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3210

ON THE  
REALISATION OF THE POSSIBLE.

*Eleusis servat quod ostendat revisentibus. Initiatos nos  
credimus: in vestibulo hæremus.*

SENECA.

ON THE  
REALISATION OF THE POSSIBLE,  
AND THE  
SPIRIT OF ARISTOTLE.

BY

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*τὸ δὲ δυνάμει εἰς ἐντελέχειαν βαδίζει.*

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TO  
THE WARDEN AND FELLOWS  
OF  
ALL SOULS' COLLEGE, OXFORD,  
THIS SOLUTION OF AN OLD PROBLEM  
IS DEDICATED  
WITH RESPECT AND ESTEEM.



“ ΜΗΤΙΝ ἄειδε, θεά' σοφίαν τίς ἄριστ' ἐτέλεσεν; ”—

ἦχ'ω τ' αὐτίκ' ἐπῶν ἕσθετ' ἀποπταμένων,  
αἴψα τ' ἀμειβομένη παλίνροσος ἀνεῖπεν ἐπὶ κλην  
ἐκ Διὸς ἱεμένην, οἴμαι, ἐπωνυμίαν.

ἡμᾶς γὰρ χαλεπῶς χρόνος ἐμπείρους ἐδίδαξεν,  
ρέϊα δ' ἈΡΙΣΤΟΤΕΛΗΣ αὐτὸς ἅπαντ' ἔμαθεν.  
πρῶτος ἐπιστήμης ἰδέαν ἐποίησε τελείαν

ὔλης δυσπείθους τρᾶχ'υ θέλημα δάμων,  
δημοτικὴν τ' ἀνόμων στάσιν ὀρθώσας διαλέκτων,  
ἀρχὴν τ' αὐτοκράτωρ ἐνθρονίσας τε νόμον  
χρυσοῦν πᾶσι νόμισμα, λόγους κατέκοψεν ἀκριβεῖς'  
(νῦν δὲ σοφίζόμενοι χρώμεθ' ὁμωνυμίαις.)

Πρωταγόρας τε καλῶς ἀνθρώπῳ πάντα μετρέϊσθαι  
ᾤετο· τοῦτο γὰρ ἦν αὐτὸ τὸ μέτρον ἀνὴρ,  
πᾶσαν ὀριζόμενος γένεσιν ΝΟΟΣ, αὐτὸς ὀριστός  
Η ΠΡΩΤΗ ΔΥΝΑΤΩΝ ΕΝΤΕΛΕΧΕΙΑ ΛΟΓΩΝ.

ὦ Σφίγξ ἀνδρολέτειρ', αἶνυμά σον ἴσθι τελεύτην  
ἴσχον' ἰδοὺ τόν ἄγαν εὔστοχον Οἰδίποδα!  
ἀρχῆθεν δ' ἦν ἀντὶ Λόγου Μῦθος βασιλεύων·  
νῦν τε Λόγος φρουῶδος, Δόγμα τ' ὀνειρόγενες  
πνευματικοῖς φυσᾶ ληρήμασιν, ἔργα τ' ἀράχνης  
νηπυτίας μυίας δαιδαλέως ἀπατᾶ.

χωρισμὸν ψυχῆς ἀπὸ σώματος ἡλίθιον γὰρ,  
ἀκρόσοφον δ' ἄτομον δεσμὸν ἔγωγε κυλῶ·  
σεμνά τ' Ἀληθείας γε Πλάτων ἐπέδειξε πρόσωπα  
αὐτὸ δ' Ἀριστοτέλης ἤγαγεν Ὀν τυδέ τι.  
μεχρὶ δὲ τοῦδε πάλαι μετεωρισθεῖσα Νήσις  
καιομένη πτέρυγας θάσσον ἔπιπτε κάτω.

ὦ τοῖς ἡμαθύεσσαν ὀδοιπλανέουσιν ἐρημῆν  
ὑψηλῆ κίων τηλεφανοῦς σοφίας!

ὦ κατ' ἀπειροβάθους ἀκατάστατον οἶδμα θαλάττης  
 φαίδιμον οὐρανίας ὄμμα καταστάσεως !  
 λαμπρὸν ὅσον στίλβεις κατὰ πάντα καταυγάζεις τε—  
 ἀρχὰς, κόσμον, ὄρους, γῆν, μετέωρα, φύσιν,  
 ζῶα, πόλεις, ψυχὴν, ποιήτας, ῥήτορας, ἦθη—  
 ἢ φόβος εἶ, δεινῇ παμφανοῶν δυνάμει  
 ὧς οὐθ' ἔσπερος οὐτ' ἄρ' ἐῶς <sup>α</sup>, ἐκηβόλος, αἴθων,  
 δαιμόνιον καθαρᾶς φάσμα δικαιοσύνης !  
 δαίμων δὴ τις ἄρ' ἦσθα ; φύσιν γὰρ ἐπαμφοτερίζεις <sup>β</sup>  
 τὸν μόρον, ἀνθρώπων τὸν νόον, ἀθανάτων.

<sup>α</sup> *Eth. Nic.* v. 1.

<sup>β</sup> *De Part. Anim.* iv. 5, and Plato, *Symp.* 202 E.

## P R E F A C E.

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AS nothing in this world can be understood except when considered in relation to the whole of which it forms a part, and as, owing to the over-specialisation and excessive differentiation of modern intellectual labour, there is a complete divorce between science, history, and Aristotle, the man of science totally ignoring Aristotle<sup>a</sup>, the historian too busy to attend to either, and the Aristotelean degenerating into a commentator, the result is, that the real significance of that revolutionary ferment in the mind of Europe, occasioned principally by the *Origin of Species*, is not perceived. The deification of Darwin was, in fact, though the world did not know it, its apology to Aristotle, its *πάλινωδία*, the recantation of its abuse and rejection of its old Master, dating from the Reformation.

It is true that modern Science supplements, corrects, and enriches the philosophy of Aristotle, in detail: but conversely, that philosophy can do for modern Science something of which it stands in sore need; something which modern philosophers have attempted to do for it in vain. As a man might have in his possession the various parts of a steam-engine, or the bones of a mammoth, and yet be unaware of his wealth, from not knowing how to put the pieces together; so the Sciences do not recognise the meaning of their own discoveries, because

<sup>a</sup> Always excepting the universal Humboldt, who said of Aristotle, that he must remain, for thousands of years to come, the Master of the Wise. (Kosmos, ii. 525, *Bohn.*) The spirit of Aristotle was half reborn in Humboldt.

they ignore that *organic* whole, that method, scheme, or plan, of which they are all but so many particular illustrations. The faggot is not bound. Now, the *Old Organon* is just the string that runs through and makes a necklace of the several beads : it is the lost unity of their *disjecta membra*, that which the world loved long since and has lost awhile. Men of Science will one day awake to honour duly their greatest man : they will awake, to discover, not without a blush, that those old ' *essences* ' and ' *entelechie* s ' at which they have been scoffing for centuries—

And they hae sworn a solemn oath  
John Barleycorn was dead—

that old obsolete philosophy which, under the strong delusion of their own ignorance, they mistook, like Thor, for a miserable grey-haired old woman, and strove in vain to overturn, was only the Universe in disguise.

1898.

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*Note.*—With regard to the *title* of this essay, it goes without saying that *possible* (= the Scholastic *posse*) is not adequate as a rendering of Aristotle's Greek. *Potential* and *dynamical*, terms employed nowadays in special scientific senses, are unsatisfactory. In the absence, therefore, of any exact equivalent, I have preferred *possible* as a general expression, replacing it in particular cases by other words.

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## ERRATUM.

P. 40, note t, last line, *for* electrophorus *read* electroscope.



## INTRODUCTION.

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ALL down history, but especially in the last two centuries, the intellectual and consequently the practical efforts of the world have been rendered vain and nugatory by a fatal weakness of which it is unconscious, which makes *the philosophical basis of its thinking* radically erroneous *a priori*.

