pointed than they be: for I myself have seen of late such heads set upon sheaf-arrows, as the officers, if they had seen them, would not have been content withal.

Now as concerning heads for pricking, which is our purpose, there be divers kinds; some be blunt heads, some sharp, some both blunt and sharp. The blunt heads men use, because they perceive them to be good to keep a length withal; they keep a good length, because a man pulleth them no further at one time than at another; for in feeling the plump end always equally, he may loose them. Yet, in a wind, and against the wind, the weather hath so much power on the broad end, that no man can keep no sure length with such a head; therefore a blunt head, in a calm or down a wind, is very good, otherwise none worse. Sharp heads at the end, without any shoulders, (I call that the shoulder in a head which a man's finger shall feel afore it comes to the point,) will perch quickly through a wind; but yet it hath two discommodities; the one that it will keep no length; it keepeth no length, because no man can pull it certainly as far one time as at another: it is not drawn certainly so far one time as at another, because it lacketh shouldering, wherewith, as with a sure token, a man might be warned when to loose; and also because men are afraid of the sharp point for setting it in the bow. The second incommodity is, when it is lighted on the ground, the small point shall at every time be in jeopardy of hurting, which thing, of all other, will soonest make the shaft lose the length. Now, when blunt heads be good to keep a length withal, yet naught for a wind; sharp heads good to perch the weather withal,

yet naught for a length; certain head-makers dwelling in London, perceiving the commodity of both kind of heads joined with a discommodity, invented new files and other instruments, wherewith they brought heads for pricking to such a perfectness, that all the commodities of the two other heads should be put in one head, without any discommodity at all. They made a certain kind of heads, which men call high-rigged, creased, or shouldered heads, or silver-spoon heads, for a certain likeness that such heads have with the knob end of some silver spoons. These heads be good both to keep a length withal, and also to perch a wind withal. To keep a length withal, because a man may certainly pull it to the shouldering every shoot, and no further; to perch a wind withal, because the point, from the shoulder forward, breaketh the weather, as all other sharp things do. So the blunt shoulder serveth for a sure length keeping, the point also is ever fit for a rough and great weather piercing. And thus much, as shortly as I could, as concerning heads both for war and peace.

Phi. But is there no cunning as concerning setting on of the head?

Tox. Well remembered. But that point belongeth to fletchers; yet you may desire him to set your head full on, and close on. Full on, is when the wood is bet [beat] hard up to the end or stopping of the head; close on, is when there is left wood on every side the shaft enough to fill the head withal, or when it is neither too little nor yet too great. If there be any fault in any of these points, the head, when it lighteth on any hard stone, or ground, will be in jeopardy, either of breaking, or else otherwise hurting. Stopping of heads, either with lead or any thing else, shall not need now, because every silver spoon, or shouldered head, is stopped of itself. Short heads be better than long: for first, the long head is worse for the maker to file straight compass every way; again, it is worse for the fletcher to set straight on; thirdly, it is always in more jeopardy of breaking when it is on. And now, I trow, Philologe, we have done as concerning all instruments belonging to shooting, which every sere archer ought to provide for himself. And there remaineth two things behind, which be general or common to every man, the weather and the mark; but, because they be so knit with shooting straight, or keeping of a length, I will defer them to that place; and now we will come (God willing) to handle our instruments, the thing that every man desireth to do well.

Phi. If you teach me so well to handle these instruments as you have described them, I suppose I shall be an archer good enough.

Tox. To learn any thing, (as you know better than I, Philologe,) and specially to do a thing with a man's hands, must be done, if a man would be excellent, in his youth. Young trees in gardens, which lack all senses, and beasts without reason, when they be young, may, with handling and teaching, be brought to wonderful things.

And this is not only true in natural things, but in artificial things too; as the potter most cunningly doth cast his pots when his clay is soft and workable, and wax taketh print when it is warm, and leathie weak, not when clay and wax be hard and old: and even so, every man in his youth, both with wit and body, is most apt and pliable to receive any cunning that should be taught him.

This communication of teaching youth, maketh me remember the right worshipful, and my singular good master, Sir Humphrey Wingfield, to whom, next God, I ought to refer, for his manifold benefits bestowed on me, the poor talent of learning which God hath lent me; and for his sake do I owe my service to all other of the name and noble house of the Wingfields, both in word and deed. This worshipful man hath ever loved and used to have many children brought up in learning in his house, amongst whom I myself was one. For whom at term-times he would bring down from London both bow and shafts; and, when they should play, he would go with them himself into the field, and see them shoot; and he that shot fairest, should have the best bow and shafts; and he that shot ill-favouredly should be mocked of his fellows, till he shot better.

Would to God all England had used, or would use, to lay the foundation, after the example of this worshipful man, in bringing up children in the book and the bow! by which two things the whole commonwealth, both in peace and war, is chiefly ruled and defended withal.

But to our purpose: He that must come to this high perfectness in shooting, which we speak of, must needs begin to learn it in his youth; the omitting of which thing in England, both maketh fewer shooters, and also every man, that is a shooter, shoot worse than he might if he were taught.

Phi. Even as I know that this is true which you say, even so, Toxophile, have you quite discouraged me, and drawn my mind clean from shooting; seeing, by this reason, no man that hath not used it in his youth can be excellent in it. And I suppose the same reason would discourage many other mo, if they heard you talk after this sort.

Tox. This thing, Philologe, shall discourage no man that is wise. For I will prove that wisdom may work the same thing in a man, that nature doth in a child.

