

4) Mathematics alone among the sciences still professes to confine itself to necessary reasoning; and in the proper place in this essay it shall be shown, — so far as it ^{will} be possible to do so, without entering upon ~~the~~ ^a study of too complicated mathematics, — to what an astonishing extent the great steps in that science are, according to the professed manner of reasoning, i.e. that which concludes with an absolute "must be," no better than ~~absolute~~ downright fallacies.

For every student of elementary geometry must have ~~never~~ noticed ^{that most of the propositions} of the reasonings ^{all but} are of ~~truly~~ infantile simplicity, while the rest are ^{almost} incomprehensible to all clear minds except certain natural mathematicians. Now the truth of the matter is that those major propositions, which

5) ought alone, as it seems to me, to ^{merit} receive the high-sounding title of "theorems," never do ^{it} necessarily follow from their alleged premisses; and the clear-headed person who lacks mathematical genius, ^{on going} goes through the indicated process of reasoning in good faith, and fails to reach the ^{announced} conclusion, for ~~that~~ the very reason that he does just that and no more; while the ^{geometrically} mathematically gifted pupil ^{comes} sees the truth of the theorem, after a few hints, ^{so} instantaneously ^{he sees the truth of the theorem}

● that he cannot tell how he ^{has done} does so, ^{yet} but ~~he~~ recognizing the truth of the indicated premisses, as well as their pertinence, that is to say, that if they were not true the conclusion might not be true, he imagines he sees the truth of the ^{concluded theorem} ~~through~~ the process of reasoning described, ^{in the books} Observe that

⑥ while reasoning from premisses to conclusion is a natural, or, as I shall show reason for calling it, an instinctive operation, the ^{inverse} operation of analyzing one's thought, and stating what ~~are~~ have been ingredients of it, and still more so that no other ingredients have been involved in it, is an art to be acquired ^{only,} by a long course of experimentation and training. It is by this art alone that we can discover how one reasons at different times, and so ^{acquire} get the materials

● with which subsequently to build up a knowledge of how the conditions requisite for ^{imparting to} rendering a given kind of reasoning a degree of security ^{appropriately, proportioned} adequate to the damage that would ensue should its conclusion be false in this or that respect to this or that degree.

D. These considerations may suffice for the time being, ^{to vindicate my} ~~the~~
^{in the title of this essay,} choice of the comparative aim of "security" in place of the
^{or graded,} usual quite unqualified ~~or~~ conception of an absolute and
^{often} unattainable "correctness" ^{soundness of the apodictic, or "must be," kind,}. But Heaven preserves me from con-
tentment ^{with a merely} ~~from~~ such a negative & good. ~~Of~~ In that line of
goods, the only thorough satisfaction ^{durable commodity} is that of our good
friend Death; and if it is all the same to him, I ^{shall} ~~should~~ prefer
a postponement of his visit until this essay is ready for the
● printer, and the printer is ready for the essay. My second
aim is ~~of~~ a positive good. Do not imagine that I have chosen
it because the word "uberty" ^{is} ~~is~~ ^{strikes me as a} supremely charming one,
nor that I have preferred it to "fruitfulness" because it spells
its three & syllables with only half as many letters. But fruit-

8. fulness may continue indefinitely without fulfilling its promise, while an uber or udder, is ^{sure to be often} gravid ~~abundantly~~ ^{nutritious} with ~~actual~~ ^{existing} food. ^{everytime the hour-hand goes round.} This "uberty" is much the more expressive of the character ~~of~~ ^{most} ~~of~~ ^{of} ~~being~~ ^{of} ~~actually~~ ^{of} ~~gravid~~ ^{of} ~~with~~ ^{of} ~~living~~ ^{of} ~~and~~ ^{of} ~~prolific~~ ^{of} ~~truth.~~ ^{of} ~~This~~ ^{of} ~~character,~~ ^{of} especially ~~character~~ ^{character} distinguishes the type of reasoning the most contrary to ~~necessary~~ ^{inference} that which alone is ever perfectly secure (and it is by no means always so,) ^{but whose} while its ~~uberty~~ ^{value} in increasing knowledge is extremely small, quite ~~vanishing~~ ^{quite} in the ~~necessary~~ ^{necessary} kind, while the ~~contrary~~ ^{its} type ~~is~~ ^{apt to be} the one which offers the least security and consequently is ~~despised~~ ^{despised} by men of science, ~~and~~ ^{so} the more thoroughly ~~the~~ ^{the} more their methods are dominated by science; ^{albeit this} but which is the type of reasoning by far the most indispensable of all, since

② through it we might perhaps have become acquainted with every truth that has been brought to light by any other kind of reasoning, and since such assurance as it ~~in the~~ affords ~~is due to~~ results from a principle without which no other kind of reasoning would have any worth at all. Indeed, ~~it~~ ^{this type of reasoning} deserves more study than any other, because reasonings of this sort ~~do~~ command serious attention range in our ordinary experience over much greater differences ^{both} of security and of importance than those of any other type, and because it is much more difficult to reach a wise estimate of the claim of one of these upon our attention in any ^{actual} given state of our knowledge than ~~it~~ to come to a similar decision concerning any other while the consequences of an erroneous

⑩ estimate will be apt to be far more momentous. Therefore the true policy for men of science, instead of paying as little heed as possible to reasonings of this type, would be to encourage as much as possible those young persons who seem to show a genius for this sort of research, ^{- to encourage them,} first, to secure the thorough and elaborate training which it requires, ^{that done,} and then, to devote the rest of their lives to working out, ^{step by step,} and each kept from missteps by the encouragement and criticism of others devoted to the same quest, the truth about this type of reasoning.

