

## Chapter VII.

### Fallacies Of Confusion.

§ 1. Under this fifth and last class it is convenient to arrange all those fallacies in which the source of error is not so much a false estimate of the probative force of known evidence, as an indistinct, indefinite, and fluctuating conception of what the evidence is.

At the head of these stands that multitudinous body of fallacious reasonings in which the source of error is the ambiguity of terms: when something which is true if a word be used in a particular sense, is reasoned on as if it were true in another sense. In such a case there is not a mal-estimation of evidence, because there is not properly any evidence to the point at all; there is evidence, but to a different point, which from a confused apprehension of the meaning of the terms used, is supposed to be the same. This error will naturally be oftener committed in our ratiocinations than in our direct inductions, because in the former we are deciphering our own or other people's notes, while in the latter we have the things themselves present, either to the senses or to the memory. Except, indeed, when the induction is not from individual cases to a generality, but from generalities to a still higher generalization; in that case the fallacy of ambiguity may affect the inductive process as well as the ratiocinative. It occurs in ratiocination in two ways: when the middle term is ambiguous, or when one of the terms of the syllogism is taken in one sense in the premises, and in another sense in the conclusion.

Some good exemplifications of this fallacy are given by Archbishop Whately. "One case," says he, "which may be regarded as coming under the head of Ambiguous Middle, is (what I believe logical writers mean by '*Fallacia Figura Dictionis*') the fallacy built on the grammatical structure of language, from men's usually taking for granted that *paronymous* (or *conjugate*) words, *i.e.*, those belonging to each other, as the substantive, adjective, verb, etc., of the same root, have a precisely corresponding meaning; which is by no means universally the case. Such a fallacy could not indeed be even exhibited in strict logical form, which would preclude even the attempt at it, since it has two middle terms in sound as well as sense. But nothing is more common in practice than to vary continually the terms employed, with a view to grammatical convenience; nor is there any thing unfair in such a practice, as long as the *meaning* is preserved unaltered; *e.g.*, 'murder should be punished with death; this man is a murderer, therefore he deserves to die,' etc. Here we proceed on the assumption (in this case just) that to commit murder, and to be a murderer--to deserve death, and to be one who ought to die, are, respectively, equivalent expressions; and it would frequently prove a heavy inconvenience to be debarred this kind of liberty; but the abuse of it gives rise to the Fallacy in question; *e.g.*, *projectors* are unfit to be trusted; this man has formed a *project*, therefore he is unfit to be trusted: here the sophist proceeds on the hypothesis that he who forms a *project* must be a *projector*: whereas the bad sense that commonly attaches to the latter word, is not at all implied in the former. This fallacy may often be considered as lying not in the Middle, but in one of the terms of the Conclusion; so that the conclusion drawn shall not be, in reality, at all warranted by the premises, though it will appear to be so, by means of the grammatical affinity of the words; *e.g.*, to be acquainted with the guilty is a *presumption* of guilt; this man is so acquainted, therefore we may *presume* that he is guilty: this argument proceeds on the supposition of an exact correspondence between *presume* and *presumption*, which, however, does not really exist; for 'presumption' is commonly used to express a kind of *slight suspicion*; whereas, 'to presume' amounts to actual belief. There are innumerable instances of a non-correspondence in paronymous words, similar to that above instanced; as between *art* and *artful*, *design* and *designing*, *faith* and *faithful*, etc.; and the more slight the variation of the meaning, the more likely is the fallacy to be successful; for when the words have become so widely removed in sense as 'pity' and 'pitiful,' every one would perceive such a fallacy, nor would it be employed but in jest.(263)

"The present Fallacy is nearly allied to, or rather, perhaps, may be regarded as a branch of, that founded on *etymology*--*viz.*, when a term is used, at one time in its customary, and at another in its etymological sense. Perhaps no example of this can be found that is more extensively and mischievously employed than in the

case of the word *representative*: assuming that its right meaning must correspond exactly with the strict and original sense of the verb 'represent,' the sophist persuades the multitude that a member of the House of Commons is bound to be guided in all points by the opinion of his constituents; and, in short, to be merely their *spokesman*; whereas law and custom, which in this case may be considered as fixing the meaning of the term, require no such thing, but enjoin the representative to act according to the best of his *own* judgment, and on his own responsibility."

The following are instances of great practical importance, in which arguments are habitually founded on a verbal ambiguity.

The mercantile public are frequently led into this fallacy by the phrase "scarcity of money." In the language of commerce, "money" has two meanings: *currency*, or the circulating medium; and *capital seeking investment*, especially investment on loan. In this last sense the word is used when the "money market" is spoken of, and when the "value of money" is said to be high or low, the rate of interest being meant. The consequence of this ambiguity is, that as soon as scarcity of money in the latter of these senses begins to be felt--as soon as there is difficulty of obtaining loans, and the rate of interest is high--it is concluded that this must arise from causes acting upon the quantity of money in the other and more popular sense; that the circulating medium must have diminished in quantity, or ought to be increased. I am aware that, independently of the double meaning of the term, there are in the facts themselves some peculiarities, giving an apparent support to this error; but the ambiguity of the language stands on the very threshold of the subject, and intercepts all attempts to throw light upon it.

Another ambiguous expression which continually meets us in the political controversies of the present time, especially in those which relate to organic changes, is the phrase "influence of property"--which is sometimes used for the influence of respect for superior intelligence or gratitude for the kind offices which persons of large property have it so much in their power to bestow; at other times for the influence of fear; fear of the worst sort of power, which large property also gives to its possessor, the power of doing mischief to dependents. To confound these two, is the standing fallacy of ambiguity brought against those who seek to purify the electoral system from corruption and intimidation. Persuasive influence, acting through the conscience of the voter, and carrying his heart and mind with it, is beneficial--therefore (it is pretended) coercive influence, which compels him to forget that he is a moral agent, or to act in opposition to his moral convictions, ought not to be placed under restraint.