A child by three things is brought to excellency. By aptness, desire, and fear: aptness maketh him pliable, like wax, to be formed and fashioned, even as a man would have him. Desire, to be as good, or better than his fellows; and fear of them whom he is under, will cause him take great labour and pain with diligent heed in learning any thing, whereof proceedeth, at the last, excellency and perfectness.

A man may, by wisdom in learning any thing, and specially to shoot, have three like commodities also, whereby he may, as it were, become young again, and so attain to excellency. For as a child is apt by natural youth, so a man by using at the first weak bows, far underneath his strength, shall be as pliable and ready to be taught fair shooting as any child; and daily use of the same shall both keep him in fair shooting, and also at the last bring him to strong shooting.

And, instead of the fervent desire which provoketh a child to be better than his fellow, let a man be as much stirred up with shamefacedness to be worse than all other. And the same place that fear hath in a child, to compel him to take pain, the same hath love of shooting in a man, to cause him forsake no labour, without which no man nor child can be excellent. And thus, whatsoever a child may be taught by aptness, desire, and fear, the same thing in shooting may a man be taught by weak bows, shamefacedness, and love.

And hereby you may see that that is true which Cicero saith; that a man, by use, may be brought to a new nature. And this I dare be bold to say, that any man which will wisely begin, and constantly persevere in this trade of learning to shoot, shall attain to perfect-ness therein.

Phi. This communication, Toxophile, doth please me very well; and now I perceive that most generally and chiefly youth must be taught to shoot; and, secondarily, no man is debarred therefrom, except it be more through his own negligence, for because he will not learn, than any disability because he cannot learn. Therefore, seeing I will be glad to follow your counsel in choosing my bow and other instruments, and also am ashamed that I can shoot no better than I can; moreover, having such a love toward shooting by your good reasons to-day, that I will forsake no labour in the exercise of the same; I beseech you imagine that we had both bow and shafts here, and teach me how I should handle them; and one thing I desire you, make me as fair an archer as you can.

For this I am sure, in learning all other matters, nothing is brought to the most profitable use, which is not handled after the most comely fashion. As masters of fence have no stroke fit either to hit another, or else to defend himself, which is not joined with a wonderful comeliness. A cook cannot chop his herbs neither quickly nor handsomely, except he keep such a measure with his chopping-knives, as would delight a man both to see him and hear him. Every handcraftman that works best for his own profit, works most seemly to other men's sight. Again, in building a house, in making a ship, every part, the more handsomely they be joined for profit and last,[15] the more comely they be fashioned to every man's sight and eye.

Nature itself taught men to join always well-favouredness with profitableness. As in man, that joint or piece which is by any chance deprived of his comeliness, the same is also debarred of his use and profitableness. And he that is goggle-eyed, and looks asquint, hath both his countenance clean marred, and his sight sore blemished; and so in all other members like. Moreover what time of the year bringeth most profit with it for man's use, the same also covereth and decketh both earth and trees with most comeliness for man's pleasure. And that time which taketh away the pleasure of the ground, carrieth with him also the profit of the ground, as every man by experience knoweth in hard and rough winters. Some things there be which have no other end but only comeliness, as painting and dancing. And virtue itself is nothing else but comeliness, as all philosophers do agree in opinion; therefore seeing that which is best done in any matters, is always most comely done, as both Plato and Cicero in many places do prove, and daily experience doth teach in other things, I pray you, as I said before, teach me to shoot as fair, well-favouredly, as you can imagine.

Tox. Truly,

Philologe, as you prove very well in other matters, the best shooting is always the most comely shooting; but this you know, as well as I, that Crassus showeth in Cicero, that, as comeliness is the chief point, and most to be sought for in all things, so comeliness only can never be taught by any art or craft; but may be perceived well when it is done, not described well how it should be done. Yet, nevertheless, to come to it there be many ways, which wise men have assayed in other matters; as if a man would follow, in learning to shoot fair, the noble painter Zeuxes in painting Helena, which, to make his image beautiful, did choose out five of the fairest maids in all the country about; and in beholding them, conceived and drew out such an image, that it far exceeded all other, because the comeliness of them all was brought into one most perfect comeliness: so likewise in shooting, if a man would set before his eyes five or six of the fairest archers that ever he saw shoot, and of one learn to stand, of another to draw, of another to loose, and so take of every man what every man could do best; I dare say, he should come to such a comeliness as never man came to yet. As for an example, if the most comely point in shooting that Hewe Prophete the king's servant hath, and as my friends Thomas and Ralph Cantrell doth use with the most seemly fashions that three or four excellent archers have beside, were all joined in one, I am sure all men would wonder at the excellency of it. And this is one way to learn to shoot fair.

Phi. This is very well, truly; but I pray you teach me somewhat of shooting fair yourself.