This weakness is, the innate and incorrigible propensity in the human mind to *abstraction*. In every sphere of thought, in history and politics, in philosophy and religion, in science and economics, men poison and vitiate all their thought beforehand, without suspicion, by abstracting things from those correlative, often latent and imperceptible conditions, which alone make them possible, and therefore real. *For every real thing is a realised possibility; possibility is the root and source, and the core of reality*, but this they ignore, and so their thought never reaches realities, for which they substitute invariably *entities, unrealities*, mere rational impossible figments of the self-deluding mind. In this substitution of entities for realities, by a failure to recognise their possibility, lies the very soul and creative cause of error; it is this which has ruined

the thought of Modern Europe and brought about most of its practical evils.

The heart of the delusion is this, that the world cannot draw the line between its imagination and its judgment. It is deluded and fooled by its own faculty of *idealising* and *abstracting*: taking things out of and away from their context, mistaking a part for the whole, neglecting essential determinant factors, conceiving a state of things other, and better, not only than what is actual, but even *possible*. Hence the Utopiology which futilises its endeavours. It cannot understand that the limits of the possible are fixed and determined with adamant necessity by the inalterable *nature of things*, that nature which, notwithstanding all its physical science, it ignores, and *which it is precisely the essence of Modern Philosophy to deny*. Therefore it is, that it gives its vote by preference to the man who advocates magnificent, high-sounding, ultra-philanthropical *impossibilities*, only because he does *not* possess insight into the nature of things as they are. It is his very want of wisdom that wins him weight in the world, which considers him noble, sublime, and so on. And though the world's own nature gives him the lie, yet it does not see this, for it does not know itself, and utterly refuses to recognise its own face in the glass. It worships

accordingly the wrong men, paying no attention to its real 'prime ministers,' and deifying, as profound moral and economical philosophers, literary dreamers, foolish Utopians, or preaching charlatans, whose thought moves in worlds other than this our real one, and who eternally deceive themselves and the world, and lead it, while it gapes at the stars, into sloughs and ditches : since the effort to realise *more* than is possible invariably ends in actually realising *less* <sup>a</sup>.

To speculate is human : to define, divine. Any human being can speculate : but not one man in a million knows what thinking means. For 'speculative thought,' as it is called, with which we are deluged nowadays, is to real thinking what wishing is to willing. The one is vulgar, easy, attractive, feeble, feminine <sup>b</sup>, and fatal : the other rare, unpopular, male, difficult, and beyond all price. They differ, notwithstanding their superficial resemblance, infinitely and immeasurably ; as weakness and strength, dreaming and doing, Plato and Aristotle,

<sup>a</sup> This is why some periods in history are unjustly blackened on the authority of poets, dreamers, religious and political enthusiasts, who criticise reality from the point of view of unrealisable ideals.

<sup>b</sup> The mark of degeneracy in literature and philosophy is the appearance of women in it. Women are incapable of thought ; it requires the *semen virile*.

Hindoo and Englishman, Ahriman and Ormusd. Utopiology, sublime speculative roaming in the realms of the abstract, imaginary and infinite, soaring on what Michelet calls *l'aile infini du désir et du rêve*, has not only its charm but its positive value in human life<sup>c</sup>: there is even a point of view from which it might be regarded as the choicest flower (but not the fruit) of existence: yet its danger consists just in its beauty, and the difficulty lies always, not in idealising the real, but in *realising the ideal*. This is what is so infinitely hard, for it involves definition, determination, patience, concentration, labour, courage, self-control, grasp, analysis—thereby to acquire real insight into the limits of the possible and the nature of things as they are.

Emancipation, political or intellectual, from old chains of slavery, proclaimed so noisily by the philosophers and politicians of the seventeenth and eighteenth centuries, is a great idea, certainly: but then, the *realisation*? For nihilism is liberty in the intellectual no more than it is in the political sphere; though it is equally easy in either. To be a 'radical,' a 'root and branch' man, a sceptic,

<sup>c</sup> Could you *e.g.* convert the Hindoos to a kind of sober, rational Deism, you would make them no wiser, no better, and very much sadder men: they only live in their mythological dreams.

to deny everything wholesale, is easy enough. The difficulty is to *begin again*, to believe on good grounds, to understand the *raison d'être*, the necessity and nature of things: to base life on logic. If the boasted emancipation which is the note of modern philosophical and political history meant only *the denial and ignorant rejection or abuse of necessary mental and political laws and conditions by conceited superficiality that did not understand and would not recognise anything but the obvious*, it was only another form of slavery, grosser than the old. And this is in fact exactly what it did mean, as I shall endeavour to show. The emancipators were themselves, little as they dreamed it, slaves, and consequently the enslavers of the dupes who should follow their blind leading, to a radical misconception of the nature of things. They were absolutely ignorant of the *nature* of those very two things which they professed to understand and expound—the *Mind* and the *State*. And what the world most needs at this moment is the recognition and restoration of the very thing they strove to pull down: the philosophy of Aristotle.

When Renan described a certain peculiar conception of Aristotle's philosophy as a '*newtonisme metaphysique*<sup>d</sup>,' he let fall an expression whose

<sup>d</sup> *Averroes*, p. 116.

depth and admirable felicity he was infinitely far from intending or even suspecting. Renan was an advanced sentimental cosmopolitan Liberal, and did not appreciate Aristotle, whose philosophy possessed in his eyes only an historic interest ; but it is curious to see how in this instance he speaks truth point blank, though unawares. *Metaphysical Newtonism* is the very word : that is Aristotle. For just as Newton rectified and methodised the conceptions of the world especially with regard to celestial mechanics, by discovering and introducing the correct central idea ; so, as I propose to show, has the central conception of Aristotle's philosophy<sup>e</sup> power to rectify our conceptions in many directions where they require it, by methodising all. The modern Physical Sciences are the verification of Aristotle's philosophy, which gives them just that which they have not got, the scheme and unity of Science. They are all but particular illustrations of his universal : the philosophy of Aristotle is the One in their Many.

Aye ! and it is something more : it is the very soul and spirit of life. And if the English people only knew him better, they would make Aristotle their patron-saint. Aristotle is the great constitutional philosopher and natural historian who has

<sup>e</sup> Not that to which Renan refers, but another.

as it were critically anticipated the English type: the spirit of his philosophy is incarnate on their practical activity. For what is the Englishman's *summum bonum*? It is, I will venture to answer for him, the *exercise of power*, i.e. the realisation of the possible. This is the secret of English life, of its ethics, its politics, its athletics. This is that  $\psi\upsilon\chi\eta\varsigma \acute{\epsilon}\nu\acute{\epsilon}\rho\gamma\epsilon\iota\alpha \kappa\alpha\tau' \acute{\alpha}\rho\epsilon\tau\eta\eta\nu$  which is only the ethical aspect of the universal law of organic motion, to examine which is the object of this essay. You may epitomise the spirit of Aristotle and the soul of the Englishman in one and the same word—*doing, action, energy*. It is not either Bacon or Hobbes, Locke or Hume, Berkeley or Mill<sup>f</sup>: still less is it Kant and his school of dreaming ideologists: it is Aristotle who has divined the soul, expressed the ideal, and methodised the life of the English nation. He is the true English philosopher: he is more English than Greek: and yet they have thrown away this royal eagle for wallowing hogs or blinking night-owls.

But, no doubt, the idea that we ought to return to Aristotle, and seek the reconstruction of shattered principles in the *Old Organon*, might seem retro-

<sup>f</sup> The two philosophers who really did understand England were Bolingbroke and Disraeli: but England does not return the compliment: she knows nothing of her greatest men.

grade, academic, the delusion of a dreaming schoolman, especially to the 'practical' man, the terrible Liberal ignoramus whose criterion of truth is the numerical majority of the ignorant, or, still worse, half-educated, and whose disastrous efforts to *realise the impossible* during this century<sup>g</sup> have brought the world to a pass apparently without a passage. Therefore, I wish to draw the particular attention of the reader to the striking resemblance between our present position and that of the Greek world in the time of Aristotle: *i.e.* between our problems and those which he had to solve.