Another word which is often turned into an instrument of the fallacy of ambiguity, is Theory. In its most proper acceptation, theory means the completed result of philosophical induction from experience. In that sense, there are erroneous as well as true theories, for induction may be incorrectly performed, but theory of some sort is the necessary result of knowing any thing of a subject, and having put one's knowledge into the form of general propositions for the guidance of practice. In this, the proper sense of the word, Theory is the explanation of practice. In another and a more vulgar sense, theory means any mere fiction of the imagination, endeavoring to conceive how a thing may possibly have been produced, instead of examining how it was produced. In this sense only are theory and theorists unsafe guides; but because of this, ridicule or discredit is attempted to be attached to theory in its proper sense, that is, to legitimate generalization, the end and aim of all philosophy; and a conclusion is represented as worthless, just because that has been done which, if done correctly, constitutes the highest worth that a principle for the guidance of practice can possess, namely, to comprehend in a few words the real law on which a phenomenon depends, or some property or relation which is universally true of it.

"The Church" is sometimes understood to mean the clergy alone, sometimes the whole body of believers, or at least of communicants. The declamations respecting the inviolability of church property are indebted for the greater part of their apparent force to this ambiguity. The clergy, being called the church, are supposed to be the real owners of what is called church property; whereas they are in truth only the managing members of a much larger body of proprietors, and enjoy on their own part a mere usufruct, not extending beyond a life

interest.

The following is a Stoical argument taken from Cicero, *De Finibus*, book the third: "Quod est bonum, omne laudabile est. Quod autem laudabile est, omne honestum est. Bonum igitur quod est, honestum est." Here the ambiguous word is *laudabile*, which in the minor premise means any thing which mankind are accustomed, on good grounds, to admire or value; as beauty, for instance, or good fortune: but in the major, it denotes exclusively moral qualities. In much the same manner the Stoics endeavored logically to justify as philosophical truths, their figurative and rhetorical expressions of ethical sentiment: as that the virtuous man is alone free, alone beautiful, alone a king, etc. Whoever has virtue has Good (because it has been previously determined not to call any thing else good); but, again, Good necessarily includes freedom, beauty, and even kingship, all these being good things; therefore whoever has virtue has all these.

The following is an argument of Descartes to prove, in his *a priori* manner, the being of a God. The conception, says he, of an infinite Being proves the real existence of such a being. For if there is not really any such being, *I* must have made the conception; but if I could make it, I can also unmake it; which evidently is not true; therefore there must be, externally to myself, an archetype, from which the conception was derived. In this argument (which, it may be observed, would equally prove the real existence of ghosts and of witches) the ambiguity is in the pronoun *I*, by which, in one place, is to be understood my *will*, in another the *laws of my nature*. If the conception, existing as it does in my mind, had no original without, the conclusion would unquestionably follow that *I* made it; that is, the laws of my nature must have somehow evolved it: but that my *will* made it, would not follow. Now when Descartes afterward adds that I can not unmake the conception, he means that I can not get rid of it by an act of my will: which is true, but is not the proposition required. I can as much unmake this conception as I can any other: no conception which I have once had, can I ever dismiss by mere volition; but what some of the laws of my nature have produced, other laws, or those same laws in other circumstances, may, and often do, subsequently efface.

Analogous to this are some of the ambiguities in the free-will controversy; which, as they will come under special consideration in the concluding Book, I only mention *memoriæ causâ*. In that discussion, too, the word *I* is often shifted from one meaning to another, at one time standing for my volitions, at another time for the actions which are the consequences of them, or the mental dispositions from which they proceed. The latter ambiguity is exemplified in an argument of Coleridge (in his *Aids to Reflection*), in support of the freedom of the will. It is not true, he says, that a man is governed by motives; "the man makes the motive, not the motive the man;" the proof being that "what is a strong motive to one man is no motive at all to another." The premise is true, but only amounts to this, that different persons have different degrees of susceptibility to the same motive; as they have also to the same intoxicating liquid, which, however, does not prove that they are free to be drunk or not drunk, whatever quantity of the fluid they may drink. What is proved is, that certain mental conditions in the person himself must co-operate, in the production of the act, with the external inducement; but those mental conditions also are the effect of causes; and there is nothing in the argument to prove that they can arise without a cause--that a spontaneous determination of the will, without any cause at all, ever takes place, as the free-will doctrine supposes.

The double use, in the free-will controversy, of the word Necessity, which sometimes stands only for Certainty, at other times for Compulsion; sometimes for what *can not* be prevented, at other times only for what we have reason to be assured *will not*; we shall have occasion hereafter to pursue to some of its ulterior consequences.