I have now explained what this essay is to be about sufficiently for the young reader, if he has any stuff in him, to perceive that the subject is one of ^{high} ~~interest~~ import and pro-

11. wise, deserving close, energetic, and sincere study. It is the young reader that I care for most, because though I believe I have a right to promise that I shall enable him to see the truth about the most important questions that present themselves at the initial stages of this ~~the~~ inquiry, yet I have not ^{myself} found life long enough to penetrate far into the truth, albeit ^{passion} senility is but too plainly overcoming me; so that the ardent ^{passion} to be useful, which we all feel as children,

and which defines itself more and more as our years advance, can only be assuaged by or for me, by trying to pass on the little insight that I have been able to ^{acquire} get into this momentous business of reasoning, to one or more younger heads who shall carry the quest further.

II,

12) To one seeking ~~some~~ first acquaintance with a ^{science} ~~subject~~ that has roused his curiosity surely nothing can be more exasperating than to find his impatient approach barred by a posse ~~of~~ technical terms, and to find that he must come to an understanding with them before he can learn anything of the subject. It is, however, an ~~inexorable~~ ^{inevitably} condition of penetrating into any extensive branch of knowledge; and the Reader may congratulate himself (if he finds it a subject for congratulation,) that the science of Reasoning, being one of the Sciences of Mind, won't present one technical term to be ^{learned} ~~counted~~ against every thousand such in comparison with Botany for example, which is reputed to be a particularly agreeable study; and

13) moreover, a comparatively insignificant proportion
of the ^{vocabulary} terms of any mental science is altogether foreign
to polite literature. Few, if any, ^{other} of its words are as queer as
"uberty", ^{even} and that figures in our older modern prose, and
in verse, too. Thus, the terminology of the mental sciences calls
for nothing like the strain upon the memory that the biological
sciences, and ~~even~~ ^{or} that of chemistry does. Even physics,
especially electric science burdens the memory more. The
● reason, I suppose, is ^{partly} that the world of mind is incomparably
smaller and less varied than the world of matter, partly
that although whatever we know of matter is due to mental
phenomena, such as the sense of sight, etc., ^{and other senses,} furnish, yet it is
far easier to eliminate from observations of external objects all

⑭ elements that are due to the mental circumstances of the observer than it is to do this when the observer and the object observed are all but identical, and finally, partly it doubtless is that the scientific observation of mental phenomena only dates (roughly speaking,) from A.D. 1860, so that mental observation is still in its infancy, so much so, that the ^{relative} crudeness of its practice strikes a physicist ^(supposing him to have any intimate with that practice) strongly even today; and finally, it may be presumed that ^{reproductively} the tendency of development is to adapt ^{as far as} the stocks of living things to their environment, it will naturally tend to increase their powers of discriminating between outward objects much more than that of discriminating between slightly different ways of discriminating. At any rate,

15) whatever the causes of it may be, the ^{opinion} fact that to get to know oneself is no easy job seems to have met with favour several millennia ago; and nothing has since occurred to shake it. At any rate, the fact is that while the definitions of ^{those} the technical terms of the ~~out~~ sciences of the outward world that were technical terms a century ago, retain the same meanings now that they conveyed then, the terms of the sciences of the inner world are carefully defined by each new writer that has any ^{very notable} ~~great~~ contribution to make to ^{the mental science} ~~the~~ subject; and in order to understand his writing, it is indispensable to bear well in mind in reading it the precise definition that he has given of it.

[I fear some of the ~~these~~ remarks that have dropped from my pen

(16) in the last paragraph may be mistaken ^{tinged} as ^{implying} ~~general~~ something approaching dispraise of the present conditions of the mental sciences. Now this mistake, if it were made by any confiding young reader would be apt to do him great wrong; and I must make him understand that, if he is to trust to me at all, it would be a calamity to ^{himself} entertain any such depreciative impression of those sciences in their present eminently ~~healthy~~ healthy state. I should also ^{be} keenly pained if any of those who are cultivating any mental science were to commit such a mistake; though it would not matter very much. For I believe my essay will produce such effects as it ought to produce. I have observed that Presumptuousness, — a disposition to punish the slightest symptom of ^{fact} ~~disrespect~~ for

⑫ any limitation of anybody's respect for oneself, — is by no means a rarity among eminent and semieminent persons of any class; although in those of the very first order of eminence ^{is} any line it ^{is} certainly markedly exceptional. The only two such cases that I have known something of were the Königin Augusta and Leverrier, — both somewhat disordered ^{I don't mean "deranged."} minds, in special directions.

The principal mental sciences, ~~but not~~ living or in ore, seem to me to be Esthetics, Ethics, Logic, and Psychology. Of esthetics I must confess myself utterly ignorant, the only book I ever read on the subject having been the first ^{on any of these subjects} I ever read, except Whately's Logic. It was Schiller's Aesthetische Briefe, which made a deep impression upon me. I have ~~a keen sense of beauty,~~

18 I confess that few of ~~Schiller~~ Schiller's own productions ~~go over~~
whelm me with a sense of their beauty; but I think that,
owing to effects of habituation ^{too much} theory and other accidental
causes, ⁱⁿ great parts of ^{the country,} Germany, feelings ^{generally} there have become
blunted to certain elements, while mine have been blunted to
others, so that a difference in the appreciation of particular
kinds of work does not ~~at all~~ prove that the idea of
beauty in general is so essentially ~~different~~ different in the
● two minds that the analysis of its nature in one need be
false for the other. But it must be confessed that there
is very little of the artist in my make-up; and I detest my
own style quite as much as the reader is likely to do; for when
I write I am so occupied with trying to get what I think

19 exactly conveyed that I can attend to nothing else.