Now, as then, there is a school (speculative, not experimental, Physical Science, corresponding to Democritus and others of old) whose aim is the purely mechanical<sup>h</sup> explanation of the world by means of *Atoms, Ethers, Vortices, &c.* Now, as then, this school is opposed by another (German

<sup>g</sup> This is the explanation of the chaotic state of France. She laid down *impossible* principles at the Revolution: but she refuses to recognise this: hence every successive government in France is obliged to pretend and proclaim principles which it knows to be absurd: and each in turn is convicted of hypocrisy and failure. And so it will be, till they abandon the principles.

<sup>h</sup> Mr. Stallo's masterly criticism of this mechanical philosophy (*Concepts and Theories of Modern Physics*) is, as he knows, largely a modern restatement of arguments brought by Aristotle himself against the mechanical theorists of his own day (see especially *De Caelo* and *De Gen. et Corrup.*, *passim*).



Transcendental Philosophy and its offshoots, corresponding to Plato and others in ancient times) in which rationalistic figments, the *idea*, the *concrete notion*, *universal reason*, *objective thought*, *consciousness*, the *ego*, &c., play the same explanatory part as the atoms and ethers of the mechanical philosophers. Now, as then, there is a school (that of the Liberals and Political Economists, corresponding to Socrates and one side of the Sophists) whose banner is cosmopolitanism, philanthropy, individual freedom, universal brotherhood, &c., but whose necessary outcome, based as it is on pure ignorance of the nature of things, is diabolical competition, envy, hatred, and malice, Socialism, Nihilism, Anarchy, and other desperate remedies involving national death. Now, as then, there is an 'educated' public opinion lost in a chaos of conflicting theories, wavering helplessly like a flock of sheep between old and new, at the mercy of every charlatan, and a practical conclusion of the Sophistical type, that anything is good which will sell. Now, as then, the cause of the chaos is the same, the break up of old dogmas<sup>i</sup> and the absence of any recognised

<sup>i</sup> And every one must be struck with the curious resemblance between Mediæval Christendom and the Pope, and the Greekdom and Oracle of Herodotus: between the international rivalries and diplomacy of Modern Europe, and the squabbles of the Greek States

and authoritative intellectual standard or canon of Reason, any such logical training school and Court of Appeal as the Scholastic Philosophy in the Middle Ages. Then, the cause of this absence was that there was no such thing, Aristotle not having yet appeared : now, it is that his logical canon has been ousted and supplanted by systematised absurdity.

And is, forsooth ! Europe to find salvation in the Reason of Aristotle ? Not at all. That is precisely the theme of this essay. Aristotle can no more save Modern Europe than he could save Ancient Greece. Reason never yet saved any nation. And why ? Simply because it is only reason, and as such *impotent*, it does not contain *power*. There is a strange distrust of human reason in every human institution, says Bolingbroke : and the ethical impotence of reason is just the answer of Aristotle himself to Plato's rationalism. It is not by reason, but by institutions, and the habits and authority embodied in them, that nations are saved, if at all. But now, *the denial or ignorance of this truth, the emphasis of 'pure' reason to the neglect of the organic, potential factor, is exactly the thing which constitutes the essence*

in Thucydides. The part of Philip profiting by dissension has yet to be played.

*of modern philosophy.* This is just that rationalism which is the core alike of Descartes and Kant, Adam Smith or J. S. Mill, &c., in which lies the root of the evils now impending over the world. For though nations can only be saved by institutions, they can be ruined by ideas.

And it may be that the evil has now gone too far, and arrived at that stage when it can no longer be cured or eradicated. It may be that Europe can wash out her philosophic errors, or expiate them, only by means of a bath of 'blood and iron,' which will either regenerate or annihilate, mend or end her. For *if you lay down principles, you must take the consequences:* and the possible will march on to its realisation, whether we know it, and whether we like it, or not.



I. HISTORICAL.  
THE GENEALOGY OF ERROR.

ψεύδη λαμβάνουσι καὶ ἀσυλλόγιστοί εἰσιν· ἀλλ' ἐνδὸς ἀτόπου  
δοθέντος τᾶλλα συμβαίνει.

## AXIOMS.

ἄδύνατον ἐξ ἀτόμων εἶναι τι συνεχές.

τὴν στιγμὴν οὐχ οἶόν τε βάρος ἔχειν, φανερόν.

ἐκ τῶν νοητῶν οὐδὲν γίνεται μέγεθος.

## THE GENEALOGY OF ERROR <sup>a</sup>.

---

BEFORE Copernicus, Kepler, and Newton had made their immortal astronomical discovery, systems of the heavens were but so many ingenious yet mistaken attempts to account for the celestial motions on a false initial hypothesis. It is the same with modern philosophical systems or theories of Knowing and Being. The parallel is exact. For every philosophy that begins by dogmatically misinterpreting the deliverance of the senses, denying, *e.g.*, that Sight shows us things as they really are in themselves, *i.e.* apart from the mind which perceives them, is necessarily, *nolens volens*, obliged as a consequence to frame some fictitious hypothesis in order to account for the knowledge and existence of things in some round-about way. This is the psychological root and original cause of Idealism: a disease of reason springing from an erroneous interpretation of the deliverance of the senses. But fully to account for the philosophy of Idealism, psychological analysis alone will not suffice: it

<sup>a</sup> Although this historical section comes naturally first, yet the reader will appreciate it much better if he reads it after Parts II. and III.

must be combined with historical investigation. For the diseases of the mind, like those of the body, are catching, and contact, contagion, or *continuity* will often explain their presence in places where they would never have originated spontaneously. Many an Idealist has never bestowed a thought upon the senses: in his case Idealism is not original, but second-hand, derived, inherited: he caught it from some book, person, or school of thought.

For if men hand on to one another, like runners, the burning torch of science, they hand on also, with far more persevering tenacity, the false lights of bad theories and erroneous principles. We love to exalt and extol reason, the peculiar glory and prerogative of man, while we are apt to forget the defects of its qualities. Pure reason, like pure water, is delicious: but then reason, like water, is never found pure in nature<sup>b</sup>. And incalculable as are the benefits arising from reason, which alone renders possible the *continuity* of human achievement, it is the same reason which also makes possible the continuity of error, the terrible perpetuation of sophistry, from which the animal,

<sup>b</sup> This is not a merely fanciful analogy: the nature of reason, and that of water, is identical: see Part II. B, §§ 1 and 2.



not being rational, is free. Continuity is a two-edged weapon, a double-dealer: it blows, like the Satyr in the fable, both hot and cold from the same mouth: its blessing has a curse attached to it. And so it is, that men follow one another in false systems, spell-bound and hypnotised by terminology, each with his whole attention magnetically concentrated on his predecessor, his faculties subordinated to a sort of artificial tethered reason, whose bounds are fixed by the elasticity of the founder's dogmas. He leads the way: *οἱ δὲ κατὰ τὴν φωνὴν ἔπονται κεκληλημένοι*, like a row of geese on a common: and humanity advances like a living man tied to a corpse.

And thus, though the capacity of reason, the special difference of man, lifts him immeasurably above all other animals in one way, it subjects him in another to certain very great disadvantages, which they, precisely by reason of their inferiority, escape. On the other hand, the senses, which he shares with the animals, who in this respect often infinitely surpass him, are far more essential than reason to life as such. The animal can get along very well without reason, but not at all without senses. Now, man is himself an animal, and it is not as men, but as animals, that we have senses. However superior in dignity and rank, reason is

nevertheless posterior in order, and, as it were, only the upper story of the edifice: a faculty super-added to, and possibly absent from, animal life: a capacity, however essential to man, not essential to the animal, as such.