A most important ambiguity, both in common and in metaphysical language, is thus pointed out by Archbishop Whately in the Appendix to his Logic: "*Same* (as well as *One*, *Identical*, and other words derived from them) is used frequently in a sense very different from its primary one, as applicable to a *single* object; being employed to denote great *similarity*. When several objects are undistinguishably alike, *one single description* will apply equally to any of them; and thence they are said to be all of *one and the same* nature, appearance, etc. As, *e.g.*, when we say 'this house is built of the *same* stone with such another,' we only mean

that the stones are undistinguishable in their qualities; not that the one building was pulled down, and the other constructed with the materials. Whereas *sameness*, in the primary sense, does not even necessarily imply similarity; for if we say of any man that he is greatly altered since such a time, we understand, and indeed imply by the very expression, that he is *one person*, though different in several qualities. It is worth observing also, that Same, in the secondary sense, admits, according to popular usage, of degrees: we speak of two things being *nearly* the same, but not entirely: personal identity does not admit of degrees. Nothing, perhaps, has contributed more to the error of Realism than inattention to this ambiguity. When several persons are said to have *one and the same* opinion, thought, or idea, many men, overlooking the true simple statement of the case, which is, that they are *all thinking alike*, look for something more abstruse and mystical, and imagine there must be some *One Thing*, in the primary sense, though not an individual which is present at once in the mind of each of these persons; and thence readily sprung Plato's theory of Ideas, each of which was, according to him, one real, eternal object, existing entire and complete in each of the individual objects that are known by one name."

It is, indeed, not a matter of inference, but of authentic history, that Plato's doctrine of Ideas, and the Aristotelian doctrine (in this respect similar to the Platonic) of substantial forms and second substances, grew up in the precise way here pointed out; from the supposed necessity of finding, in things which were said to have the *same* nature, or the *same* qualities, something which was the *same* in the very sense in which a man is the same as himself. All the idle speculations respecting {~GREEK SMALL LETTER TAU~}{~GREEK SMALL LETTER OMICRON WITH VARIA~} {~GREEK SMALL LETTER OMICRON WITH PSILI AND OXIA~}{~GREEK SMALL LETTER NU~}, {~GREEK SMALL LETTER TAU~}{~GREEK SMALL LETTER OMICRON WITH VARIA~} {~GREEK SMALL LETTER EPSILON WITH DASIA AND OXIA~}{~GREEK SMALL LETTER NU~}, {~GREEK SMALL LETTER TAU~}{~GREEK SMALL LETTER OMICRON WITH VARIA~} {~GREEK SMALL LETTER OMICRON WITH DASIA AND OXIA~}{~GREEK SMALL LETTER MU~}{~GREEK SMALL LETTER OMICRON~}{~GREEK SMALL LETTER IOTA~}{~GREEK SMALL LETTER OMICRON~}{~GREEK SMALL LETTER NU~}, and similar abstractions, so common in the ancient and in some modern schools of thought, sprang from the same source. The Aristotelian logicians saw, however, one case of the ambiguity, and provided against it with their peculiar felicity in the invention of technical language, when they distinguished things which differed both *specie* and *numero*, from those which differed *numero tantum*, that is, which were exactly alike (in some particular respect at least) but were distinct individuals. An extension of this distinction to the two meanings of the word Same, namely, things which are the same *specie tantum*, and a thing which is the same *numero* as well as *specie*, would have prevented the confusion which has been a source of so much darkness and such an abundance of positive error in metaphysical philosophy.

One of the most singular examples of the length to which a thinker of eminence may be led away by an ambiguity of language, is afforded by this very case. I refer to the famous argument by which Bishop Berkeley flattered himself that he had forever put an end to "scepticism, atheism, and irreligion." It is briefly as follows: I thought of a thing yesterday; I ceased to think of it; I think of it again to-day. I had, therefore, in my mind yesterday an *idea* of the object; I have also an idea of it to-day; this idea is evidently not another, but the very same idea. Yet an intervening time elapsed in which I had it not. Where was the idea during this interval? It must have been somewhere; it did not cease to exist; otherwise the idea I had yesterday could not be the *same* idea; no more than the man I see alive to-day can be the same whom I saw yesterday if the man has died in the mean while. Now an idea can not be conceived to exist anywhere except in a mind; and hence there must exist a Universal Mind, in which all ideas have their permanent residence during the intervals of their conscious presence in our own minds.

It is evident that Berkeley here confounded sameness *numero* with sameness *specie*, that is, with exact resemblance, and assumed the former where there was only the latter; not perceiving that when we say we have the same thought to-day which we had yesterday, we do not mean the same individual thought, but a thought exactly similar: as we say that we have the same illness which we had last year, meaning only the same sort of illness.

In one remarkable instance the scientific world was divided into two furiously hostile parties by an ambiguity of language affecting a branch of science which, more completely than most others, enjoys the advantage of a precise and well-defined terminology. I refer to the famous dispute respecting the *vis viva*, the history of which is given at large in Professor Playfair's Dissertation. The question was, whether the *force* of a moving body was proportional (its mass being given) to its velocity simply, or to the square of its velocity: and the ambiguity was in the word Force. "One of the effects," says Playfair, "produced by a moving body is proportional to the square of the velocity, while another is proportional to the velocity simply:" from whence clearer thinkers were subsequently led to establish a double measure of the efficiency of a moving power, one being called *vis viva*, and the other *momentum*. About the facts, both parties were from the first agreed: the only question was, with which of the two effects the term *force* should be, or could most conveniently be, associated. But the disputants were by no means aware that this was all; they thought that force was one thing, the production of effects another; and the question, by which set of effects the force which produced both the one and the other should be measured, was supposed to be a question not of terminology, but of fact.

The ambiguity of the word Infinite is the real fallacy in the amusing logical puzzle of Achilles and the Tortoise, a puzzle which has been too hard for the ingenuity or patience of many philosophers, and which no less a thinker than Sir William Hamilton considered as insoluble; as a sound argument, though leading to a palpable falsehood. The fallacy, as Hobbes hinted, lies in the tacit assumption that whatever is infinitely divisible is infinite; but the following solution (to the invention of which I have no claim) is more precise and satisfactory.