As to Ethics, the discussions that were an indispensable preliminary to any scientific investigation of its proper problems seem to me to have begun with Hobbes, and to have been carried on in an admirable spirit to this day, the principal suggestions following upon one another as rapidly as was consistent with the proper mental digestion of their reasonings at the times when they first broached. The discus-

sion belongs mostly to English & (in a broad sense) may be taken as beginning with ^{Sir Edward Herbert who became Lord Baron} ~~Bacon~~ Herbert of Cherbury. ^{* New written}

Cherbury ^{it is} within a mile of the border of Wales, which would have included it ^{but for} a cattle cutting it off. ^{He only came into the title of Baron in 1629,} Herbert's ~~father~~ ^{is one of the very few that was already} ~~was a poet~~ ^{father} still widely loved. His family had been eminent for three centuries

20

before the Wars of the Roses (i.e. before 1450). He was born in Montgomery Castle, and was the eldest brother of the devout poet George Herbert, every one of whose pieces ~~contains~~ embodies some original ^{and} striking ~~and~~ thought of which the intense sincerity is brought home to us all the more by the extreme oddity of ~~the~~ the metaphors, some of which would border on the comical but for their powerful earnestness. Sir Edward had been sent by James Ist as Ambassador to Louis XIII in 1619, and ~~was~~ but for a few months' interruption remained so until he was dismissed by Louis (i.e. by Richelieu) in 16²⁴~~16~~; and ~~it~~ was in that year that his first ^{as it was, on the whole, his} and greatest work was published in Paris. It was afterward translated into French, but never, I believe, into English, although it ^{came} ~~was~~ as near to being the Bible of

21

Foot-Note continued

the English "deists" It was, at least, their constitution, since ^{first} it ~~renounced~~ and defended the "Five Articles" of their belief. Its title was "De veritate, prout distinguitur a revelatione, a verisimili, a possibili, et a falso." Other philosophical writings of his are said to be "De religione gentilium," "De causis errorum" (unfinished), "Religio laici," "Ad sacerdotes de religione laici." He wrote other things both in prose and verse. He is certainly an important philosopher, especially in recognizing that all truth depends upon "Natural Instinct" But he does not, (of course, he could not, at his date,) sufficiently recognize the modifiability, educability, and developability of that instinct. After him there follows a long procession of English moralists. of whom I will name those who seem to

End of Foot Note] Text Resumed.

22 me the most significant, with one or two French writers who occupy places in the same development of ethical thought. First comes Hobbes (too celebrated to need any remark. He seems to me an example of extreme perversity backed by great argumentative power. But then it is so impossible fairly to put oneself in the shoes of a royalist exile during the parliamentary wars,) Gumbel-land (answered Hobbes, saying that each should try to promote the good of all, because that would result in the greatest happiness, an epicurean reason) Budworth (in his Eternal and Immutible Morality argues against Hobbes that nothing is ~~wrong~~^{right} because God made it so, but on the contrary, God commands it because it is right. Does this mean anything? To me, about the most unconvincing of books, but less unreadable than ~~the~~ his True Intellectual System;) Budworth's son-in-law, the great Locke; Locke's pupil,

23) the 3rd Earl of Shaftesbury (and if ever man hungered and thirsted after righteousness, he did) * ^[Foot Note.] * His Philosophical Regimen, ^{along} ~~together~~ with 260 pages of his letters) was admirably edited in 1900 by Dr. Rand. Of his Characteristics of Men, Manners, Opinions, Times, I can only recommend one of the early editions, before the significant copper-plates ^{got} become too worn. The 4th of 1727, is very handsome. Of the three volumes, it is the Second, ^{that is the ethical one,} ~~first printed in 1699,~~ and containing An Inquiry concerning Virtue, or Merit (printed "from an imperfect copy in 1699" but "intire" subsequently) and The Moralists, ^[His analyses appear two centuries later, to be very imperfect.] ~~and~~ Philosophical Rhapsody, published in 1709. ^[End of Foot Note.] ^{Text Resumed} Shaftesbury's doctrine that we ought to be good because of the beauty of holiness was attacked by a remarkably witty ~~writer~~ Flamand ~~with~~ Bernard de Mandeville, ^(author of The Fable of the Bees, with additions filling two volumes) whose command of our language is amazing, though his sincerity may often be doubted. The one proposition that he seems thoroughly con-

24) vinced of is all but axiomatic, namely, that the world is so constituted that even from Evil, more good than harm will ultimately result; and this he expresses in the paradoxical form "Private vices work public benefit." As far as I have looked through his two volumes his only title to be considered a moralist is the wit with which he first states this proposition in such a tone as to shock people, and then defies refutation with success, because in reality it would be the ^{absence of such} ~~opposite~~ tendency that would render improvement impossible and be a ground for despair. But he takes care not to let the reader see what his little game is. Dr. Franklin, who in his early stay in London, met Mandeville, was naturally delighted with a finesse akin to his own. It is a catholic dogma that that the curse of Adam, who was created a little lower than the angels,

25) was converted into the blessing of Redemption, by which he is raised higher than the angels. Is that so shocking, supposing it to be true? Although I refuse to reckon a man so little in earnest as Mandeville is among the moralists, and though his one doctrine, though as nearly axiomatic as it is, does not appear to me to afford any guide to human conduct, but to be purely speculative, and so not distinctively ethical, yet I must say that he quite refutes several opinions that if they were not in truth Shaftsbury's, that noble Lord was somewhat to blame for leaving his readers ~~but~~ naturally liable to mistake for his. His stoicism is hardly of the genuine old brand, which ^{carried,} a distinct flavour of genuine Cynicism. Shaftsbury is ^{of such a} the kind of stoicism ^{that he} ~~to~~ frequently to appeal, as to one