It is, therefore, the bounden duty of every philosopher who erects "theoretical structures of reason, to begin by thoroughly scrutinising and determining first the nature of the senses. But when we turn to the systems of modern philosophers, we are astounded to find, that, with the rarest exceptions, they do nothing of the sort. Nor can anything be more miserably poor and inadequate than the conception of the senses entertained by the leading Cartesians: anything more meagre and summary, more discreditable, more ridiculous, than the *criticism* bestowed upon them by the most eminent critical philosophers. The idea of accurately *defining* the nature of the senses never so much as occurs to any one of them. Yet without definition, where is scientific solidity, and what is criticism? Really, when we examine the writings of philosophers, we might be tempted to *define* a critic as one who delights in drawing very obvious conclusions from principles which he has accepted without examination from one who himself took them on trust from a third person,

and so on *ad infinitum*. Any kind of sand or rubbish is apparently good enough to form the foundation of an elaborate and imposing edifice of Pure Reason. In fact, as will be seen further on, the preliminary criticism of the critical philosophers is not merely weak and inadequate: it is scandalous; it is incredible; it is heartrending.

Observe, that notwithstanding all the doubt which scepticism may throw over the testimony of the senses, the man of science must of necessity, and always does in fact assume, that his senses introduce him, somehow or other, to things as they are in themselves, *ex analogia universi*: for, if they do not, all explanation is impossible, and the whole edifice of science is a mere mass of conjectural hypothesis, with no more intrinsic probability than the raving of a maniac or a drunkard's dream. Speculation on the nature of things in a sphere placed *ex hypothesi* beyond all capacity of arriving at, it is, obviously, utterly vain and futile. All scientific explanation, therefore, postulates, as its necessary condition, that the senses do not transfigure, but mirror, realities: since it is all merely the reduction of the unknown to terms of the known: and accordingly all finally comes back upon the senses. And therefore, scientific men who are not metaphysicians shrink with instinctive

repulsion from all sceptical considerations. They assume without ceremony that the senses introduce us to things in themselves, and are for the most part content to leave the matter there; pointing, not without reason, when asked for the proof of their assumption, to the 'pudding,' the practical products of scientific activity. And this is quite as it should be. But now, the scientific assumption is the philosopher's problem. It is for the latter to analyse and critically justify this necessary working hypothesis of science: otherwise, the scientific tree will have a flaw at its root. And yet not only have the philosophers never succeeded in performing this task, but they have on the contrary definitely and we might almost say unanimously pronounced it impossible. Entangled in a web of sceptical sophistry, spun by themselves out of bad abstractions, they have fallen a prey to their own neglect of initial critical analysis, and abandoned reason to the claws of the sceptic, whose charges of impotence against the senses, whose denial of the possibility of attaining to any knowledge of things as they really are *per se*, are declared to be well founded and irrefutable, and made the point of departure of all philosophy. And thus philosophy is founded<sup>c</sup> on the theoretical impotence of science;

<sup>c</sup> e.g. 'Scepticism proves, on the hypothesis of the distinction

a thing equally fatal to science and philosophy, directly productive of intellectual chaos and anarchy. Moreover, what is worse than all, many of the leading men of science, failing to realise the suicidal absurdity of their action, have been beguiled by philosophy into stultifying all their activity by accepting the initial scepticism ; wherein, as will be shown further on, they have been very ill advised, and have only succeeded in demonstrating that a very good man of science may be a very bad dialectician. And thus the indispensable conditional assumption of science, its cardinal postulate, is degraded to the level of a mere vulgar belief or instinct unsusceptible of critical establishment : reason is convicted of impotence, and the magnificent *ensemble* of modern Physical Science all hangs dubiously from the hair of an initial 'perhaps' ; to which, for practical reasons, we give the benefit of the doubt, without being able to clear it of suspicion ; much as your Scottish jury would dismiss

'between subject and object, that knowledge is impossible' . . . .  
'it is because the finite contradicts itself that we are thrown back 'upon the infinite.' (Caird's *Hegel*, pp. 51, 57.) A *sceptic's proof* is a curious thing : something must be wrong either with his *scepticism* or his *proof* : and as we shall see, it is not the finite, but the philosophers, who contradict themselves, and saddle the nature of things with their own impotence.

a culprit under a verdict of Not Proven, and an everlasting stain on his character.

Modern Philosophy is, in fact, determined throughout by its original want of critical analysis in respect of the senses. It is, to describe it generally, a high platform of error, an elaborately developed attempt, or series of successive attempts, to account for knowledge and existence *per impossibile*, on sceptical principles that cannot do it: hence its abstruse, far-fetched, round-about and sometimes well-nigh unintelligible complexity. The generic term for this philosophy, reposing on the theoretical impotence of the senses, is *Idealism*; but under that name are comprised many very different schemes, many of which would be far more appropriately designated *Phenomenalism*. The essence and core of them all is the initial dogma, hypothesis, assumption, or article of faith, that the senses transfigure: that all that we can ever reach by their means is the transfigured effect of an unknown cause: that consequently, with iron necessity, knowledge is only phenomenal of an unknown reality, and the whole Universe phenomenal, *i.e.* dependent on mind, or unknown: its presence and existence conditioned, somehow or other, by the prior and indispensable presence and existence of 'consciousness.' Every form of Idealism, and nearly every

system of Modern Philosophy, is a variation on this theme. It lay potentially in the scepticism of Descartes; broke the shell and emerged from the egg with Malebranche and Berkeley; and has since been very variously developed by Hume, Kant, Comte, and their numerous disciples and commentators: it can, therefore, be only as variously defined, according to the special features and clothing which it assumes in each case; as, for example: *the* phenomenalisation, or rationalisation, of realities, the conversion of *entia realia* into *entia rationis*; *the* abstraction of 'the *ego*' from its constituent relations, its illegitimate erection into an unconditioned and self-subsisting essence<sup>d</sup>, prior to or independent of those relations: *the* explanation of the Universe by the figmentary assumption of some queer permanent or universal 'consciousness' or '*ego*': *the* reduction of the Universe to a manifestation of 'mind': *the* thesis, that the understanding makes Nature: *the* endeavour to construct the physical Universe in the alembic of 'mind' out of a 'chaotic manifold' of sense; *the* attempt to deduce the world from 'sensations,' and the denial of all not so deducible: and so on. This Idealism,

<sup>d</sup> Observe that when the word *essence* is used in this way, it has no meaning. There is no abstract being.

or Phenomenalism, or Sensationalism, or Rationalism, call it by whatever name you will, essentially identical under all its forms, is nothing whatever but the *misbegotten* attempt of abstract logical reasoning to turn evolution upside down, and make the original *low* conditional on the posterior *high*: it is a colossal, strictly *preposterous* blunder, reposing on ignorance of the law of continuity; the endeavour to refer the whole Universe of potentiality to one little abstracted case of actuality: it is an inversion of the *οὐσία* and the *ἐξ οὐ*, the omega and alpha of evolution, seeking to place the differentiated result at the bottom of the scale of creation, the final development at the unevolved beginning of things. The essence of Idealism is, in fact, the astounding *ὑστερον πρότερον* of endeavouring to account for the *posse* of things by their *esse*, instead of *vice versâ*, divorcing actuality from potentiality, the act from the capacity, hypostatizing it, and seeking to make this discrete abstraction account for the continuity and possibility of the Universe: an error springing from ignorance of natural economy, or evolution, or the spirit of the Aristotelian philosophy—for all these are but different names for the same thing—inaugurated by the conceited and ignorant self-sufficiency of the founders of Modern Philosophy in the seventeenth and eighteenth centuries.