The argument is, let Achilles run ten times as fast as the tortoise, yet if the tortoise has the start, Achilles will never overtake him. For suppose them to be at first separated by an interval of a thousand feet: when Achilles has run these thousand feet, the tortoise will have got on a hundred; when Achilles has run those hundred, the tortoise will have run ten, and so on forever: therefore Achilles may run forever without overtaking the tortoise.

Now the "forever," in the conclusion, means, for any length of time that can be supposed; but in the premises, "ever" does not mean any *length* of time; it means any *number of subdivisions* of time. It means that we may divide a thousand feet by ten, and that quotient again by ten, and so on as often as we please; that there never needs be an end to the subdivisions of the distance, nor consequently to those of the time in which it is performed. But an unlimited number of subdivisions may be made of that which is itself limited. The argument proves no other infinity of duration than may be embraced within five minutes. As long as the five minutes are not expired, what remains of them may be divided by ten, and again by ten, as often as we like, which is perfectly compatible with their being only five minutes altogether. It proves, in short, that to pass through this finite space requires a time which is infinitely divisible, but not an infinite time; the confounding of which distinction Hobbes had already seen to be the gist of the fallacy.

The following ambiguities of the word *right* (in addition to the obvious and familiar one of *a* right and the *adjective* right) are extracted from a forgotten paper of my own, in a periodical:

"Speaking morally, you are said to have a right to do a thing, if all persons are morally bound not to hinder you from doing it. But, in another sense, to have a right to do a thing is the opposite of having *no* right to do it, *i.e.*, of being under a moral obligation to forbear doing it. In this sense, to say that you have a right to do a thing, means that you may do it without any breach of duty on your part; that other persons not only ought not to hinder you, but have no cause to think worse of you for doing it. This is a perfectly distinct proposition from the preceding. The right which you have by virtue of a duty incumbent upon other persons, is obviously quite a different thing from a right consisting in the absence of any duty incumbent upon yourself. Yet the two things are perpetually confounded. Thus, a man will say he has a right to publish his opinions; which may be true in this sense, that it would be a breach of duty in any other person to interfere and prevent the publication: but he assumes thereupon that, in publishing his opinions, he himself violates no duty; which may either be true or false, depending, as it does, on his having taken due pains to satisfy himself, first, that the opinions are

true, and next, that their publication in this manner, and at this particular juncture, will probably be beneficial to the interests of truth on the whole.

"The second ambiguity is that of confounding a right of any kind, with a right to enforce that right by resisting or punishing a violation of it. People will say, for example, that they have a right to good government, which is undeniably true, it being the moral duty of their governors to govern them well. But in granting this, you are supposed to have admitted their right or liberty to turn out their governors, and perhaps to punish them, for having failed in the performance of this duty; which, far from being the same thing, is by no means universally true, but depends on an immense number of varying circumstances," requiring to be conscientiously weighed before adopting or acting on such a resolution. This last example is (like others which have been cited) a case of fallacy within fallacy; it involves not only the second of the two ambiguities pointed out, but the first likewise.

One not unusual form of the Fallacy of Ambiguous Terms is known technically as the Fallacy of Composition and Division; when the same term is collective in the premises, distributive in the conclusion, or *vice versa*; or when the middle term is collective in one premise, distributive in the other. As if one were to say (I quote from Archbishop Whately), "All the angles of a triangle are equal to two right angles: A B C is an angle of a triangle; therefore A B C is equal to two right angles.... There is no fallacy more common, or more likely to deceive, than the one now before us. The form in which it is most usually employed is to establish some truth, separately, concerning *each single* member of a certain class, and thence to infer the same of the *whole collectively*." As in the argument one sometimes hears, to prove that the world could do without great men. If Columbus (it is said) had never lived, America would still have been discovered, at most only a few years later; if Newton had never lived, some other person would have discovered the law of gravitation; and so forth. Most true: these things would have been done, but in all probability not till some one had again been found with the qualities of Columbus or Newton. Because any one great man might have had his place supplied by other great men, the argument concludes that all great men could have been dispensed with. The term "great men" is distributive in the premises and collective in the conclusion.

"Such also is the fallacy which probably operates on most adventurers in lotteries; *e.g.*, 'the gaining of a high prize is no uncommon occurrence; and what is no uncommon occurrence may reasonably be expected; therefore the gaining of a high prize may reasonably be expected;' the conclusion, when applied to the individual (as in practice it is), must be understood in the sense of 'reasonably expected *by a certain individual*;' therefore for the major premise to be true, the middle term must be understood to mean, 'no uncommon occurrence to some one *particular* person;' whereas for the minor (which has been placed first) to be true, you must understand it of 'no uncommon occurrence to *some one or other*;' and thus you will have the Fallacy of Composition.

"This is a Fallacy with which men are extremely apt to deceive *themselves*; for when a multitude of particulars are presented to the mind, many are too weak or too indolent to take a comprehensive view of them, but confine their attention to each single point, by turns; and then decide, infer, and act accordingly; *e.g.*, the imprudent spendthrift, finding that he is able to afford this, *or* that, *or* the other expense, forgets that *all of them together* will ruin him." The debauchee destroys his health by successive acts of intemperance, because no *one* of those acts would be of itself sufficient to do him any serious harm. A sick person reasons with himself, "one, and another, and another, of my symptoms do not prove that I have a fatal disease;" and practically concludes that all taken together do not prove it.

§ 2. We have now sufficiently exemplified one of the principal Genera in this Order of Fallacies; where, the source of error being the ambiguity of terms, the premises are verbally what is required to support the conclusion, but not really so. In the second great Fallacy of Confusion they are neither verbally nor really sufficient, though, from their multiplicity and confused arrangement, and still oftener from defect of memory, they are not seen to be what they are. The fallacy I mean is that of *Petitio Principii*, or begging the question; including the more complex and not uncommon variety of it, which is termed Reasoning in a Circle.

