

## XVII. Of the Methods of delivering Knowledge

(1) For the method of tradition, I see it hath moved a controversy in our time. But as in civil business, if there be a meeting, and men fall at words, there is commonly an end of the matter for that time, and no proceeding at all; so in learning, where there is much controversy, there is many times little inquiry. For this part of knowledge of method seemeth to me so weakly inquired as I shall report it deficient.

(2) Method hath been placed, and that not amiss, in logic, as a part of judgment. For as the doctrine of syllogisms comprehendeth the rules of judgment upon that which is invented, so the doctrine of method containeth the rules of judgment upon that which is to be delivered; for judgment precedeth delivery, as it followeth invention. Neither is the method or the nature of the tradition material only to the use of knowledge, but likewise to the progression of knowledge: for since the labour and life of one man cannot attain to perfection of knowledge, the wisdom of the tradition is that which inspireth the felicity of continuance and proceeding. And therefore the most real diversity of method is of method referred to use, and method referred to progression: whereof the one may be termed magistral, and the other of probation.

(3) The latter whereof seemeth to be *via deserta et interclusa*. For as knowledges are now delivered, there is a kind of contract of error between the deliverer and the receiver. For he that delivereth knowledge desireth to deliver it in such form as may be best believed, and not as may be best examined; and he that receiveth knowledge desireth rather present satisfaction than expectant inquiry; and so rather not to doubt, than not to err: glory making the author not to lay open his weakness, and sloth making the disciple not to know his strength.

(4) But knowledge that is delivered as a thread to be spun on ought to be delivered and intimated, if it were possible, in the same method wherein it was invented: and so is it possible of knowledge induced. But in this same anticipated and prevented knowledge, no man knoweth how he came to the knowledge which he hath obtained. But yet, nevertheless, *secundum majus et minus*, a man may revisit and descend unto the foundations of his knowledge and consent; and so transplant it into another, as it grew in his own mind. For it is in knowledges as it is in plants: if you mean to use the plant, it is no matter for the roots—but if you mean to remove it to grow, then it is more assured to rest upon roots than slips: so the delivery of knowledges (as it is now used) is as of fair bodies of trees without the roots; good for the carpenter, but not for the planter. But if you will have sciences grow, it is less matter for the shaft or body of the tree, so you look well to the taking up of the roots. Of which kind of delivery the method of the mathematics, in that subject, hath some shadow: but generally I see it neither put in use nor put in inquisition, and therefore note it for deficient.

(5) Another diversity of method there is, which hath some affinity with the former, used in some cases by the discretion of the ancients, but disgraced since by the impostures of many vain persons, who have made it as a false light for their counterfeit merchandises; and that is enigmatical and disclosed. The pretence whereof is, to remove the vulgar capacities from being admitted to the secrets of knowledges, and to reserve them to selected auditors, or wits of such sharpness as can pierce the veil.

(6) Another diversity of method, whereof the consequence is great, is the delivery of knowledge in aphorisms, or in methods; wherein we may observe that it hath been too much taken into custom, out of a few axioms or observations upon any subject, to make a solemn and formal art, filling it with some discourses, and illustrating it with examples, and digesting it into a sensible method. But the writing in aphorisms hath many excellent virtues, whereto the writing in method doth not approach.

(7) For first, it trieth the writer, whether he be superficial or solid: for aphorisms, except they should be ridiculous, cannot be made but of the pith and heart of sciences; for discourse of illustration is cut off; recitals of examples are cut off; discourse of connection and order is cut off; descriptions of practice are cut off. So there remaineth nothing to fill the aphorisms but some good quantity of observation; and therefore no man can suffice, nor in reason will attempt, to write aphorisms, but he that is sound and grounded. But in methods,

“Tantum series juncturaque pollet,  
Tantum de medio sumptis accedit honoris,”

as a man shall make a great show of an art, which, if it were disjointed, would come to little. Secondly, methods are more fit to win consent or belief, but less fit to point to action; for they carry a kind of demonstration in orb or circle, one part illuminating another, and therefore satisfy. But particulars being dispersed do best agree with dispersed directions. And lastly, aphorisms, representing a knowledge broken, do invite men to inquire further; whereas methods, carrying the show of a total, do secure men, as if they were at furthest.

(8) Another diversity of method, which is likewise of great weight, is the handling of knowledge by assertions and their proofs, or by questions and their determinations. The latter kind whereof, if it be immoderately followed, is as prejudicial to the proceeding of learning as it is to the proceeding of an army to go about to besiege every little fort or hold. For if the field be kept, and the sum of the enterprise pursued, those smaller things will come in of themselves: indeed a man would not leave some important piece enemy at his back. In like manner, the use of confutation in the delivery of sciences ought to be very sparing; and to serve to remove strong preoccupations and prejudgments, and not to minister and excite disputations and doubts.