Little did those unfortunate men, who have so long been falsely extolled as profound thinkers, dream of what they were doing, when, condemning with summary and indiscriminate iconoclasm the whole of Scholasticism<sup>e</sup> in the lump, they turned their backs upon its biological kernel, the evolutionary analysis and scientific method of Aristotle. They were foredooming philosophy to centuries of sophistry and ultimate failure. Like men, who from ignorance of mathematics should 'begin again' by rejecting Newton's *Principia*, so they, wholly ignorant of biology and natural economy, 'began again' by rejecting Aristotle's *Principia*—that is, his central conception of evolutionary continuity, his realisation of the possible; for in depth of insight into organic nature no man ever equalled Aristotle. Descartes, the notorious doubter, whose preliminary doubt was merely the dust thrown in the eyes of the world to blind it to the most astonishing system of hypothetical figmentary dogmatism ever hatched in the brain of man: Descartes, who so ridiculously called in the veracity of the Deity to help his halt-

<sup>e</sup> The credit of re-awakening the human mind from its barbaric mediæval slumber belongs to the Schoolmen, that is, indirectly, to Aristotle himself: it is falsely ascribed to the Jacobs who stepped in when the work was done, supplanted and abused its real authors: whose shoes they were not worthy even so much as to polish.

ing philosophy over a preliminary stile<sup>f</sup> (*dignus vindice nodus*), apparently forgot that however little the Deity might be inclined to deceive a man, he might deceive himself: and certainly, no man ever did so more effectually than Descartes. The mind, *idiotically* throwing away *all* its knowledge, and centred by Descartes in its *pan*-ignoring self, is lost in the bottomless void of 'consciousness,' and cut off from all hold of reality: the logical corollary is the state of internal self-concentrated abstraction, the divine beatitude of the Hindoo yogi or monk of Mount Athos. But in the western world of energy and action, this would not do: notwithstanding Schopenhauer. Somehow or other, reality had to be squared with the principle. Accordingly, from this point begins the evolution of the Absurd, which rises by a climax till it culminates in Hegel<sup>g</sup>. The long series of Cartesian philosophers is simply the continuous evolution of diseased thought: a study in intellectual pathology. And one feature of this disease, parenthetically, is too remarkable to be

<sup>f</sup> The true proof of the veracity of my senses is not the veracity of the Deity but my own existence. See below, Part II. a, § 2.

<sup>g</sup> The kernel of value in Hegelianism is simply Aristotle, stood on his head, and disguised in the abuse of language and the Abstractification of the Concrete, pushed to absurdity, and dialectically evolved according to Spinoza's *omnis determinatio est negatio*, which is a mere truism.

passed over. Just as Descartes found himself compelled to supplement the impotence of his original starting-point by calling the Deity to his aid, so we find that all his continuators waver between the horns of a dilemma : the positive denial of a Deity altogether, or the refuge in the Deity, as a sort of dialectical necessary hypothesis<sup>h</sup> to account for that permanence and continuity of the world which their principle annihilates. Idealism swings backwards and forwards, oscillates like a pendulum between the extremes of Nihilism and Pantheism. It was fatal : it was so determined from the origin : there is no escape. One or the other : Hume, Schopenhauer, or Hegel : choose.

The philosophical world which congratulated itself on substituting Descartes for Aristotle, a fine new lamp for an old one, never suspected that it was rejecting the graded and evolutionary conception of Nature as a continuous ladder of being, the logic of analytical definition, the law of organic differentiation, in a word, biological insight, to enthroned in its place abstract, rationalistic, quasi-

<sup>h</sup> German transcendental philosophy is only the hypostasis of the Cartesian personal *sum* into an impersonal *Est*, with a big E. This kind of 'Universal Consciousness' is to the metaphysicians exactly what the Ether is to the mechanical mathematical physicists : an explanatory *sine quâ non* : a figment *minus* which they cannot get on.

mathematical speculation on a basis of blank ignorance ; for in the age of Descartes, and for long afterwards, the intellect of Europe was a *tabula rasa* as far as the organic world is concerned<sup>i</sup>. And so it embraced a method, whose essence lay just in the elimination of the element of reality, the potentiality and continuity of Nature, and which aimed, *more mathematico*, at reducing the Universe to a mechanical play of abstract entities, a mere juggle with 'extension' and motion. It was not Aristotle, it was his enemies, who would turn Nature into a play of logic.

The source and root of the error was the natural bent of Descartes' mind, which was through and through mathematical : hence his fatal tendency to *abstract* and *entify* realities<sup>k</sup>. What the mathematician leaves out is, *everything*, except the quantitative shell of things : he leaves out continuity, the woof and web of reality, which no numeration of infinitesimals will ever subsequently reach. You

<sup>i</sup> Leibnitz alone dimly discerned the value of what was being thrown away, and he has gained immense credit for his inkling of that which, a thousand years before him, Aristotle exhaustively understood.

<sup>k</sup> τὰ γὰρ φυσικὰ χωρίζουσιν, ἤττον ὄντα χωριστὰ τῶν μαθηματικῶν (*Phys.* ii. 2), a criticism which hits Descartes and Ricardo as well as Plato.

cannot abstract reality; its essence is exactly what cannot be grasped by abstraction: but abstraction is the essence and method of mathematics, and it was also the beginning and end of the method of Descartes, whose great idea was, to reduce the world to a mathematical problem<sup>1</sup>; and who would admit nothing which he could not clearly and distinctly conceive. This criterion of truth is perhaps the most striking illustration in history of the incapacity inherent in the mathematical mind to comprehend what *thinking* means. Could he, forsooth! distinctly conceive the origin of the fowl from the egg, or the butterfly from the caterpillar? What he loses is *only* the universal potentiality of Nature, its dynamical energy: for you cannot *conceive*, you can only *perceive*, a real thing.

And so, he determined philosophy *a priori* to impotence. With this abstract regard, the philosophical current flowing from Descartes turned away, and lost the soul of action, losing thereby the very

<sup>1</sup> See Kuno Fischer's *Descartes and his School*, especially pp. 93 and 322 (*Eng. Trans.*). 'mathematics becomes the criterion by which he tests every cognition . . . so ripens already the problem to which he gave his entire life, the fundamental reform of the sciences by means of a new method based on the analogy of mathematics . . . the problem is, to apply the methods of mathematics to the knowledge of the universe; to treat mathematics, not as the theory of quantities, but as the theory of science as universal mathematics.'

possibility and principle of explanation and definition of organic realities. For everything organic is defined by its work, its action, its duty, and its capacity to perform that work and duty, in its due place in the scale and *nexus* of creation. Such a thing has its *raison d'être* only *in mediis rebus*, out of which it has no meaning; nor can it be understood and defined and accounted for, save by contemplating it there. This is why mathematics cannot express even the simplest organism. For the essence of mathematics is abstraction: but you lose, by abstraction, just what constitutes the essence and explanation of every natural object, since that lies, not in the thing itself, but in *other things* which surround it and make it, by their demands upon it, what it is: that is to say, in continuity and correlation. Every natural object is for the sake of another: is what it is and becomes what it is by the necessity of conforming to this other; and so, this 'other,' this 'for the sake of' (*τίνος ἕνεκα*;) is just the principle of explanation, the thing needed to account for all organic realities. Take any such thing out of the chain of being, consider it *in abstracto*, and you render it unintelligible: you cut yourself off *ipso facto* from all possibility of understanding it. Just as the cliff is defined and accounted for by wind and water, waves and

weather, so is it universally<sup>m</sup>. *Definition is the repetition in thought of the historical causes which made the thing in fact.* In the abstract, for example, all *plains* are alike. In reality, they all differ, in their *soils*, in their *climates*, in their geographical *position*, in their *elevation* above sea-level, in their geological process of *formation*. It is not abstraction, but geology, that accounts for the plains. Still more with organic life. The salmon's tail, the owl's eye, the eagle's wing, can only be defined and accounted for by referring them to the water, the night, and the air. Abstracted, every natural object is an *x*; and so, the Cartesian philosophy makes the whole Universe an *x*. The conception of continuity, correlation, concrete and exact particular position in time, place, and relation is the indispensable condition of scientific explanation<sup>n</sup>. You must not abstract and calculate: you must look and see and think. Your sight is more important even than your reason, because it shows you everything, there and then, *in mediis rebus*.

But all this is totally ignored by Descartes and his school, whose thought is dominated by mathematics as the type of scientific explanation and

<sup>m</sup> This is the analytical definition of Aristotle.