Petitio Principii, as defined by Archbishop Whately, is the fallacy "in which the premise either appears manifestly to be the same as the conclusion, or is actually proved from the conclusion, or is such as would naturally and properly so be proved." By the last clause I presume is meant, that it is not susceptible of any other proof; for otherwise, there would be no fallacy. To deduce from a proposition propositions from which it would itself more naturally be deduced, is often an allowable deviation from the usual didactic order; or at most, what, by an adaptation of a phrase familiar to mathematicians, may be called a logical *inelegance*.(264)

The employment of a proposition to prove that on which it is itself dependent for proof, by no means implies the degree of mental imbecility which might at first be supposed. The difficulty of comprehending how this fallacy could possibly be committed, disappears when we reflect that all persons, even the instructed, hold a great number of opinions without exactly recollecting how they came by them. Believing that they have at some former time verified them by sufficient evidence, but having forgotten what the evidence was, they may easily be betrayed into deducing from them the very propositions which are alone capable of serving as premises for their establishment. "As if," says Archbishop Whately, "one should attempt to prove the being of a God from the authority of Holy Writ;" which might easily happen to one with whom both doctrines, as fundamental tenets of his religious creed, stand on the same ground of familiar and traditional belief.

Arguing in a circle, however, is a stronger case of the fallacy, and implies more than the mere passive reception of a premise by one who does not remember how it is to be proved. It implies an actual attempt to prove two propositions reciprocally from one another; and is seldom resorted to, at least in express terms, by any person in his own speculations, but is committed by those who, being hard pressed by an adversary, are forced into giving reasons for an opinion of which, when they began to argue, they had not sufficiently considered the grounds. As in the following example from Archbishop Whately: "Some mechanics attempt to prove (what they ought to lay down as a probable but doubtful hypothesis)(265) that every particle of matter gravitates equally: 'why?' 'because those bodies which contain more particles ever gravitate more strongly, *i.e.*, are heavier:' 'but (it may be urged) those which are heaviest are not always more bulky;' 'no, but they contain more particles, though more closely condensed:' 'how do you know that?' 'because they are heavier:' 'how does that prove it?' 'because all particles of matter gravitating equally, that mass which is specifically the heavier must needs have the more of them in the same space.' " It appears to me that the fallacious reasoner, in his private thoughts, would not be likely to proceed beyond the first step. He would acquiesce in the sufficiency of the reason first given, "bodies which contain more particles are heavier." It is when he finds this questioned, and is called upon to prove it, without knowing how, that he tries to establish his premise by supposing proved what he is attempting to prove by it. The most effectual way, in fact, of exposing a *petitio principii*, when circumstances allow of it, is by challenging the reasoner to prove his premises; which if he attempts to do, he is necessarily driven into arguing in a circle.

It is not uncommon, however, for thinkers, and those not of the lowest description, to be led even in their own thoughts, not indeed into formally proving each of two propositions from the other, but into admitting propositions which can only be so proved. In the preceding example the two together form a complete and consistent, though hypothetical, explanation of the facts concerned. And the tendency to mistake mutual coherency for truth--to trust one's safety to a strong chain though it has no point of support--is at the bottom of much which, when reduced to the strict forms of argumentation, can exhibit itself no otherwise than as reasoning in a circle. All experience bears testimony to the enthralling effect of neat concatenation in a system of doctrines, and the difficulty with which people admit the persuasion that any thing which holds so well together can possibly fall.

Since every case where a conclusion which can only be proved from certain premises is used for the proof of those premises, is a case of *petitio principii*, that fallacy includes a very great proportion of all incorrect reasoning. It is necessary, for completing our view of the fallacy, to exemplify some of the disguises under which it is accustomed to mask itself, and to escape exposure.

A proposition would not be admitted by any person in his senses as a corollary from itself, unless it were

expressed in language which made it seem different. One of the commonest modes of so expressing it, is to present the proposition itself in abstract terms, as a proof of the same proposition expressed in concrete language. This is a very frequent mode, not only of pretended proof, but of pretended explanation; and is parodied when Molière (*Le Malade Imaginaire*) makes one of his absurd physicians say,

Mihi a docto doctore, Demandatur causam et rationem quare Opium facit dormire. A quoi respondeo, Quia est in eo Virtus dormitiva, Cujus est natura Sensus assoupire.

The words Nature and Essence are grand instruments of this mode of begging the question, as in the well-known argument of the scholastic theologians, that the mind thinks always, because the *essence* of the mind is to think. Locke had to point out, that if by essence is here meant some property which must manifest itself by actual exercise at all times, the premise is a direct assumption of the conclusion; while if it only means that to think is the distinctive property of a mind, there is no connection between the premise and the conclusion, since it is not necessary that a distinctive property should be perpetually in action.

The following is one of the modes in which these abstract terms, Nature and Essence, are used as instruments of this fallacy. Some particular properties of a thing are selected, more or less arbitrarily, to be termed its nature or essence; and when this has been done, these properties are supposed to be invested with a kind of indefeasibleness; to have become paramount to all the other properties of the thing, and incapable of being prevailed over or counteracted by them. As when Aristotle, in a passage already cited, "decides that there is no void on such arguments as this: in a void there could be no difference of up and down; for as in nothing there are no differences, so there are none in a privation or negation; but a void is merely a privation or negation of matter; therefore, in a void, bodies could not move up and down, which it is in their *nature* to do."(266) In other words, it is in the *nature* of bodies to move up and down, *ergo* any physical fact which supposes them not so to move, can not be authentic. This mode of reasoning, by which a bad generalization is made to overrule all facts which contradict it, is *Petitio Principii* in one of its most palpable forms.