Tox. I can teach you to shoot fair, even as Socrates taught a man once to know God: for, when he axed [asked] him what was God, nay, saith he, I can tell you better what God is not; as, God is not ill, God is unspeakable, unsearchable, and so forth: even likewise can I say of fair shooting, it hath not this discommodity with it nor that discommodity; and, at last, a man may so shift all the discommodities from shooting, that there shall be left nothing behind but fair shooting. And to do this the better, you must remember how that I told you, when I described generally the whole nature of shooting, that fair shooting came of these things, of standing, nocking, drawing, holding, and loosing; the which I will go over as shortly as I can, describing the discommodities that men commonly use in all parts of their bodies; that you, if you fault in any such, may know it, and so go about to amend it. Faults in archers do exceed the number of archers, which come with use of shooting without teaching. Use and custom separated from knowledge and learning, doth not only hurt shooting, but the most weighty things in the world beside; and, therefore, I marvel much at those people which be the maintainers of uses without knowledge, having no other word in their mouth but this, Use, use, Custom, custom. Such men, more wilful than wise, beside other discommodities, take all place and occasion from all amendment. And this I speak generally of use and custom. Which thing, if a learned man had it in hand that would apply it to any one matter, he might handle it wonderfully. But, as for shooting, use is the only cause of all faults in it; and therefore children more easily and sooner may be taught to shoot excellently than men, because children may be taught to shoot well at the first, men have more pain to unlearn their ill uses, than they have labour afterward to come to good shooting.

All the discommodities which ill custom hath graffed in archers, can neither be quickly pulled out, nor yet soon reckoned of me, they be so many. Some shooteth his head forward, as though he would bite the mark; another stareth with his eyes, as though they should fly out; another winketh with one eye and looketh with the other; some make a face with writhing their mouth and countenance so, as though they were doing you wot what; another bleareth out his tongue; another biteth his lips; another holdeth his neck awry. In drawing some fet such a compass, as though they would turn about, and bless[16] all the field; other heave their hand now up now down, that a man cannot discern whereat they would shoot: another waggeth the upper end of his bow one way, the nether end another way. Another will stand pointing his shaft at the mark a good while, and, by and by, he will give him a whip, and away or a man wit. Another maketh such a wrestling with his gear, as though he were able to shoot no more as long as he lived. Another draweth softly to the midst, and, by and by, it is gone you cannot know how. Another draweth his shaft low at the breast, as though he would shoot at a roving mark, and by and by, he lifteth his arm up prick height. Another maketh a wrenching with his back, as though a man pinched him behind. Another cowereth down, and layeth out his buttocks, as though he should shoot at crows. Another setteth forward his left leg, and draweth back with head and shoulders, as though he pulled at a rope, or else were afraid of the mark. Another draweth his shaft well, until within two fingers of the head, and then he stayeth a little, to look at his mark, and, that done, pulleth it up to the head, and looseth; which way, although some excellent shooters do use, yet surely it is a fault, and good men's faults are not to be followed. Some men draw too far, some too short, some too slowly, some too quickly; some hold over-long, some

let go over-soon. Some set their shaft on the ground, and fetcheth him upward; another pointeth up toward the sky, and so bringeth him downwards.

Once I saw a man which used a bracer on his cheek, or else he had scratched all the skin of the one side of bis face with his drawing-hand. Another I saw which, at every shot, after the loose, lifted up his right leg so far that he was ever in jeopardy of falling. Some stamp forward, and some leap backward. All these faults be either in the drawing, or at the loose; with many other mo, which you may easily perceive, and so go about to avoid them.

Now afterward, when the shaft is gone, men have many faults, which evil custom hath brought them to; and specially in crying after the shaft, and speaking words scarce honest for such an honest pastime.

Such words be very tokens of an ill mind, and manifest signs of a man that is subject to immeasurable affections. Good men's ears do abhor them, and an honest man therefore will avoid them. And besides those which must needs have their tongue thus walking, other men use other faults, as some will take their bow and writhe and wrench it, to pull in his shaft, when it flieth wide, as if he drave a cart. Some will give two or three strides forward, dancing and hopping after his shaft, as long as it flieth, as though he were a mad man. Some, which fear to be too far gone, run backward, as it were to pull his shaft back. Another runneth forward, when he feareth to be short, heaving after his arms, as though he would help his shaft to fly. Another writhes or runneth aside, to pull in his shaft straight. One lifteth up his heel, and so holdeth his foot still, as long as his shaft flieth. Another casteth his arm backward after the loose. And another swings his bow about him, as it were a man with a shaft to make room in a game place. And many other faults there be, which now come not to my remembrance. Thus, as you have heard, many archers, with marring their face and countenance, with other parts of their body, as it were men that should dance anticks, be far from the comely port in shooting, which he that would be excellent must look for.

Of these faults I have very many myself; but I talk not of my shooting, but of the general nature of shooting. Now imagine an archer that is clean without all these faults, and I am sure every man would be delighted to see him shoot.

And although such a perfect comeliness cannot be expressed with any precept of teaching, as Cicero and other learned men do say, yet I will speak (according to my little knowledge) that thing in it, which if you follow, although you shall not be without fault, yet your fault shall neither quickly be perceived, nor yet greatly rebuked of them that stand by. Standing, nocking, drawing, holding, loosing, done as they should be done, make fair shooting.

The first point is, when a man should shoot to take such footing and standing, as shall be both comely to the eye and profitable to his use, setting his countenance and all the other parts of his body after such a behaviour and port, that both all his strength may be employed to his own most advantage, and his shoot made and handled to other men's pleasure and delight. A man must not go too hastily to it, for that is rashness, nor yet make too much to do about it, for that is curiosity; the one foot must not stand too far from the other, lest he stoop too much, which is unseemly, nor yet too near together, lest he stand too straight up, for so a man shall neither use his strength well, nor yet stand stedfastly.

The mean betwixt both must be kept; a thing more pleasant to behold when it is done, than easy to be taught how it should be done.