26 of his major prophets, to that stern master in Stoicism,
Quintus H. Flaccus! He, ^{sometimes, for example,} Shaftesbury, frequently argues as
if Pain were an evil, which is not only monstrously unstoical,
but is evidently utterly untrue. Pain, far from being an evil,
is one of our greatest blessings, since, without ^{it} we should be
without any immediate and emphatic indication of what to
avoid; and a person who does not regard it in this light seems
^{almost} more like a sybarite than a stoic. We may call him a sybaritic stoic

● Now let me say one word more in favor of that ^{cryptic} doctrine that Mandeville hides so sedulously behind his
mockery. I go on the assumption that the entire physical
and psychical universe is created. I gave the ^{argument} ~~reasons~~
that most appeals to me in favour of that belief, ^{some five years ago} in an Eng-

27) lish magazine; and the majority of those readers from
~~and~~ whom I heard could not see where the argumenta-
tion came in; in other words, they seemed completely
blind to the most vital of the three fundamental colours
of Reasoning. ~~But~~ I hope it was not a congenital defect ^{incapacity}
^{most likely it was,} ^{or partial atrophy,} ^{bad habits of thought,} ^{here points at,}
~~but~~ merely a dullness due to ~~long disease~~. That ~~is~~ ^{one} of
^{that have brought forth,} several motives ~~for writing~~ the present essay. For the
present, I put forward the proposition of Creation as a
● bare assumption. Supposing, then, ~~that~~ the entire men-
tal-material universe to be created, ^{the same} this must be true of ^{its} ~~the~~
Laws; ^{for they} which are the regulative part of that mental-materi-
al universe. Now that Creation implies a Creator not a part of ~~has~~
that which creates need not be argued. The Creator of that universe,

28) therefore, must, under my Assumption, be out of the jurisdiction of the Laws he has created. Of course, they are not "laws" in the juridical sense, but only limitative general descriptions of the relations between things contained in that Universe; so ~~that~~ that to say that the Creator is "out of their jurisdiction" merely means that He is not a part of his own Creation. Right here an apparently annihilating objection is pretty sure to arise to my whole Assumption; namely, that since the material universe embraces all that exists, it follows that if it does not embrace its creator, such a creator does not exist. Perhaps among ~~my~~ ^{the} billions and decillions of my readers upon whom my good publisher ought to be counting there may be a small percentage whose native reasons

29) Ing=instinct is so keen and true. that they will see at once that there is nothing in the objection. But I fear that that favorite reader whom I always have in mind, won't be one of them. For his sake, therefore, I am moved at once to indicate a way in which that objection may prove not to be so complete a soedollager as it seems; and I may promise very shortly to show, though that I cannot quite yet do, that in fact such is the case. But all that I ^{just} can, at present, properly ask to have admitted is that those who urge the objection may take the term "mental" or "psychical universe" in a different sense ~~than~~ from that in which I take it. They, for example, may mean by the "material," ^{or "physical,"} universe ~~every~~ the total of whatever has

30) a reality quite independent of anything in the sensation, will, or thought of ~~anybody~~ ^{man or soul more or less like man}, while by the "mental," or "psychical universe" they may mean the totality of all that is not quite independent of sense, will, and thought. Taken in ~~that sense~~ those senses, the two universes evidently must together include everything real. But I do not employ the term "mental" or "psychical universe" in this purely negative sense. What I mean by the "mental," or "psychical universe" is ~~consists~~ ^{is} the total of everything that is real and that, besides being real is either firstly, such that its reality consists in my being, now or at some other time, being really conscious of it, or secondly directly or indirectly, or at least being capable of approximating without limit to such

31) consciousness, or else, secondly, such that its reality consists in this being true, though not of myself, yet of some other mind that I can comprehend and that I could influence and be influenced by, if ^{subscience} means of intercommunication existed between us. Now, the reader must perceive that there is no absurdity in supposing that there is something which is neither in the material world nor in the mental world as just defined. Indeed, if he has understood my definition of the latter, he must see that it is all but inevitable that there should be such Reals, since it would seem that there must be some Real relations between these two worlds; and those relations cannot lie within the one nor in the other. I fully realize the

32) difficulty of a young mind not yet trained to such thinking, must find ^{experience in trying to understand} in understanding what I have been saying; but he will find it all cleared up in the sequel. I do not here stop ^{to make} for further explanations, because I have said enough to show that ~~there is~~ ^{clear} no proof of such absurdity as I may have seemed at first to be chargeable with ~~has been~~ is forthcoming.

I am free, then, to resume my train of thought. ^{But I will take advantage of the interruption to slip in, first, a few explanations of words. By the way,}
● Real I mean that which is as it is, ~~independent~~ ^{independent} regardless of whether ~~it~~ you or I or anybody thinks that it is so or not. ^{It is thus not necessarily independent of all thought but only of opinion about it.} Thus the holding of a given opinion is a Real, because the opinion is such as it ^{is}, no matter what anybody thinks it to be, even though he be the opiner himself.

33 For it is no very rare occurrence for a man to be quite mistaken as to what his opinion on some question really is, even though he have ruminated upon it for some time. That which is not real I call (after Duns Scotus,) a Figment, without in the least implying that it has been intentionally made up, or knowingly fabricated. It may strike the Reader that the sense in which I use the word "real" applies, primarily, ^{at least,} rather to a State of things, that is, to the substance of what might be asserted, rather than to a Thing, that is, to something that might be named. But the truth is that, for the present, I wish to ignore that distinction, which, if it is anything more than an affair of grammar, certainly merely concerns an unimportant attitude of mind. For that can be asserted can

I shall use the word "real" indifferently, as an adjective and as a concrete substantive, that is, as a general name for anything ^{of} which the adjective could truly be asserted.