<sup>n</sup> Hence Aristotle's everlasting qualifications—his *ποῦ, πότε, πῶς, πρὸς τί*, and so on.

definition, and the consequent fatal and futile effort to explain continuous realities by discrete abstractions<sup>o</sup>. They lose the point : for mathematics does not contain it. Its circles and squares are never hungry or thirsty ; they never want to eat or drink, or escape from enemies or propagate their species : they have no WANTS and require accordingly no ORGANS, whose *raison d'être* is to serve their needs<sup>p</sup>, and preserve their lives, and whose explanation accordingly lies of necessity in their *final cause*, their purpose, their end, their duty, their work.

For ἡ φύσις τέλος ἐστὶν and οὐδὲν μάτην ἡ φύσις ποιεῖ. Nature's creatures are not mere aimless, shapeless lumps : no creature of Nature, nor any essential part of such a creature but has its end, its use, its *raison d'être*. This is that universal law of Nature, that utilitarian, economic, or teleological principle, which, under the name of final causes, modern philosophy at its origin ignorantly laughed to scorn and threw aside. But *væ ridentibus* ! Like men in a dream, they were but inflicting fatal wounds

<sup>o</sup> Exhibited in the superlative degree by Spinoza, who endeavoured, *more Cartesiano*, to deal with virtue after a method suitable only to triangles and parallelograms. His method is exactly that part of him which is utterly worthless.

It is need which differentiates living from dead matter, and it appears at the very bottom of the scale : protoplasm exhibits 'greed for oxygen.' (Campbell's *Elementary Biology*, p. 4.)



on themselves, while they fancied they were slaying others. The scoffers at Aristotle's teleology and 'entelechies' were, little as they knew it, scoffing at Nature herself, and she had her revenge. Their own philosophy paid the penalty. By this supercilious rejection of the organic law of Nature which had been discovered, systematically analysed, and definitely won for the world, out of the void and formless infinite, by the genius of Aristotle, all profound and solid philosophy was rendered impossible: any such philosophy as might in fact arise was doomed in the germ. Having cast aside that wisdom which it did not understand, philosophy was left to its own devices in the darkness, and lost its way, every now and then pursuing with eagerness some momentary *ignis fatuus* into a bog.

And this is why, in their various treatises on Human Nature, or special parts of it, philosophers of the Cartesian school always stultify altogether that *nature* of which they profess to treat, being as they are completely ignorant of Nature, organic Nature, in general, the whole, of which our human nature is but a special case. Above all do they stultify that part with which our particular concern is in these pages, as being, for the purpose of science, the most important of all—the nature of Sight; by neglecting its conditions, ignoring its

duty, eviscerating it of its meaning, denying its power, and reducing it to a futile interior absurdity, all but identical with its contrary impotence, blindness.

Sight is an organic function, and the picture presented to us by our eyes is not there for nothing: it has a vitally important use. But in the philosophy of Cartesians, this is completely ignored. With Berkeley, Hume, Kant and their successors, all the pictures of Sight are futile, *μάταια*: all these *ideas*, *impressions*, *phenomena* *sensations*, &c., are idle, useless, purposeless<sup>9</sup>, purely æsthetic: they merely appear, these phantasms, as it were for the sole sake of appearing, at the stroke of some enchanter's wand, his mysterious *fiat*: they hang suspended, so to say, in the air without rhyme or reason, arise causelessly out of the dark: *presto*, there on a sudden they are before us, we know not why: they have no *raison d'être*, serve no end: they are *phenomena* and nothing more, shadows on the screen of non-entity and the unknown. And then come the obvious corollaries. Out of such phenomenal *phenomena*, turn and twist them how you may, you can never get anything

<sup>9</sup> Because they are *abstracted* from the sphere of their operation: see below, Part II., a, § 2.

but themselves: perfectly true: *ergo*, denial or transmogrification of all that cannot be deduced from them:—the philosophy of Hume<sup>†</sup>, the most logical of the Cartesians. But this is a *reductio ad absurdum*, and makes the world feel uneasy: consequently, the phenomenal premisses being unquestioned, next in order come the various wire-drawn round-about, and unintelligible endeavours to get back, by some internal juggling with abstractions, what the premisses make impossible and utterly destroy: to show how this real continuous world which we perceive and know is there, only 'for consciousness,' only through the agency of some hypothetical, permanent '*ego*,' 'subject,' some strange universal figment which is 'eternal, self-determined, and thinks<sup>‡</sup>':—the philosophy of post-Kantians in England and Germany, of transcendentalisms and 'absolutes.' And as the natural consequence of such stuff as this, comes last of all the present stage, in

<sup>†</sup> Hume's philosophy is nothing but the consistent *denial of continuity*. Kant endeavours to answer him, by accentuating the permanent *ego*: but his world of phenomena remains as unreal as Hume's, and his permanent *ego* is a bit of illogically introduced realism, as will be shown below. Permanence and continuity depend on something Kant's philosophy does not contain—*potentiality*. Cartesian philosophy which starts from the actual *ego*, a thing discontinuous and interrupted, cannot reach *potentiality* of which it knows nothing. See Part II., a, § 3.

<sup>‡</sup> Green.

which all philosophy whatever is banned by the world as all nonsense, gibberish, moonshine, cobwebs, 'metaphysics.' Poor metaphysics! how many crimes are committed in thy name! The whole process is logical and necessary, and the conclusion is, that reason leads infallibly to absurdity; the practical result is intellectual ruin and chaos, and among other things, the degeneration of all literature, which has no backbone of thought, and is rapidly going down hill.

Never did any man hit the point more admirably than old Hobbes of Malmesbury, when he compared strayed reasoners to 'birds, that entering by the 'chimney, and finding themselves enclosed in a 'chamber, flutter at the false light of a glass window, 'for want of wit to consider which way they came in.' Modern philosophers are exactly such foolish fools. Entering by the chimney, the abstract starting-point of Descartes, they all find themselves in a close prison of their own making, and so flutter continually at the false windows, the various systems by which they vainly strive to escape from the necessary logical consequences of their original error. Do what they may, they are logically lost beyond redemption. Each may echo the lament of Samson, *I am become the dungeon of myself.* The sceptic holds them in a grip from which they can

escape only by abandoning reason for mysticism and imaginary figments. Hence all these desperate efforts, since Hume, to galvanise a corpse, quicken a *caput mortuum*, get from dead premisses a living conclusion, emerge from the gaol in which Descartes has confined them. In vain: the sceptic triumphs: 'your *phenomena*, discrete and individual, do not contain realities: you have not got reality, causation, the continuous and necessary *nexus*, in your premisses, and I tell you, you can never get it out of them.' Nor can they. Their only resource is to resort to the explanation of the known by the unknown, imaginary, fictitious; of the actual and perceptible by the hypothetical and gratuitous: their philosophy becomes accordingly a *λόγος ἄλογος*, a thing upside down: the endeavour to account for realities by non-entities, a process whose intrinsic absurdity has to be disguised by dark and obscure terminology, metaphor, coupled with a kind of impatience of logic, and the exaltation of sentiment, feeling, faith, mysticism, as the highest qualities of mind—the self-conviction of intellectual impotence. Hence the utter ruin of philosophical style, the virtue of which is logical exactitude and crystal clearness, but which has now become a kind of horrible philosophical Chinese, which violates the first canon of speech,—that, of two men communi-

cating, *both* shall understand the meaning of the words.

All this has come about, with iron inevitable necessity, owing to the original neglect of analysing the exact nature of the senses, and the misinterpretation of those doors of knowledge, which was involved in the radical error of Descartes, the start with *abstractions*.

Of all our senses, Sight is the most valuable, being the chief source of all original and immediate knowledge. Out of it as out of a root grows almost all philosophy and almost all art: all contemplation, action, and production issue from and depend upon it: scientific explanation all runs back to it, as the objective sense and ultimate ground beyond which we cannot go: the final reference is always to Sight. Moreover, it is in itself the choicest gift of God: a permanent and inexhaustible well of the purest of all human pleasures, from which at all moments we may draw deep draughts of inward peace and ever various beauty; for we never tire of it, and it never runs dry, but, like the purse of Fortunatus, has always some new gold piece at the bottom of it. And did not custom stale us to its perpetual miracle, Sight would seem to us what indeed it is, the first wonder of the world: but like

the music of the spheres, it moves us not, because it is always with us, and those only realise its value who have lost it. Then, when it is gone, they understand that life deprived of Sight is like the earth without the sun. Milton knew

‘But chief of all,  
O loss of Sight, of thee I most complain.’