None of the modes of assuming what should be proved are in more frequent use than what are termed by Bentham "question-begging appellatives;" names which beg the question under the disguise of stating it. The most potent of these are such as have a laudatory or vituperative character. For instance, in politics, the word Innovation. The dictionary meaning of this term being merely "a change to something new," it is difficult for the defenders even of the most salutary improvement to deny that it is an innovation; yet the word having acquired in common usage a vituperative connotation in addition to its dictionary meaning, the admission is always construed as a large concession to the disadvantage of the thing proposed.

The following passage from the argument in refutation of the Epicureans, in the second book of Cicero, "De Finibus," affords a fine example of this sort of fallacy: "Et quidem illud ipsum non nimium probo (et tantum patior) philosophum loqui de cupiditatibus finiendis. An potest cupiditas finiri? tollenda est, atque extrahenda radicitus. Quis est enim, in quo sit cupiditas, quin recte cupidus dici possit? Ergo et avarus erit, sed finite: adulter, verum habebit modum: et luxuriosus eodem modo. Qualis ista philosophia est, quæ non interitum afferat pravitatis, sed sit contenta mediocritate vitiorum?" The question was, whether certain desires, when kept within bounds, are vices or not; and the argument decides the point by applying to them a word (*cupiditas*) which *implies* vice. It is shown, however, in the remarks which follow, that Cicero did not intend this as a serious argument, but as a criticism on what he deemed an inappropriate expression. "Rem ipsam prorsus probo: elegantiam desidero. Appellet hæc *desideria naturæ*; cupiditatis nomen servet alio," etc. But many persons, both ancient and modern, have employed this, or something equivalent to it, as a real and conclusive argument. We may remark that the passage respecting *cupiditas* and *cupidus* is also an example of another fallacy already noticed, that of Paronymous Terms.

Many more of the arguments of the ancient moralists, and especially of the Stoics, fall within the definition of *Petitio Principii*. In the "De Finibus," for example, which I continue to quote as being probably the best extant exemplification at once of the doctrines and the methods of the schools of philosophy existing at that time; of



what value as arguments are such pleas as those of Cato in the third book: That if virtue were not happiness, it could not be a thing to *boast* of: That if death or pain were evils, it would be impossible not to fear them, and it could not, therefore, be laudable to despise them, etc. In one way of viewing these arguments, they may be regarded as appeals to the authority of the general sentiment of mankind which had stamped its approval upon certain actions and characters by the phrases referred to; but that such could have been the meaning intended is very unlikely, considering the contempt of the ancient philosophers for vulgar opinion. In any other sense they are clear cases of *Petitio Principii*, since the word laudable, and the idea of boasting, imply principles of conduct; and practical maxims can only be proved from speculative truths, namely, from the properties of the subject-matter, and can not, therefore, be employed to prove those properties. As well might it be argued that a government is good because we ought to support it, or that there is a God because it is our duty to pray to him.

It is assumed by all the disputants in the "De Finibus" as the foundation of the inquiry into the *summum bonum*, that "sapiens semper beatus est." Not simply that wisdom gives the best chance of happiness, or that wisdom consists in knowing what happiness is, and by what things it is promoted; these propositions would not have been enough for them; but that the sage always is, and must of necessity be, happy. The idea that wisdom could be consistent with unhappiness, was always rejected as inadmissible: the reason assigned by one of the interlocutors, near the beginning of the third book, being, that if the wise could be unhappy, there was little use in pursuing wisdom. But by unhappiness they did not mean pain or suffering; to that it was granted that the wisest person was liable in common with others: he was happy, because in possessing wisdom he had the most valuable of all possessions, the most to be sought and prized of all things, and to possess the most valuable thing was to be the most happy. By laying it down, therefore, at the commencement of the inquiry, that the sage must be happy, the disputed question respecting the *summum bonum* was in fact begged; with the further assumption, that pain and suffering, so far as they can co-exist with wisdom, are not unhappiness, and are no evil.

The following are additional instances of *Petitio Principii*, under more or less of disguise.

Plato, in the *Sophistes*, attempts to prove that things may exist which are incorporeal, by the argument that justice and wisdom are incorporeal, and justice and wisdom must be something. Here, if by *something* be meant, as Plato did in fact mean, a thing capable of existing in and by itself, and not as a quality of some other thing, he begs the question in asserting that justice and wisdom must be something; if he means any thing else, his conclusion is not proved. This fallacy might also be classed under ambiguous middleterm; *something*, in the one premise, meaning some substance, in the other merely some object of thought, whether substance or attribute.

It was formerly an argument employed in proof of what is now no longer a popular doctrine, the infinite divisibility of matter, that every portion of matter however small, must at least have an upper and an under surface. Those who used this argument did not see that it assumed the very point in dispute, the impossibility of arriving at a minimum of thickness; for if there be a minimum, its upper and under surface will of course be one; it will be itself a surface, and no more. The argument owes its very considerable plausibility to this, that the premise does actually seem more obvious than the conclusion, though really identical with it. As expressed in the premise, the proposition appeals directly and in concrete language to the incapacity of the human imagination for conceiving a minimum. Viewed in this light, it becomes a case of the *a priori* fallacy or natural prejudice, that whatever can not be conceived can not exist. Every fallacy of Confusion (it is almost unnecessary to repeat) will, if cleared up, become a fallacy of some other sort; and it will be found of deductive or ratiocinative fallacies generally, that when they mislead, there is mostly, as in this case, a fallacy of some other description lurking under them, by virtue of which chiefly it is that the verbal juggle, which is the outside or body of this kind of fallacy, passes undetected.