5 As the corresponding abstract substantive, ~~or~~ the name of the state of things that would consist in the truth of the ~~word~~ assertion, that a given subject is "real," I shall use the word "Reality." "Fictive" I shall ^{be} regard as a concrete substantive (though this will not prevent my using it attributively, ^{whether} with or without the indefinite article, I shall prefer "fictive" for the adjective, and "Unreality" for the abstract ~~word~~ substantive.

● There are different "modes" (or, as Kant called them, "modalities," affixing an abstract ^{terminative} to a ~~term~~ ^{known} already abstract, without altering its meaning.)

35) As the corresponding abstract substantive, ~~or~~ i.e., the name of the state-of-things that would consist in the truth of the ~~word~~ assertion that a given subject is "real," I shall use the word Reality. "Fictive" I shall ^{treat} regard as a concrete substantive, ^{and} though this will not prevent my using it attributively, ^{whether} with or without the indefinite article, I shall prefer "fictive" for the adjective, and "Unreality" for the abstract ~~word~~ substantive.

● There are different "modes" (or, as Kant called them, "modalities," affixing an abstract ^{termination,} to a ~~term~~ ^{mean} already abstract, without altering its meaning; for although the word mode was originally ^{applied to} ~~used~~ for a great variety of qualifications of assertions, it came to be ordinarily ^{restricted,} ~~applied~~ used by logi-

36 cians ^{in a} special ^{way} ~~mode~~ which I will at once proceed to explain, I do this in order to make the reader understand ⁱⁿ what a logical mode consists, ~~in~~ which he perhaps does not quite distinctly and analytically know, in spite of the fact that every child old enough to have any mastery of speech is perfectly familiar with the practical effects of these ways of talking. In doing this I am obliged to have an air of informing the reader of what he has perfectly known from childhood. The normal intention ^{and utility} of an assertion is to testify to some state-of-things of which the person addressed is not already fully informed. In order that this may be done, the attention of the second person (the one to be informed) has ^{first} to be fixed upon a particular part of his familiar know-

37) ledge, which is closely connected with the circumstance of which he needs to be informed. Then, if this circumstance were essentially unlike anything within the range of the second person's experience, he could ^{still} not be informed of it until he had received a bit of education, and the attempt to convey the intelligence at once would be futile. Consequently in all cases in which it can be conveyed, there is some word or expression which the assessor well knows will, ^{if uttered,} ~~remind~~

● remind the second person of ~~some~~ former experiences of his that will ~~be~~ give him to understand what ^{is that} ~~the~~ element of the new information that is new to him is like. So that is the utmost that can be conveyed in one item of information. But, of course, I avoid complications of statement,

38) that could only obscure the ^{very} simple fact to which I want to draw the Reader's attention, which is that any assertion whatever, however simple, must have at least two parts; namely, one to draw the second person's attention to something within his familiar experience, and the other to bring before his mind something in his former experience that is like that ^{of} which he is to be informed concerning the familiar thing to which his attention has been directed,

18) entirely my own, and very decided, but utterly uncultivated; so that I can say nothing about this subject. ^{Among} Of the things I most admire ^{in literature}, some have been condemned by critics as factitious, such as Pope's Epistle of M'eloise, Gray's Hymn to Adversity, Cowper's Boadicea, ^{Jennyson's Will,} The critics are probably right, ^{though} but my feeling remains the same. I abominate Victor Hugo's verse, and loathe his prose; but I revel in much of the verse of Alfred de Musset, ^{and} I almost worship George Sand. I mention these things **●** merely to show the reader that where I am crude I am perfectly willing to lay bare my crudeness, ^{for the sake of} ~~because~~ I wish ^{being} ^{and above-board,} to be honest with him.

19 exactly conveyed that I can attend to nothing else.

In Ethics, I am not such an ignoramus as in Esthetics,
and

21

Foot-Note continued

on God's part and man's from certain abstract relations, Truth, &c.

Written for the use of the Young Gentlemen at the Universities. Lincoln:

Printed by W. Wood; And sold by R. Dodoley, at Tully's Head in Pall-mall,

1747. My acquaintance with this remarkable work is due to my possessing

reprinted in Vol. II of Samuel Parr's Metaphysical Tracts, published after

Parr's death, in 1837. But watermark of the paper on which my copy is printed

bears the date 1803. ^{The same,} My copy has Parr's book-plate pasted into it and has

numerous pencilled notes, apparently by Parr, ^{of} but which I can read little ^{regret that, that} of in

owing to

~~consequence~~ of their being written stenographically.]

kind of Foot-Note

Text Resumed.

^{Superseded}
33 For that a man may be mistaken about their own opinions, let the regiment testify of whom every man has supposed that his opinion was that a speedy and sure death was the thing most desirable for him, but five minutes later, having taken a tablet of $HgCl_2$, has ascertained that his opinion was not precisely that. However, grant that a given opinion is infallible; still, the Real state of facts to which it relates does not depend at all on that circumstance.