To nock well is the easiest point of all, and therein is no cunning, but only diligent heed-giving, to set his shaft neither too high nor too low, but even straight overthwart his bow. Unconstant nocking maketh a man loose his length. And besides that, if the shaft hand be high, and the bow hand low, or contrary, both the bow is in jeopardy of breaking, and the shaft, if it be little, will start; if it be great, it will hobble. Knock the cock feather upward always, as I told you when I described the feather. And be sure always that your string slip not out of the nock, for then all is in jeopardy of breaking.

Drawing well is the best part of shooting. Men in old time used other manner of drawing than we do. They used to draw low at the breast, to the right pap, and no further; and this to be true is plain in Homer, when he describeth Pandarus shooting:

Up to the pap his string did he pull, his shaft to the hard head.

The noble women of Scythia used the same fashion of shooting low at the breast, and, because their left pap hindered their shooting at the loose, they cut it off when they were young, and therefore they be called, in lacking their pap, Amazones. Now-a-day, contrariwise, we draw to the right ear, and not to the pap.

Whether the old way in drawing low to the pap, or the new way to draw aloft to the ear, be better, an excellent writer in Greek, called Procopius, doth sau his mind, showing that the old fashion in drawing to the pap was nought, of no pith, and therefore, saith Procopius, is artillery dispraised in Homer, which calleth it greek, i. e. weak, and able to do no good. Drawing to the ear he praiseth greatly, whereby men shoot both stronger and longer: drawing therefore to the ear is better than to draw at the breast. And one thing cometh into my remembrance now, Philologe, when I speak of drawing, that I never read of other kind of shooting, than drawing with a man's hand either to the breast or ear: this thing have I sought for in Homer, Herodotus, and Plutarch, and therefore I marvel how crossbows came first up, of the which, I am sure, a man shall find little mention made in any good author. Leo the Emperor would have his soldiers draw quickly in war, for that maketh a shaft fly apace. In shooting at the pricks, hasty and quick drawing is neither sure nor yet comely. Therefore to draw easily and uniformly, that is for to say, not wagging your hand, now upward, now downward, but always after one fashion, until you come to the rig or shouldering of the head, is best both for profit and seemliness. Holding must not be long, for it both putteth a bow in jeopardy, and also marreth a man's shoot; it must be so little, that it may be perceived better in a man's mind when it is done, than seen with a man's eyes when it is in doing. Loosing must be much like. So quick and hard, that it be without all girds; so soft and gentle, that the shaft fly not as it were sent out of a bow-case. The mean betwixt both, which is perfect loosing, is not so hard to be followed in shooting as it is to be described in teaching. For clean loosing, you must take heed of hitting any thing about you. And for the same purpose, Leo the Emperor would have all archers in war to have both their heads polled, and their beards shaven, lest the hair of their heads should stop the sight of the eye, the hair of their beards hinder the course of the string. And these precepts I am sure, Philologe, if you follow, in standing, nocking, drawing, holding, and loosing, shall bring you at the last to excellent fair shooting.

Phi. All these things, Toxophile, although I both now perceive them thoroughly, and also will remember them diligently; yet to-morrow, or some other day when you have leisure, we will go to the pricks, and put them by little and little in experience. For teaching not followed, doeth even as much good as books never looked upon. But now, seeing you have taught me to shoot fair, I pray you tell me somewhat, how I should shoot near, lest that proverb might be said justly of me some time, "He shoots like a gentleman fair and far off."

Tox. He that can shoot fair, lacketh nothing but shooting straight, and keeping of a length, whereof cometh hitting of the mark, the end both of shooting, and also of this our communication. The handling of the weather and the mark, because they belong to shooting straight and keeping of a length, I will join them together, showing what things belong to keeping of a length, and what to shooting straight.

The greatest enemy of shooting is the wind and the weather, whereby true keeping a length is chiefly hindered. If this thing were not, men, by teaching, might be brought to wonderful near shooting. It is no marvel if the little poor shaft, being sent alone so high into the air, into a great rage of weather, one wind tossing it that way, another this way; it is no marvel, I say, though it leese [lose] the length, and miss that place where the shooter had thought to have found it. Greater matters than shooting are under the rule and will of the weather, as sailing on the sea. And likewise, as in sailing, the chief point of a good master is to know the tokens of change of weather, the course of the winds, that thereby he may the better come to the haven: even so the best property of a good shooter is to know the nature of the winds, with him and against him, and thereby he may the nearer shoot at his mark. "Wise masters, when they cannot win the best haven, they are glad of the next: good shooters also, that cannot when they would hit the mark, will labour to come as nigh as they can. All things in this world be unperfect and unconstant; therefore let every man acknowledge his own weakness in all matters, great and small, weightu and merru, and glorifu Him in whom only perfect perfectness is. But now, Sir, he that will at all adventures use the seas, knowing no more what is to be done in a tempest than in a calm, shall soon become a merchant of eel-skins: so that shooter which putteth no difference, but shooteth in all alike, in rough weather and fair, shall always put his winnings in his eyes, Little boats and thin boards cannot endure the rage of a tempest. Weak bows and light shafts cannot stand in a rough wind. And likewise as a blind man, which should go to a place where he had never been before, that hath but

one straight way to it, and of either side holes and pits to fall into, now falleth into this hole, and then into that hole, and never cometh to his journey's end, but wandereth always here and there, farther and farther off; so that archer which ignorantly shooteth, considering neither fair nor foul, standing nor nocking, feather nor head, drawing nor loosing, nor any compass, shall always shoot short and gone, wide and far off, and never come near, except perchance he stumble sometime on the mark. For ignorance is nothing else but mere blindness.