Euler's Algebra, a book otherwise of great merit, but full, to overflowing, of logical errors in respect to the foundation of the science, contains the following argument to prove that *minus* multiplied by *minus* gives

*plus*, a doctrine the opprobrium of all mere mathematicians, and which Euler had not a glimpse of the true method of proving. He says *minus* multiplied by *minus* can not give *minus*; for *minus* multiplied by *plus* gives *minus*, and *minus* multiplied by *minus* can not give the same product as *minus* multiplied by *plus*. Now one is obliged to ask, why minus multiplied by minus must give any product at all? and if it does, why its product can not be the same as that of minus multiplied by plus? for this would seem, at the first glance, not more absurd than that minus by minus should give the same as plus by plus, the proposition which Euler prefers to it. The premise requires proof, as much as the conclusion; nor can it be proved, except by that more comprehensive view of the nature of multiplication, and of algebraic processes in general, which would also supply a far better proof of the mysterious doctrine which Euler is here endeavoring to demonstrate.

A striking instance of reasoning in a circle is that of some ethical writers, who first take for their standard of moral truth what, being the general, they deem to be the natural or instinctive sentiments and perceptions of mankind, and then explain away the numerous instances of divergence from their assumed standard, by representing them as cases in which the perceptions are unhealthy. Some particular mode of conduct or feeling is affirmed to be *unnatural*; why? because it is abhorrent to the universal and natural sentiments of mankind. Finding no such sentiment in yourself, you question the fact; and the answer is (if your antagonist is polite), that you are an exception, a peculiar case. But neither (say you) do I find in the people of some other country, or of some former age, any such feeling of abhorrence; "ay, but their feelings were sophisticated and unhealthy."

One of the most notable specimens of reasoning in a circle is the doctrine of Hobbes, Rousseau, and others, which rests the obligations by which human beings are bound as members of society, on a supposed social compact. I waive the consideration of the fictitious nature of the compact itself; but when Hobbes, through the whole Leviathan, elaborately deduces the obligation of obeying the sovereign, not from the necessity or utility of doing so, but from a promise supposed to have been made by our ancestors, on renouncing savage life and agreeing to establish political society, it is impossible not to retort by the question, Why are we bound to keep a promise made for us by others? or why bound to keep a promise at all? No satisfactory ground can be assigned for the obligation, except the mischievous consequences of the absence of faith and mutual confidence among mankind. We are, therefore, brought round to the interests of society, as the ultimate ground of the obligation of a promise; and yet those interests are not admitted to be a sufficient justification for the existence of government and law. Without a promise it is thought that we should not be bound to that which is implied in all modes of living in society, namely, to yield a general obedience to the laws therein established; and so necessary is the promise deemed, that if none has actually been made, some additional safety is supposed to be given to the foundations of society by feigning one.

§ 3. Two principal subdivisions of the class of Fallacies of Confusion having been disposed of; there remains a third, in which the confusion is not, as in the Fallacy of Ambiguity, in misconceiving the import of the premises, nor, as in *Petitio Principii*, in forgetting what the premises are, but in mistaking the conclusion which is to be proved. This is the fallacy of *Ignoratio Elenchi*, in the widest sense of the phrase; also called by Archbishop Whately the Fallacy of Irrelevant Conclusion. His examples and remarks are highly worthy of citation.

"Various kinds of propositions are, according to the occasion, substituted for the one of which proof is required; sometimes the particular for the universal; sometimes a proposition with different terms; and various are the contrivances employed to effect and to conceal this substitution, and to make the conclusion which the sophist has drawn, answer practically the same purpose as the one he ought to have established. We say, 'practically the same purpose,' because it will very often happen that some *emotion* will be excited, some sentiment impressed on the mind (by a dexterous employment of this fallacy), such as shall bring men into the *disposition* requisite for your purpose; though they may not have assented to, or even stated distinctly in their own minds, the *proposition* which it was your business to establish. Thus if a sophist has to defend one who has been guilty of some *serious* offense, which he wishes to extenuate, though he is unable distinctly to prove that it is not such, yet if he can succeed in *making the audience laugh* at some casual matter, he has gained

practically the same point. So also if any one has pointed out the extenuating circumstances in some particular case of offense, so as to show that it differs widely from the generality of the same class, the sophist, if he finds himself unable to disprove these circumstances, may do away the force of them, by simply *referring the action to that very class*, which no one can deny that it belongs to, and the very name of which will excite a feeling of disgust sufficient to counteract the extenuation; *e.g.*, let it be a case of peculation, and that many *mitigating* circumstances have been brought forward which can not be denied; the sophistical opponent will reply, 'Well, but after all, the man is a *rogue*, and there is an end of it;' now in reality this was (by hypothesis) never the question; and the mere assertion of what was never denied *ought* not, in fairness, to be regarded as decisive; but, practically, the odiousness of the word, arising in great measure from the association of those very circumstances which belong to most of the class, but which we have supposed to be *absent in this particular* instance, excites precisely that feeling of disgust which, in effect, destroys the force of the defense. In like manner we may refer to this head all cases of improper appeal to the passions, and every thing else which is mentioned by Aristotle as extraneous to the matter in hand ({~GREEK SMALL LETTER EPSILON WITH PSILI AND OXIA~}{~GREEK SMALL LETTER XI~}{~GREEK SMALL LETTER OMEGA~}{~GREEK SMALL LETTER TAU~}{~GREEK SMALL LETTER OMICRON~}{~GREEK SMALL LETTER UPSILON WITH PERISPOMENI~}{~GREEK SMALL LETTER PI~}{~GREEK SMALL LETTER RHO~}{~GREEK SMALL LETTER ALPHA WITH OXIA~}{~GREEK SMALL LETTER GAMMA~}{~GREEK SMALL LETTER MU~}{~GREEK SMALL LETTER ALPHA~}{~GREEK SMALL LETTER TAU~}{~GREEK SMALL LETTER OMICRON~}{~GREEK SMALL LETTER FINAL SIGMA~})."