● It ^{will be} convenient to have terms to distinguish three different modes of Reality. One is that of facts which ^{might} remain Real although their negations be ~~the~~ equally Real. I shall term such Reals "May-bes." For instance, I will toss up a coin. Then it is a Real fact that it may turn up

34

heads, since ^{if it is so,} it is so whether you or I or the Supreme
Bench ^{so,} ~~Opines that it may or that it can't,~~ ^{or contrariwise,} I call the ~~non~~
~~factuality~~ ^{unreality,} of a may-be by the name of a "Would-be" A ~~may~~
Would-be and its negation ~~may~~ cannot both be Real, but
they are very often, not to say more usually, both ~~false~~ Unreal,
or Fictive. ^{Thing or} A state of Things (I can't see much difference
between the two, ~~we~~ beyond the different phraseology we
employ in ~~a~~ speaking of one or the other. Thus, a man is a
● Thing, a living thing. After death, he is no longer a man
he becomes a corpse. But it is the same thing to say that a
man is "alive", and to say that he has "life." But we do not
call Life a thing, but a "State of Things. The distinction
appears to me to be purely one of phraseology, or very little.

35

more,) is such that it and its negation cannot both
be Real nor both Fictive. ^{That mode of being I call Existence} I call The manner in
which we think about a May-be, in holding both it and
its Negation to be ^{compatible, or} possibly Real together though they cannot
both be Fictive together, I shall call Indefinite
thought; and I shall call ^{our} ~~the~~ manner of thinking of a
Would-be, in holding it impossible and senseless to talk
of it and its Negation as being both Real together, but
● easily possible for both to be Fictive together, I shall
Indeterminate thought.

2
Axioms

i. Explanations of Terms, to be used in Special Senses.

It is always a great convenience to a reader to find any writing not very short and calling for considerable thought to have been broken up into brief sections, so that he can readily turn back to any previous passage. Locke's celebrated "Essay concerning Humane Understanding," is a particularly convenient work in that respect. Of its greater merits I need not speak. It is divided into Books, Chapters, and Sections, each of the last, with few exceptions mostly in the concluding Book IV, consisting of a single ordinary paragraph of no exorbitant length and often of half a dozen lines. But ^(to) chopping up the present essay so fine as that would

⑬ be objectionable as not sufficiently marking the concatenation of the thoughts.

No science can be conveniently ~~with~~ discussed without a provision of technical terms; that is to say, words or phrases having much more precise meanings than it would be at all convenient to restrict ordinary words to. For if we were to be confined to precisely defined terms, we never could express any thought or feeling or other state of mind that was not composed of such as were sufficiently familiar to all the world to have had a common word assigned to it.

Logic, a word which I shall employ as a technical term for the science of the security and liberty of reasonings, is like all the other sciences in having a practical need of techni-

14 cal terms; and it is further resembles the others in that a good deal of the labour of developing the science has to go to the work of forming a suitable "terminology," or system of technical terms with their definitions, or precise explanations of their meanings; and as in many of the other sciences, these definitions can, many of them, only come to be understood in their precision by the learner's ~~becoming~~ familiarizing himself with the particular kind of observation that each expresses. Success in the study, depends, for one of its conditions upon the learner's diligence in the formation of that habit which such "familiarization" signifies. I shall give my definitions in batches, each ^{comprising} relating to more or less similar notions, each batch ~~being~~ preceding

15) as closely as other considerations will allow, the passages in which there will ^{first arise a} be need of ^{for} using some of the terms defined.

Here begins, then, our first batch of technical expressions, and its first term ought to be the noun ens. This denotes whatever a noun could be invented to stand for. It is thus distinguished from all ordinary nouns by including its own negative, since if we call ~~it~~ what is not an ens a non-ens, we ^{must recognize} ~~thereby make~~ ^{that} that which is a non-ens is an ens. True, it is absolutely nothing; but in calling it "nothing" we designate it by a noun, and thus forced to admit that it is an ens, for an "ens" is whatever is designable by a noun. Thomas Aquinas, one of the great Saints of the Romanists, ^{The Doctor Angelicus,} and assuredly a great thinker,

16) allowing for his having died A.D. 1274, ^{at an} ~~with~~ age about one year more or less than 48, refers to God as ens necessari-um; and if this ~~may~~ be taken to mean that our reasoning-
instinct insistently points to something ^{being top high for} ~~above~~ our compre-
hension, & I, for my part, must confess my assent.

The word ens is a manufactured present participle, and thus reminds us of our English word being, when this is used as a participle or as meaning "what is something that is, and not as an abstract st noun, meaning that state which distinguishes anything that is from anything that is not, which ought to be called "entity", or ^{perhaps,} "beingness". But, as a matter of fact, the Latin ^{noun} ~~word~~ ens, as far as I know it has not been found in any earlier writer than the author of one of the

17) Boethius * ^{Foot-Note} [Anicius Manlius Severinus Boethius, ^{murdered within a year of A.D. 523,} of whose works there are at least two XVIth century editions in folio, is a writer of considerable importance for the history of logic, for two reasons. The first is that he uses and defines a number of the Latin technical terms of the science that whose use cannot be traced back further, but which long afterward became the established expressions for the same concepts for which he had used them, owing to the fact that until ^{near} about A.D.

● 1200, these translations and commentaries of Boethius were the only introductions to logic that were extant in Western Europe. The second reason is that a certain interest attaches to some original studies of reasoning by Boethius: their very sterility ought to have been instructive, had minds them

Foot-note continued
18) been sufficiently developed to perceive it. Another book attributed in the Middle Ages to Boethius, but now regarded as spurious is entitled De Trinitate. A belief in the trinity would not necessarily imply Christian belief; there is nothing more than reticence to show that Boethius was not a Christian. It must be remembered that he was a minister under the ^{Arian} Gothic king Theodoric, whose violent disposition and touchiness about any ^{utterance} ~~utterance~~

● that he fancied to be due to an insincere pretence to sharing his own faith seems to have verged upon insanity. While imprisoned, owing to Theodoric's suspicions in the town now called Pavia, where his splendid tomb, due to the repentance of the ~~the~~ royal family, is still to be seen, Boethius