A master of a ship first learneth to know the coming of a tempest, the nature of it, and how to behave himself in it, either with changing his course, or pulling down his high tops and broad sails, being glad to eschew as much of the weather as he can; even so a good archer will first, with diligent use and marking the weather learn to know the nature of the wind; and, with wisdom, will measure in his mind, how much it will alter his shot, either in length, keeping, or else in straight shooting; and so, with changing his standing, or taking another shaft, the which he knoweth perfectly to be better for his purpose, either because it is lower feathered, or else because it is of a better wing, will so handle with discretion his shot, that he shall seem rather to have the weather under his rule, by good heed-giving, than the weather to rule his shaft by any sudden changing.

Therefore, in shooting, there is as much difference betwixt an archer that is a good weather man, and another that knoweth and marketh nothing, as is betwixt a blind man and he that can see.

Thus, as concerning the weather, a perfect archer must first learn to know the sure flight of his shafts, that he may be bold always to trust them; then must he learn by daily experience all manner of kinds of weather, the tokens of it, when it will come, the nature of it when it is come; the diversity and altering of it when it changeth, the decrease and diminishing of it when it ceaseth. Thirdly, these things known and every shot diligently marked, then must a man compare always the weather and his footing together, and with discretion, measure them so that whatsoever the weather shall take away from his shoot, the same shall just footing restore again to his shoot. This thing well known, and discreetly handled in shooting, bringeth more profit and commendation and praise to an archer, than any other thing besides. He that would know perfectly the wind and weather, must put differences betwixt times. For diversity of time causeth diversity of weather, as in the whole year; spring time, summer, fall of the leaf, and winter: likewise in one day, morning, noontide, afternoon, and eventide, both alter the weather, and change a man's bow with the strength of man also. And to know that this is so, is enough for a shooter and artillery, and not to search the cause why it should be so: which belongeth to a learned man and philosophy. In considering the time of the year, a wise archer will follow a good shipman; in winter and rough weather, small boats and little pinks forsake the seas: and at one time of the year no galleys come abroad: so likewise weak archers using small and hollow shafts, with bows of little pith must be content to give place for a time. And this I do not say, either to discourage any weak shooter; for likewise, as there is no ship better than galleys be in a soft and a calm sea, so no man shooteth comelier, or nearer his mark, than some weak archers do in a fair and clear day.

Thus every archer must know, not only what bow and shaft is fittest for him to shoot withal, but also what time and season is best for him to shoot in. And surely, in all other matters too, among all degrees of men, there is no man which doth any thing either more discreetly for his commendation, or yet more profitable for his advantage than he which will know perfectly for what matter, and for what time he is most apt and fit. If men would go about matters which they should do, and be fit for, not such things which wilfully they desire, and yet be unfit for, verily greater matters in the commonwealth than shooting should be in better case than they be. This ignorancy in men which know not for what time, and to what thing they be fit, causeth some wish to be rich, for whom it were better a great deal to be poor other to be meddling in every man's matter, for whom it were more honesty to be quiet and still. Some to desire to be in the court, which be born and be fitter rather for the cart. Some to be masters and rule others, which never yet began to rule themselves; some always to jangle and talk, which rather should hear and keep silence. Some to teach which rather should learn. Some to be priests which were fitter to be clerks. And this perverse judgment of the world, when men measure themselves amiss, bringeth much disorder and great unseemliness to the whole body of the commonwealth; as if a man should wear his hose upon his head, or a woman go with a sword and a buckler, every man would take it as a great uncomeliness, although it be but a trifle in respect of the other.

This perverse judgment of men hindereth nothing so much as learning, because commonly those which be unfittest for learning, be chiefly set to learning. As if a man now-a-days have two sons, the one impotent, weak, sickly, lisping, stuttering, and stammering, or having any mis-shape in his body; what doth the father of such one commonly say? This boy is fit for nothing else but to set to learning and make a priest of; as who would say the outcasts of the world, having neither countenance, tongue,

nor wit, (for of a perverse body cometh commonly a perverse mind,) be good enough to make those men of, which shall be appointed to preach God's holy word, and minister his blessed sacraments, besides other most weighty matters in the commonwealth, put oftimes, and worthily, to learned men's discretion and charge; when rather such an office, so high in dignity, so godly in administration, should be committed to no man, which should not have a countenance full of comeliness to allure good men, a body full of manly authority to fear [17] ill men, a wit apt for all learning, with tongue and voice able to persuade all men. And although few such men as these can be found in a commonwealth, yet surely a godly disposed man will both in his mind think fit, and with all his study labour to get such men as I speak of, or rather better, if better can be gotten, for such an high administration, which is most properly appointed to God's own matters and businesses.