(9) Another diversity of method is, according to the subject or matter which is handled. For there is a great difference in delivery of the mathematics, which are the most abstracted of knowledges, and policy, which is the most immersed. And howsoever contention hath been moved, touching a uniformity of method in multiformity of matter, yet we see how that opinion, besides the weakness of it, hath been of ill desert towards learning, as that which taketh the way to reduce learning to certain empty and barren generalities; being but the very husks and shells of sciences, all the kernel being forced out and expelled with the torture and press of the method. And, therefore, as I did allow well of particular topics for invention, so I do allow likewise of particular methods of tradition.

(10) Another diversity of judgment in the delivery and teaching of knowledge is, according unto the light and presuppositions of that which is delivered. For that knowledge which is new, and foreign from opinions received, is to be delivered in another form than that that is agreeable and familiar; and therefore Aristotle, when he thinks to tax Democritus, doth in truth commend him, where he saith “If

we shall indeed dispute, and not follow after similitudes,” &c. For those whose conceits are seated in popular opinions need only but to prove or dispute; but those whose conceits are beyond popular opinions, have a double labour; the one to make themselves conceived, and the other to prove and demonstrate. So that it is of necessity with them to have recourse to similitudes and translations to express themselves. And therefore in the infancy of learning, and in rude times when those conceits which are now trivial were then new, the world was full of parables and similitudes; for else would men either have passed over without mark, or else rejected for paradoxes that which was offered, before they had understood or judged. So in divine learning, we see how frequent parables and tropes are, for it is a rule, that whatsoever science is not consonant to presuppositions must pray in aid of similitudes.

(11) There be also other diversities of methods vulgar and received: as that of resolution or analysis, of constitution or systasis, of concealment or cryptic, &c., which I do allow well of, though I have stood upon those which are least handled and observed. All which I have remembered to this purpose, because I would erect and constitute one general inquiry (which seems to me deficient) touching the wisdom of tradition.

(12) But unto this part of knowledge, concerning method, doth further belong not only the architecture of the whole frame of a work, but also the several beams and columns thereof; not as to their stuff, but as to their quantity and figure. And therefore method considereth not only the disposition of the argument or subject, but likewise the propositions: not as to their truth or matter, but as to their limitation and manner. For herein Ramus merited better a great deal in reviving the good rules of propositions—??????? ?????, ??? ?????? &c.—than he did in introducing the canker of epitomes; and yet (as it is the condition of human things that, according to the ancient fables, “the most precious things have the most pernicious keepers”) it was so, that the attempt of the one made him fall upon the other. For he had need be well conducted that should design to make axioms convertible, if he make them not withal circular, and non-promovent, or incurring into themselves; but yet the intention was excellent.

(13) The other considerations of method, concerning propositions, are chiefly touching the utmost propositions, which limit the dimensions of sciences: for every knowledge may be fitly said, besides the profundity (which is the truth and substance of it, that makes it solid), to have a longitude and a latitude; accounting the latitude towards other sciences, and the longitude towards action; that is, from the greatest generality to the most particular precept. The one giveth rule how far one knowledge ought to intermeddle within the province of another, which is the rule they call ????????; the other giveth rule unto what degree of particularity a knowledge should descend: which latter I find passed over in silence, being in my judgment the more material. For certainty there must be somewhat left to practice; but how much is worthy the inquiry? We see remote and superficial generalities do but offer knowledge to scorn of practical men; and are no more aiding to practice than an Ortelius’ universal map is to direct the way between London and York. The better sort of rules have been not unfitly compared to glasses of steel unpolished, where you may see the images of things, but first they must be filed: so the rules will help if they be laboured and polished by practice. But how crystalline they may be made at the first, and how far forth they may be polished aforehand, is the question, the inquiry whereof seemeth to me deficient.

(14) There hath been also laboured and put in practice a method, which is not a lawful method, but a method of imposture: which is, to deliver knowledges in such manner as men may speedily come to make a show of learning, who have it not. Such was the travail of Raymundus Lullius in making that art which bears his name; not unlike to some books of typocosmy, which have been made since; being

nothing but a mass of words of all arts, to give men countenance, that those which use the terms might be thought to understand the art; which collections are much like a fripper's or broker's shop, that hath ends of everything, but nothing of worth.

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