Foot-Note continued
19) wrote a book of surpassing popularity, the De Consolatione Philosophiae. The translations of it, in whole or in part, into European languages, almost ~~constitute~~ ^{make} a separate branch of bibliography. There have, for example, been at least 17 into English; and among the translators have been King Alfred, Geoffrey Chaucer, ^(in prose) John Gower Esq^r of Kentwell ^(in verse) ~~(the poet)~~, Queen Elizabeth, etc. King Alfred's is remarkable interest, since it not only cuts out what would not be popularly understood, and makes large insertions well worth reading, but even where there is a certain correspondence of Alfred's text with the original, the former ^{presents} is often a striking improvement over the latter. Thus, in Prosa IV., Boethius addresses the muse Philosophy, thus (not having the original text by me

Foot-note continued.
20) I give Lord Preston's translation in the beautifully printed edition of 1695): "Certainly thou didst deliver this Sentence as an Eternal Sanction by the Mouth of Plato, viz. That those Commonwealths are most happy, who are governed by Philosophers, or by those who study to become such." But King Alfred (again, ^{back} looking the original) ^{and} quote Dr. W. J. Sedgfield's translation into Modern English, Oxford: ~~Oxford~~ ^{which contains so much of value and is so beautiful in dress, that its price of 4/6 is small} Clarendon Press. 1900.

"Is this wise Plato's saw thou toldest me of long ago, that without
● righteousness no power was rightful?" That is a great truth; but Plato's "saw" in 5th dialogue ~~about~~ about the Republic Republic (Ed. St. II. p. 473 D), ^{briefly}, that towns would never have rest, nor Athens see sun-light until political might and philosophical wisdom were conjoined, pointing to something like the consulate of

21) Bonaparte and Sieyès. Our own constitution, on the other hand, was based on the idea of separating the different functions, chiefly because historical development had separated them in England; and the effect has been to place all the power nominally in the hands of the ignorant, while really in the hands of those who know how to sway and excite the ignorant. End of Foot Note] ^{xi resumed.} who (in his commentary on his own translation of Porphyry's Isagoge, 'Εισαγωγή εἰς τὰς ^{τάς} κατηγορίας) refers to "ens" as meaning "ultimum omnium genus quod de omnibus praedicatur," that is, as that which can be affirmed of anything whatsoever, ~~Nevertheless~~ though he, nevertheless, sticks to the absurd sentence that (doubtless by inadvertency) begins the fourth chapter of Aristotle's book on the Categories, or Predica-

22) ments, to the effect that every simple affirmation must signify one or other of these ten kinds: Substance, Quantity, Quality, Relation, Place, Time, Habit, Possession, Action, Passion. The list is sufficiently ridiculous; but the statement that every predicate must refer to some one of these classes, and not to a class embracing several of them is at once refuted by the mere invention of the word ens, the conception of which is indeed used by Aristotle himself in this very statement, in speaking of "that which can be affirmed," — τὰ ἐξομείνω, i.e. "of the entia," or "of things affirmable." Of course, the more ^{the thing affirmed} an affirmation is complicated, the narrower and less general it becomes, as Aristotle perfectly recognizes. But it is absurd to say that that is not affirmable which he himself has just spoken of.

7 of.

23 The word "ens" is probably an imitation of the Greek τὸ ὄν, although this, perhaps more frequently, means entia, the character of being an ens, rather than the concrete ens. Most of the Greek philosopher gabble a good deal about τὸ ὄν. It is the subject of the science of "Ontology," or Metaphysics.

Instead of dividing Entia (the plural of Ens) into Aristotle's ten predicaments, which ~~nobody~~^{no} ~~in~~^{person} modern ~~times~~ does, I shall distinguish among them Reals and Figments. I call anything "real," to mean that it is whatever it ~~is~~^{may be}, whether it be thought to be so or not; while I call that a "figment" if there be anything that it is, and ^{if} its being so consists in somebody's thinking that it is so or thinking that it is not so, "thinking ~~there~~^{that} being ~~taken~~^{here} in the most

24 general sense that will give the phrase a meaning; but what "thinking that" really consists in is a question to be considered at a later stage of our studies; it will suffice for the present that the reader ~~own~~ attaches some sense to the phrase; for that will ~~be~~^{become} near enough to what is meant, after it shall have been well generalized.

But still some care is requisite to understand what I mean by a Real and what by a Figment. An example will bring this home to you, my Reader. Suppose that I once ~~dream~~ dreamed that some describable event took place. Then that event will be "what" I dreamt, and the event of my so dreaming will be the fact "that" I dreamed so. What I dreamt must be called a Figment, in my terminology,

25) unless, indeed, the dream "came true," in part, in which case it was, in that part, Real, however accidentally. If, indeed, I dreamed that I then and there saw the event happen, then what I dreamed ^{must have been} ~~was~~ a Figment, since a person with his eye-balls rolled up, as they are rolled up in sleep, can see nothing. But ^{judging by} ~~on~~ my very scanty experience of dreams, I don't think people often dream so reflectively as that: I think they simply dream of the object, without any reflexion on themselves; but I am ^a poor witness on that point. On the other hand, that I dreamed it, under the supposition stated is obviously Real. But my personal opinion, which I must admit is worth little, is nevertheless very decidedly that dreams are so incoherent and so utterly unlike waking ex-

26 perience, while language has been formed so exclusively to express the latter, that when a person undertakes to narrate a dream, whether to another or in thought to himself, he is unconsciously obliged, in his effort to represent his dream in ~~the~~ ^{any} language or the thought of waking life, to patch it out with matter that was not in the dream itself at all; so that the narrative of a dream generally expresses a figment. This suggests my adding one word more in order ● to impress upon the reader the need of distinguishing between a thought, in the sense of an act of thinking, which, if it actually place, is unquestionably Real, whatever may be ~~though~~ anybody's opinion as to whether it took place or not, and a thought in the sense of that which such act

27 of thinking brings before the mind, which will be a pure figment in case there be nothing else to give it Reality than that mere way of thinking. It will be observed that the definition of the Real with I began fully covers this distinction.