This perverse judgment of fathers, as concerning the fitness and unfitness of their children, causeth the commonwealth have many unfit ministers; and seeing that ministers be, as a man would say, instruments wherewith the commonwealth doth work all her matters withal, I marvel how it chanceth that a poor shoemaker hath so much wit, that he will prepare no instrument for his science, neither knife nor awl, nor nothing else, which is not very fit for him: the commonwealth can be content to take at a fond father's hand the rif raff of the world to make those instruments of, wherewithal she should work the highest matters under heaven. And surely an awl of lead is not so unprofitable in a shoemaker's shop, as an unfit minister, made of gross metal, is unseemly in the commonwealth. Fathers in old time among the noble Persians might not do with their children as they thought good, but as the judgment of the commonwealth always thought best. This fault of fathers bringeth many a blot wit it, to the great deformity of the commonwealth; and here surely I can praise gentlewomen. which have always at hand their glasses, to see if any thing amiss, and so will amend it; yet the commonwealth having the glass of knowledge in every man's hand, doth see such uncomeliness in it and yet winketh at it. This fault, and many such like, might be soon wiped away, if fathers would bestow their children on that thing always, whereunto nature hath ordained the most apt and fit. For if youth be grafted straight and not awry, the whole commonwealth will flour thereafter. When this is done, then must every begin to be more ready to amend himself than to check another, measuring their matters with that wise proverb of Apollo, "Know thyself:" that is to say, learn know what thou art able, fit and apt unto, and follow that. This thing should be both comely to the commonwealth, and most profitable for every one; as doth appear very well in all wise men's deeds, and specially (tot turn to our communication again) in shooting, where wise archers have always their instruments fit for their strength, and wait evermore such time and weather as is most agreeable to their gear. Therefore, if the weather be too sore, and unfit for your shooting, leave off for that day, and wait a better season. For he is a fool that will not go whom necessity driveth.

Phi. This communication of yours pleased me so well, Toxophile, that surely I was not hasty to call you describe forth the weather, but with all my heart would have suffered you yet to have stood longer in this matter. For these things touched of you by chance, and by the way, be far above the matter itself, by whose occasion the other were brought in.

Tox. Weighty matters they be indeed, and fit both in another place to be spoken, and of another man than I am to be handled. And, because mean men must meddle with mean matters, I will go forward in describing the weather as concerning shooting: and, as I told you before, in the whole year, spring-time, summer, fall of the leaf, and winter; and in one day, morning, noon-time, afternoon, and eventide, altereth the course of the weather, the pith of the bow, the strength of the man. And in every one of these times, the weather altereth; as sometime windy, sometime calm, sometime cloudy, sometime clear, sometime hot, sometime cold, the wind sometime moisty and thick, sometime dry and smooth. A little wind in a moisty day stoppeth a shaft more than a good whisking wind in a clear day. Yea, and I have seen when there hath been no wind at all, the air so misty and thick, that both the marks have been wonderful great. And once, when the plague was in Cambridge, the down wind twelve score mark for the space of three weeks was thirteen score and an half, and into the wind, being not very great, a great deal above fourteen score.

The wind is sometime plain up and down, which is commonly most certain, and requireth least knowledge, wherein a mean shooter, with mean gear, if he can shoot home, may make best shift. A side wind trieth an archer and good gear very much. Sometime it bloweth aloft, sometime hard by the ground; sometime it bloweth by blasts, and sometime it continueth all in one; sometime full side wind, sometime quarter with him, and more; and likewise against him, as a man with casting up light grass, or else if he take good heed, shall sensibly learn by experience. To see the wind with a man his eyes it is unpossible, the nature of it is so fine and subtile; yet this experience of the wind had I once myself, and that was in the great snow that fell four years ago. I rode in the high way betwixt

Topcliff-upon-Swale and Boroughbridge, the way being somewhat trodden before, by way-faring men; the fields on both sides were plain, and lay almost yard-deep with snow; the night afore had been a little frost, so that the snow was hard and crusted above; that morning the sun shone bright and clear, the wind was whistling aloft, and sharp, according to the time of the year; the snow in the high way lay loose and trodden with horses' feet; so as the wind blew, it took the loose snow with it, and made it so slide upon the snow in the field, which was hard and crusted by reason of the frost over night, that thereby I might see very well the whole nature of the wind as it blew that day. And I had a great delight and pleasure to mark it, which maketh me now far better to remember it. Sometime the wind would be not past two yards broad, and so it would carry the snow as far as I could see. Another time the snow would blow over half the field at once. Sometime the snow would tumble softly; by and by it would fly wonderful fast. And this I perceived also, that the wind goeth by streams, and not whole together. For I should see one stream within a score on me; then the space of two score, no snow would stir; but, after so much quantity of ground, another stream of snow, at the same very time, should be carried likewise, but not equally, for the one would stand still, when the other flew apace and so continue sometime swiftlier, sometime slowlier, sometime broader, sometime narrower, as far as I could see. Nor it flew not straight, but sometime it crooked this way, sometime that way, and sometime it ran round about in a compass. And sometime the snow would be lift clean from the ground up to the air, and by and by it would be all clapt to the ground, as though there had been no wind at all, straightway it would rise and fly again. And that which was the most marvel of all, at one time two drifts of snow flew, the one out of the west into the east, the other out of the north into the east. And I saw two winds, bu reason of the snow, the one cross over the other, as it had been two high waus. And, again, I should hear the wind blow in the air, when nothing was stirred at the ground. And when all was still where I rode, not very far from me the snow should be lifted wonderfully. This experience made me more marvel at the nature of the wind, than it made me cunning in the knowledge of the wind; but yet thereby I learned perfectly that it is no marvel at all though men in wind lose their length in shooting, seeing so many ways the wind is so variable in blowing.

But seeing that a master of a ship, be he never so cunning, by the uncertainty of the wind, loseth many times both life and goods: surely it is no wonder, though a right good archer, by the self same wind, so variable in his own nature, so insensible to our nature, lose many a shoot and game.