And we may say without much exaggeration of Sight, what Aristotle says of motion, that to be ignorant of its nature is to ignore the nature of the Universe.

For consider. How were the old four satellites of Jupiter originally discovered? By deduction, like the planet Neptune? No. By induction, like the Law of Gravitation? No. How then? By simple inspection, intuition, Sight. The telescope was pointed at Jupiter, and they were *seen*. They existed for ages, unknown to the world, owing to the immense distance that divides us from Jupiter: but the invention of the telescope ‘*cælorum perrupit claustra*’—that is, annihilated the distance—and there they were.

And as with the telescope, so, in the opposite direction, with the microscope. Ordinary human vision lies in the middle between the two. The telescope and microscope, with all their admirable adaptations to special ends, have raised our faculty

of Sight to a power previously inconceivable, and revealed to us two new worlds—that is, two enlargements of the old world—the world of the infinitely great, and the world of the infinitely small. But they have done something more. They show us, if we think about it, how our power of vision is the condition, the root, the source, the *possibility*, and in a sense, the limit of science<sup>t</sup>. Deduct the telescope and microscope, and two worlds vanish from our ken: the two opposite ends: deduct Sight, the intermediate, and all goes. If in a world of men who see, the blind can artificially make shift, by education, assistance, and communication, without their eyes to live and partly know, we must not allow this to deceive us as to the truth. Such blind men are possible, only because others see. There are, it is true, other doors of knowledge than the eyes, and there may be, and is, in fact, animal life without sight. But speaking from the human point of view, both life and science are conditional on sight<sup>u</sup>, and impossible without it. Take it away, and both must disappear.

<sup>t</sup> Scientific instruments are but means of translating imperceptible powers of nature into terms especially of sight: e.g. the barometer makes visible the weight of the atmosphere, the thermometer, the degree of heat, the electrophorus, the presence of electricity, &c.

<sup>u</sup> So, Night is the condition of our knowledge of the Universe. Were day perpetual, we should know nothing of the stars.



And yet, though everybody knows perfectly well, in a way, *i.e.* in its exercise, what it is, to see; nobody can tell. There is not a single philosopher, ancient or modern, who has ever understood, critically, what Sight is, the *nature* of Sight; exactly what it is, to see. They all mutilate, misinterpret, and misrepresent the fact. There is in the problem of Sight a very peculiar, subtle, and insidious snare, a trap into which all unwarily fall. Now an error about Sight is fatal, as modern philosophy shows. For this is the beginning of philosophy, its necessary point of departure and *punctum saliens*: in this imperceptible point lies the whole development of thought: for a principle, as Aristotle says, is a dwarf in size with the power of a giant. The true nature of Sight, what Sight IS, has escaped everyone: for it reposes essentially upon that intimate communion between soul and body, which all doctors understand, but which almost all philosophers disastrously ignore.

I say, that on the critical determination of this problem, all hangs. Determine rightly the nature of Sight, and out of it, as out of a rich and fertile soil, philosophy will rise like a luxurious and spreading vegetation: but the original error of the Cartesian school is like a stony and unprofitable sand, a very waste and desert, the arid home of stunted

bush and scanty cactus, salt lakes and delusive mirage.

In vain do all these philosophers dogmatically lay down, accept, or assume, each in a dialect of his own (*ideas, impressions, sensations, phenomena, &c.*), that we do not see external objects : that the reality remains ever hidden behind the mind's own states, feelings, sensations, and what not ; that only what things seem to be, and not what they really are in themselves, is attainable. Here, for example, are the Sun, Moon, and Stars. All down the ages, from time immemorial, men have worshipped and adored and counted their time by these heavenly bodies, the nearest of which is more than two hundred thousand miles off. Now, we cannot either *touch, hear, taste, or smell* these bodies. Then, if we do not *see* them, how did we ever become aware of them, how get at them, how know that they are there? 'Oh!' says a philosopher, 'gently, my dear Sir : *distinguo* : we *infer* them from sensations<sup>x</sup>.' 'Infer them from sensations, do we? and pray, how 'do you know that?' 'Why, physiology tells us, 'that the brain, eye, nerves —' 'Brain? eye? 'nerves? and how do you know that you have such

<sup>x</sup> We do nothing of the kind: Sight is not inference, nor, as I shall show further on, has reason anything whatever to do with it: but of this on a future page.

‘things?’ ‘Why, of course, all men have them.’  
‘But how do you *know*?’ ‘Well, we see them, when  
‘we dissect —’ ‘Ah! ah! *see* them—the devil  
‘you do! So you *can* see brains and nerves, and  
‘*therefore*, you *cannot* see the moon. But permit  
‘me to inform you, that you cannot employ the  
‘capacity of Sight in its own disproof. If I can-  
‘not see the moon, your physiology is all *moonshine*.’

All idealism, since Berkeley, is founded on a denial of the power of Sight, based on a misinterpretation of its nature, and a vicious argument in a circle. The detailed examination of this will occupy our attention further on, but here we may anticipate so far as to notice the method of procedure, which is this. First, the philosophers see, as we all do, long before we become philosophers, and continually afterwards, external objects, and so get knowledge of them. Then, when they come to philosophise, they reflect, that the things are *distant*, and so *cannot* be, and are, in fact, not seen.

To account for this difficulty, they resort <sup>y</sup> to what, as I shall show further on, is only a misinterpretation of the fact; *what we see is within*, and the *external* object is only *inferred* and not seen. The next step is obvious: *cui bono* this *external* object?

<sup>y</sup> Thus Idealism appears historically after Materialism, of which it is only the other side: Berkeley follows Hobbes, and Protagoras Democritus.

It is accordingly discarded, as at once superfluous, problematical, and *unknown*: and thus they conclude, in the most satisfactory manner, that the objects seen are *within, ergo*, there is, or may be, nothing *without* the mind: and you have scepticism and idealism at once. Though all this while it is precisely their actual knowledge of these objects without or external to the mind which started all the chain of reasoning ending in their denial. Thus they all end by denying, each in his own way, the very thing which they started to explain, and on this foundation arise all the various systems of philosophy. But we may fling back upon them all the charge which they would fasten upon us—

‘Thou hast no *speculation* in those eyes  
Which thou dost glare with.’

Postponing, now, to a future page the critical examination of the Idealists’ premiss, let us consider some aspects of their systematic thought.

Nothing in all history is more astonishing than the incoherence and internal self-contradiction of those critical systems which have been universally extolled as triumphs of dialectical ingenuity, unless it be the passive and acquiescent approval with which these systems, compounded of mutually exclusive positions, have been stamped by the world.

Hume and Kant are adored as dialectical giants, the very Otus and Ephialtes of metaphysical sagacity, holding Reason, as it were, bound in iron chains, with their feet on his throat.

I say, that the reputations of those philosophers for critical power crumble to pieces at the very first touch of analysis.

I. Two things are inseparably associated with the name of Hume, Scepticism and Empiricism. Hume the sceptic is equally Hume the empiricist: he is as it were the very incarnation of both spirits; and the combination of the two in one man is challenged by nobody. Yet the two things are absolutely incompatible and mutually destructive; and their union in Hume proves to demonstration that neither he himself, nor his disciples, understand what systematic thinking means.

‘It is beyond a doubt,’ says Kant, in the very first line of his *Critique*, ‘that all our knowledge begins with experience’; and in this respect the world is entirely at one with him. ‘The general proposition that all our knowledge of the objective world is derived from experience appears to be undeniable, and is doubtless assented to explicitly, or in some mode of implication, by every sane person at the present day.’<sup>2</sup>

<sup>2</sup> Stallo's *Concepts and Theories of Modern Physics*.