Now of ^{different} Reals there are three different modes of Being; namely, that of "Would-be", that of "^{"Can-be"} ~~May-be~~", and that of Actuals. By a Would-be I mean ^{a State of Things} ~~anything~~ whose Reality

● consists in the fact that whenever, ^{(i.e., under whatever circumstances,} (if ever), ^{should be,} a certain State of things ^{would be,} is Real; and

By a "State of things" I mean a Real of the sort that an assertion could precisely represent to the mind. By a Can-be I mean a State of Things consisting in ^{the Unreality} absence of any

28 Would-be to ~~prevent~~ prevent the Reality of a ^{more or less general} certain State-
of-Things under some unspecified circumstances. It ~~there-~~
~~fore~~ thus consists in the fact that a supposable Would-be is
a Figment. The assertion of a Would-be would in substance
amount ^{precisely,} to a Conditional assertion, i.e. to the assertion that if a
^{supposed,} definite state-of-things were real another stated State-of-Things
would be real;

^{Surveys}
④ Mathematics is the only science which still professes to confine itself to necessary reasoning, and in the proper place it will here be shown (so far as is possible without going to any great depth into ~~the~~ its abstruser parts) to what an astonishing extent its greatest advances ~~in~~ in modern, and even in ancient, times have been due to mathematicians' lack of the peculiar subtlety required to keep their reasoning strictly of the necessary kind at important junctures. No great

● ~~Because~~ it is originality is claimed for this part of the essay: ^{something of} ~~much~~ the same ^{sort} ~~thing~~ was said by John Stuart Mill in the first edition of his "System of Logic, Ratiocinative and Inductive"; ^(of March 1843, but for the part in question, he was older) ~~but how could a man upon whose~~ ^{memory now more treacherous than ever does not lie about a book hard to get into for 50 years)} ~~shoulder's rested~~ ^{for the most} a considerable part of the business of the India

5) Office, while he was ^{carrying on ~~and~~, largely writing and editing} all along contributing to ^{and putting forth opinions,} ~~the~~ ^{General quarterly} reviews ^{and} all sorts of other things, ^{matters, and all this though he} and who, moreover, had never had any genuine scientific training, and had never really emerged from the imprisoning egg-shell of his father's and Bentham's philosophy

5) Mill in the first edition of his "System of Logic, Ratiocinative and Inductive," published in March, 1843, but in the writer's mind older by a dozen years.

Nothing is more annoying to a person to a person who seeks an introduction to an acquaintance with any science than to find his way toward it barred barred by a crowd of technical terms. But they are indispensable to every science; and in such a subject as botany, for example, one has only to look ^{over} ~~at~~ a selection of forms to which ^{each} technical technical of which a ~~term~~ term is affirmed and then of a selection of which it is denied, in order quickly to come to understand what that term means; and nothing additional will be needed, except an unflagging memory, in order soon to master a large part, at least of the vocabulary. The technical terms needed for a study of Reasoning will not

13) any memory, for its entire vocabulary ^{contains} ~~is far less than~~ contains far fewer than one per cent of the terms of botany and hardly any of them are so strange as the immense majority of botanical words; nor are the definitions of them so appallingly long as those of an average botanical genus. In only one respect is logic anything as hard to read as botany; and that is that while one can understand well enough a botanical discussion without recalling half of any ~~given~~ the full definitions of most of the genera and species mentioned in it, in the study of reasonings, ~~which~~ ~~where~~ the ~~of~~ distinctions between the different kinds are not such as to strike the eye or any other sense, it is absolutely necessary thoroughly to understand the precise de-

14) finition of each technical term according to the usage of
the individual writer ^{whose work you} you are reading. In order to render
this single greater difficulty weigh as lightly as possible
upon the reader, I shall distribute our little vocabulary,
so as to give the definitions in small batches, of each con-
sisting of a few terms of intimately related meanings

13) ~~Superseded~~ be objectionable as not marking sufficiently the concatenation of ideas.

I shall show the reader, when the proper time comes, how much reasoning is dependent upon Graphical Signs. By "graphical" I mean capable of being written or drawn, so as to be spatially arranged. It is true that one can argue viva voce; but I do not believe one can go very deeply into any important and considerably large subject of discussion with calling up in the minds of one's hearers mental images of objects arranged in ways in which time, without space, is incapable of serving as the field of representation, since in time, ^{of} two quite distinct objects one must be antecedent and the other subsequent. Of course, the one temporal relation can be spatially imaged.

14 in various ways. But the combined field of space and time seems to be adequate to the imaging of Lorentz's explanation of the famed experiment of Morley and Michaelson, and although mathematicians talk of a space of any number of dimensions, I do not think it has been shown that they render any relations logically consistent (without ~~break~~ breaches of continuity,) that ^{could not} ~~cannot~~ be imaged in a moving stereoscopic view.

17) most popular works of in every century since excepting
the XIXth since it was first given to the world: I mean "the
Consolation of Philosophy" (De consolatione Philosophiae)
written within a year of A.D. 523. * ^{Foot-Note} ^{It is} ~~Extract~~ from the Introduc-
tion ^{top} of the last item of the following list that I extract mentions
of some of the translations of this famous work into English. That
of King Alfred, with considerable interpolations by the royal trans-
lator. Edited by W. J. Sedgefield. Oxford: 1900.