The more uncertain and deceivable the wind is, the more heed must a wise archer give to know the guiles of it. He that doth mistrust is seldom beguiled. For although thereby he shall not attain to that which is best, yet by these means he shall at least avoid that which is worst. Beside all these kinds of winds, you must take heed if you see any cloud appear, and gather by little and little against you, or else, if a shower of rain be like to come upon you, for then both the driving of the weather and the thickening of the air increaseth the mark; when, after the shower, all things are contrary clear and calm, and the mark, for the most part, new to begin again. You must take heed also, if ever you shoot where one of the marks, or both, stands a little short of a high wall, for there you may be easily beguiled. If you take grass and cast it up, to see how the wind stands, many times you shall suppose to shoot down the wind, when you shoot clean against the wind. And a good reason why. For the wind which cometh indeed against you, redoundeth back again at the wall, and whirleth back to the prick, and a little farther, and then turneth again, even as a vehement water doth against a rock, or an high bray; which example of water, as it is more sensible to a man's eyes, so it is never a whit the truer than this of the wind. So that the grass cast up shall flee that way which indeed is the longer mark, and deceive quickly a shooter that is not ware of it.

This experience had I once myself at Norwich, in the chapel field within the walls. And this way I used in shooting at those marks. When I was in the mid way betwixt the marks, which was an open place, there I took a feather or a little light grass; and so, as well as I could, learned how the wind stood; that done I went to the prick as fast as I could, and, according as I had found the wind when I was in the mid way, so I was fain then to be content to make the best of my shoot that I could. Even such another experience had I, in a manner, at York, at the pricks lying betwixt the castle and Ouse side. And although you smile, Philologe, to hear me tell mine own fondness; yet, seeing you will needs have me teach you somewhat in shooting, I must needs sometime tell you of mine own experience; and the better I may do so, because Hippocrates, in teaching physic, useth very much the same way. Take heed also when you shoot near the sea coast although you be two or three miles from the sea; for there diligent marking shall espy in the most clear day wonderful changing. The same is to be considered likewise by a river side, especially if it ebb and flow, where he that taketh diligent heed of the tide and weather, shall lightly take away all that he shooteth for. And thus of the nature of winds and weather, according to my marking, you have heard, Philologe: and hereafter you shall mark far

mo yourself, if you take heed. And the weather thus marked, as I told you before, you must take heed of your standing, that thereby you may win as much as you shall lose by the weather.

Phi. I see well it is no marvel though a man miss many times in shooting, seeing the weather is so unconstant in blowing; but yet there is one thing which many archers use, that shall cause a man have less need to mark the weather, and that is aim-giving.

Tox. Of giving aim, I cannot tell well what I should say. For in a strange place it taketh away all occasion of foul game, which is the only praise of it; yet by my judgment, it hindereth the knowledge of shooting, and maketh men more negligent; the which is a dispraise. Though aim be given, yet take heed, for at another man's shot you cannot well take aim, nor at your own neither, because the weather will alter, even in a minute, and at the one mark, and not at the other, and trouble your shaft in the air, when you shall perceive no wind at the ground, as I myself have seen shafts tumble aloft in a very fair day. There may be a fault also in drawing or loosing, and many things mo, which altogether are required to keep a just length. But, to go forward, the next point after the marking of your weather, as the taking of your standing. And, in a side wind, you must stand somewhat cross into the wind, for so shall you shoot the surer. When you have taken good footing, then must you look at your shaft, that no earth, nor wet, be left upon it, for so should it lose the length. You must look at the head also, lest it have had any stripe at the last shoot. A stripe upon a stone, many times will both mar the head, crook the shaft, and hurt the feather, whereof the least of them all will cause a man lose his length. For such things which chance every shoot, many archers use to have some place made in their coat, fit for a little file, a stone, a hunfish skin, and a cloth to dress the shaft fit again at all needs. This must a man look to ever when he taketh up his shaft. And the head may be made too smooth, which will cause it fly too far; when your shaft is fit, then must you take your bow even in the midst, or else you shall both lose your length, and put your bow in jeopardy of breaking. Nocking just is next, which is much of the same nature. Then draw equally, loose equally, with holding your hand ever of one height to keep true compass. To look at your shaft head at the loose is the greatest help to keep a length that can be, which thing yet hindereth excellent shooting, because a man cannot shoot straight perfectly except he look at his mark; if I should shoot at a line, and not at the mark, I would always look at my shaft end; but of this thing somewhat afterward. Now, if you mark the weather diligently, keep your standing justly, hold and nock truly, draw and loose equally, and keep your compass certainly, you shall never miss of your length.

Phi. Then there is nothing behind to make me hit the mark, but only shooting straight.