Again, "instead of proving that 'this prisoner has committed an atrocious fraud,' you prove that the fraud he is accused of is atrocious; instead of proving (as in the well-known tale of Cyrus and the two coats) that the taller boy had a right to force the other boy to exchange coats with him, you prove that the exchange would have been advantageous to both; instead of proving that the poor ought to be relieved in this way rather than in that, you prove that the poor ought to be relieved; instead of proving that the irrational agent--whether a brute or a madman--can never be deterred from any act by apprehension of punishment (as, for instance, a dog from sheep-biting, by fear of being beaten), you prove that the beating of one dog does not operate as an *example to other dogs*, etc.

"It is evident that Ignoratio Elenchi may be employed as well for the apparent refutation of your opponent's proposition, as for the apparent establishment of your own; for it is substantially the same thing, to prove what was not denied or to disprove what was not asserted. The latter practice is not less common, and it is more offensive, because it frequently amounts to a personal affront, in attributing to a person opinions, etc., which he perhaps holds in abhorrence. Thus, when in a discussion one party vindicates, on the ground of general expediency, a particular instance of resistance to government in a case of intolerable oppression, the opponent may gravely maintain, 'that we ought not to do evil that good may come;' a proposition which of course had never been denied, the point in dispute being, 'whether resistance in this particular case *were* doing evil or not.' Or again, by way of disproving the assertion of the right of private judgment in religion, one may hear a grave argument to prove that 'it is impossible every one can be *right in his judgment*.' "

The works of controversial writers are seldom free from this fallacy. The attempts, for instance, to disprove the population doctrines of Malthus, have been mostly cases of *ignoratio elenchi*. Malthus has been supposed to be refuted if it could be shown that in some countries or ages population has been nearly stationary; as if he had asserted that population always increases in a given ratio, or had not expressly declared that it increases only in so far as it is not restrained by prudence, or kept down by poverty and disease. Or, perhaps, a collection of facts is produced to prove that in some one country the people are better off with a dense population than they are in another country with a thin one; or that the people have become more numerous and better off at the same time. As if the assertion were that a dense population could not possibly be well off; as if it were not part of the very doctrine, and essential to it, that where there is a more abundant production there may be a greater population without any increase of poverty, or even with a diminution of it.

The favorite argument against Berkeley's theory of the non-existence of matter, and the most popularly effective, next to a "grin"(267)--an argument, moreover, which is not confined to "coxcombs," nor to men like Samuel Johnson, whose greatly overrated ability certainly did not lie in the direction of metaphysical speculation, but is the stock argument of the Scotch school of metaphysicians--is a palpable Ignoratio Elenchi. The argument is perhaps as frequently expressed by gesture as by words, and one of its commonest forms consists in knocking a stick against the ground. This short and easy confutation overlooks the fact, that in denying matter, Berkeley did not deny any thing to which our senses bear witness, and therefore can not be answered by any appeal to them. His skepticism related to the supposed substratum, or hidden cause of the appearances perceived by our senses; the evidence of which, whatever may be thought of its conclusiveness, is certainly not the evidence of sense. And it will always remain a signal proof of the want of metaphysical profundity of Reid, Stewart, and, I am sorry to add, of Brown, that they should have persisted in asserting that Berkeley, if he believed his own doctrine, was bound to walk into the kennel, or run his head against a post. As if persons who do not recognize an occult cause of their sensations could not possibly believe that a fixed order subsists among the sensations themselves. Such a want of comprehension of the distinction between a thing and its sensible manifestation, or, in metaphysical language, between the noumenon and the phenomenon, would be impossible to even the dullest disciple of Kant or Coleridge.

It would be easy to add a greater number of examples of this fallacy, as well as of the others which I have attempted to characterize. But a more copious exemplification does not seem to be necessary; and the intelligent reader will have little difficulty in adding to the catalogue from his own reading and experience. We shall, therefore, here close our exposition of the general principles of logic, and proceed to the supplementary inquiry which is necessary to complete our design.

Book VI.

#### ON THE LOGIC OF THE MORAL SCIENCES.

"Si l'homme peut prédire, avec une assurance presque entière, les phénomènes dont il connaît les lois; si lors même qu'elles lui sont inconnues, il peut, d'après l'expérience, prévoir avec une grande probabilité les événements de l'avenir; pourquoi regarderait-on comme une entreprise chimérique, celle de tracer avec quelque vraisemblance le tableau des destinées futures de l'espèce humaine, d'après les résultats de son histoire? Le seul fondement de croyance dans les sciences naturelles, est cette idée, que les lois générales, connues ou ignorées, qui règlent les phénomènes de l'univers, sont nécessaires et constantes; et par quelle raison ce principe serait-il moins vrai pour le développement des facultés intellectuelles et morales de l'homme, que pour les autres opérations de la nature? Enfin, puisque des opinions formées d'après l'expérience ... sont la seule règle de la conduite des hommes les plus sages, pourquoi interdirait-on au philosophe d'appuyer ses conjectures sur cette même base, pourvu qu'il ne leur attribue pas une certitude supérieure à celle qui peut naître du nombre, de la constance, de l'exactitude des observations?"--CONDORCET, *Esquisse d'un Tableau Historique des Progrès de l'Esprit Humain*.