Tox. No truly. And I first will tell you what shifts archers have found to shoot straight, then what is the best way to shoot straight. As the weather belongeth specially to keep a length (yet a side wind belongeth also to shoot straight) even so the nature of the prick is to shoot straight. The length or shortness of the mark is always under the rule of the weather, yet somewhat there is in the mark, worthy to be marked of an archer. If the pricks stand of a straight plain ground, they be the best to shoot at. If the mark stand on a hill-side or the ground be unequal with pits and turning ways betwixt the marks, a man's eye shall think that to be straight which is crooked; the experience of this thing is seen in painting, the cause of it is known by learning; and it is enough for an archer to mark it, and take heed of it. The chief cause why men cannot shoot straight, is because they look at their shaft; and this fault cometh, because a man is not taught to shoot when he is young. If he learn to shoot by himself, he is afraid to pull the shaft through the bow, and therefore looketh always at his shaft; ill use confirmeth this fault, as it doth many more. And men continue the longer in this fault, because it is so good to keep a length withal: and yet, to shoot straight, they have invented some ways to espy a tree or a hill beyond the mark, or else to have some notable thing betwixt the marks: and once I saw a good archer which did cast off his gear and laid his quiver with it, even in the mid-way betwixt the pricks. Some thought he did it for safeguard of his gear: I suppose he did it to shoot straight withal. Other men use to espy some mark almost a bow wide of the prick, and then go about keep himself on the hand that the prick is on; which thing how much good it doth, a man will not believe, that doth not prove it. Other, and those very good archers, in drawing, look at the mark until they come almost to the head, then they look at their shaft; but, at the very loose, with a second sight, they find their mark again. This way and all other afore of me rehearsed, are but shifts, and not to be followed in shooting straight. For having a man's eye always on his mark, is the only way to shoot straight; yea, and I suppose, so ready and easy a way, if it be learned in youth, and confirmed with use, that a man shall never miss therein. Men doubt yet in looking at the mark what way is best, whether betwixt the bow and the string, above or beneath his hand, and many ways moo ; yet it maketh no great matter which way a man look at his mark, if it be joined with comely shooting. The diversity of men's standing and drawing causeth divers men look at their mark divers ways; yet they all lead a man's hand to shoot straight, if nothing else stop. So that comeliness is the only judge of best looking at the mark. Some men wonder why, in casting a man's eye at the mark, the  hand should go straight: surely if he considered the nature of a man's eye, he would not wonder at it: for this I am certain of, that no servant to his master, no child to his father, is so obedient, as every joint and piece of the body is to do whatsoever the eye bids. The eye is the guide, the ruler, and the succourer of all the other parts. The hand, the foot, and other members, dare do nothing without the eye, as doth appear on the night and dark corners. The eye is the very tongue wherewith wit and reason doth speak to every part of the body, and the wit doth not so soon signify a thing by the eye, as every part is ready to follow, or rather prevent the bidding of the eye. This is plain in many things, but most evident in fence and fighting, as I have heard men say. There every part standing in fear to have a blow, runs to the eye for help, as young children do to the mother; the foot, the hand, and all waiteth upon the eye. If the eye bid the hand either bear off or smite, or the foot either go forward or backward, it doth so; and that which is most wonder of all, the one man looking stedfastly at the other man's eye, and not at his hand, will, even as it were, read in his eye where he purposeth to smite next, for the eye is nothing else but a certain window for wit to shoot out her head at.

This wonderful work of God in making all the members so obedient to the eye, is a pleasant thing to remember and look upon; therefore an archer may be sure, in learning to look at his mark when he is young, always to shoot straight. The things that hinder a man which looketh at his mark, to shoot straight, be these: a side wind; a bow either too strong, or else too weak; an ill arm, when a feather runneth on the bow too much; a big-breasted shaft, for him that shooteth under hand, because it will hobble; a little-breasted shaft for him that shooteth above the hand, because it will start; a pair of winding pricks, and many other things moo, which you shall mark yourself, and as ye know them, so learn to amend them. If a man would leave to look at his shaft, and learn to look at his mark, he may use this way, which a good shooter told me once that he did. Let him take his bow on the night, and shoot at two lights, and there he shall be compelled to look always at his mark, and never at his shaft: this thing, once or twice used, will cause him forsake looking at his shaft. Yet let him take heed of setting his shaft in the bow.

Thus, Philologe, to shoot straight is the least mastery of all, if a man order himself thereafter in his youth. And as for keeping a length, I am sure, the rules which I gave you will never deceive you; so that there shall lack nothing, either of hitting the mark always, or else very near shooting, except the fault be only in your own self, which may come two ways, either in having a faint heart or courage, or else in suffering yourself overmuch to be led with affection: if a man's mind fail him, the body, which is ruled by the mind, can never do his duty; if lack of courage were not, men might do mo masteries than they do, as doth appear in leaping and vaulting.

All affections, and specially anger, hurteth both mind and body. The mind is blind thereby, and if the mind be blind, it cannot rule the body aright. The body, both blood and bone, as they say, is brought out of his right course by anger; whereby a man lacketh his right strength, and therefore cannot shoot well. If these things be avoided (whereof I will speak no more, both because they belong not properly to shooting, and also you can teach me better in them than I you), and all the precepts which I have given you diligently marked, no doubt ye shall shoot as well as ever man did yet, by the grace of God.

This communication handled of me, Philologe, as I know well not perfectly, yet, as I suppose, truly, you must take in good worth; wherein if divers things do not altogether please you, thank yourself, which would have me rather fault in mere folly, to take that thing in hand which I was not able for to perform, than by any honest shamefacedness with-say your request and mind, which I know well I have not satisfied. But yet I will think this labour of mine the better bestowed, if to-morrow, or some other day when you have leisure, you will spend as much time with me here in this same place, in entreating the question *De origine animoe* and the joining of it with the body, that I may know how far Plato, Aristotle, and the Stoics have waded in it.

Phi. How you have handled this matter, Toxophile, I may not well tell you myself now; but, for your gentleness and good-will towards learning and shooting, I will be content to show you any pleasure whensoever you will; and now the sun is down, therefore, if it please you, we will go home and drink in my chamber, and there I will tell you plainly what I think of this communication, and also what day we will appoint, at your request, for the other matter to meet here again.