Very good: now, suppose that I deny that proposition. Why, then, says Mr. Stallo, you must be insane. Let us see.

I find my head more or less full of knowledge, and I ask myself, where does it all come from. Experience? Not in the least. Nine-tenths of my own or anybody else's knowledge comes not *viâ* experience, but by the medium of books, communication, language — Pooh! that is still experience: if not your own, then somebody else's —

Ah! ah! *somebody else's*. Now we are getting to the point. So, then, it is not true, but false, to say that all knowledge comes from experience, UNLESS you take in *other* people as well as yourself: unless, that is to say, you are speaking, not of the individual, but of man, the race, the species, men collectively. The statement, universally recognised as true, is so only of *continuous* man, not of the abstract individual. In other words, the sceptic who asserts the doctrine is committing logical suicide: he is cutting his own throat: in the mouth of Hume the sceptic, the statement is absurd, seeing that his own, your own, my own, knowledge does not come, and cannot be accounted for, from his own, your own, my own experience<sup>a</sup>. Shut up, *ex hypothesi*,

<sup>a</sup> *i.e.* All *our* knowledge comes from experience: yes: all *my* knowledge—*no*.

in himself, limited to his own *ideas* and *impressions*, his knowledge is inexplicable: the greater part of it must remain for ever simply *x*, an irreducible surd, of which no account can possibly be given: its presence in the mind an insoluble mystery. For the moment he resorts, in order to explain it, to *language, communication*, he is abandoning his position, going outside himself; but this is just what logically he can never do. Language is a sealed book to scepticism, and one of the rocks on which it splits: for it is the essential condition of any degree of knowledge, and its explanation: a thing wholly irreconcilable with any subjective philosophy: for what is speech but the *externality* of reason, its vehicle, the continuity of man with man in space and time, the intellectual money of society; (speech being to thought exactly what money is to demand: its material body;) a capacity that has absolutely no meaning at all for the isolated Cartesian *ego*, or Hume's 'bundle of impressions.' And in fact, we might go much further: for even the inner man and his nature are determined by speech; as e.g. the faculty of the orator or poet. So little is humanity explicable on sceptical principles: so much does the interior moral man depend on that continuity, of which Hume's scepticism is the denial.

I say, then, that without language, *i.e.* continuity, that is, for the abstract individual, it is altogether false, and even ridiculous, to derive knowledge from experience. The position is utterly incompatible with scepticism, and destroys it. That Hume should be admired and accepted as the representative champion of both is merely one of the innumerable proofs of the deplorable imbecility of the world. It need not surprise us to find language and its corollaries totally ignored in Cartesian philosophy, such as that of Hume. He could not have denied it, without stultifying himself—for what is his book?—nor again could he possibly have deduced it from *impressions* and *ideas*; so that had it occurred to him, he must simply have acknowledged that his philosophical principles were unable to cope with it, and torn up his *Treatise on Human Nature*. That would have been a pity—Othello's occupation gone! Yet we are bidden to bow down to the philosophical profundity of the man, the two principal aspects of whose philosophy are logically incompatible, and who had never so much as considered language in relation to his principles: language, which is but the outside of reason, the body of which reason is the soul. No body, no soul: no language, no thought. The simple truth is that Hume had, and could have, no insight whatever into the nature



of reason<sup>b</sup>, because it is an organic thing, a social capacity ; and requires for its comprehension and explanation biology, and that continuity of Nature of which Hume's philosophy is the rationalistic, superficial denial. The individual, the *ego*, or isolated abstract bundle of discrete impressions, could have no reason, for he, or rather *it*, would have no need of communication, which is reason's original root<sup>c</sup>.

II. And this brings us to another less obvious but no less profound, error in the analysis of Hume. The peculiar and superlative merit of his philosophy, as, since Kant, we have been told *usque ad nauseam*, the thing that constitutes his greatest achievement and evinces the subtle penetration of his metaphysical glance, is his criticism of causality. I assert, on the contrary, that it proves exactly the opposite : his lamentable want of equipment, positive or critical, for the adequate performance of the task which he set himself to do.

The colossal blunder which he made here arose naturally and almost necessarily out of his philosophic method. Hume was not a genuine philo-

<sup>b</sup> See Part II., β, § 2.

<sup>c</sup> It could not even have a memory, for memory depends, not on the discrete, actual *ego*, but on the continuous, potential *ego* ignored by Hume. See Part II., α, § 3.

sopher, by which I mean, one who being puzzled by realities seeks to account for them<sup>d</sup>, and so arrives at principles by the regressive analysis of realities: he was a *book* philosopher, *i.e.*, he took his philosophical premisses from another (Berkeley) and deduced corollaries from them, leaving out, ignoring, or denying everything which they did not contain. The consequence is, that he has left out, without the least suspicion, exactly half of the whole in the case before us—causality. He did not fix his eye on the facts of Nature, analyse and classify their causes (as Aristotle did), but he arrived at his conception of causality deductively from his philosophical premisses. The mind has *impressions*: now, between any two of these there is no necessary connection discoverable: there is Hume's philosophy, and his idea of causality, in a nutshell<sup>e</sup>. Nor can anything be simpler or more easy to see than his point. Mere sequence, not necessity: the imperceptibility of the *power* that effects the result. Let that be as it may: we will not quarrel

<sup>d</sup> All children, *e.g.*, possess genuine philosophic curiosity.

<sup>e</sup> It is nowadays insinuated that Hume was not serious but ironical. Nothing could be further from the truth: he was entirely in earnest; and the way in which he labours, through two huge volumes, to orce the whole world into the strait-waistcoat of a bedlam theory that does not contain it will always make his book one of the wonders of the world.

with it at present: where he makes his egregious blunder is in supposing that this is *all*: that this *efficient* causality exhausts the species of cause and necessity.

I almost despair of bringing home to the reader the full atrocity of this extraordinary oversight. *All*. Why, Hume recognises and considers only one side of causality, of the other he has never so much as dreamed. It never enters his head that there are *two* totally different kinds of *real* (not merely formal and subjective) necessity and causality. He understands one only: the other he absolutely ignores. And yet this other side is just the key to the whole world of organic Nature: it is that great universal necessity which Aristotle calls the *ἀνάγκη τοῦ διὰ τί*, the necessity which everything is under of *conforming to circumstances*, the final, formal, and adaptive, as opposed to the efficient causality alone recognised by Hume.

Here, for example, is a *gold watch*. Now, it is not the gold which determines the nature of the watch, but the necessity of keeping time. This is that organic final necessity which makes the watch what it is. Break the watch up, reduce it to gold only, and this necessity is gone: only the material necessity of the elements, as such, remains<sup>f</sup>.

<sup>f</sup> This is treated in detail in Part II., β.

This is only a type of the universal law of Nature. This organic necessity is the key to the economy of Nature; it is the web and woof in which every organic being is set, and by which it is moulded and defined. This is the cause which is needed to determine and account for every organic being in the world: yet it is ignored, absolutely and utterly, by Hume's *criticism of causality*: because biology is a sealed book to him: he knows nothing whatever of organic nature<sup>g</sup>. Yet he never suspects this deficiency, which is essential in any one who endeavours to account for human nature. He resembles a man handling astronomy without any knowledge of mathematics. We cannot see that fire *must* burn: very well: now, how is it with the other necessity which he ignores? Is it not iron, and is it not obvious? Can the whale live in the Sahara, or the camel in the Polar Sea? Can the butterfly swim, or the eel fly? Can a steam engine run with *square* wheels? Is not the form of a boot or a glove, a saw or a saddle determined necessarily by their work? *Must* not the crow and the gull see and fly, if they are to live? Can sheep live under water? But why multiply instances? This fatal organic necessity, arising not from the properties of matter as such, but from conditions and exigencies that

<sup>g</sup> It obtains in other spheres also, but is less easy to see in them.

make *demands* upon the form ; this necessity, which must be obeyed on pain of death and disappearance, is invisible to Hume and his commentators : and yet it contains the secret of the Universe. In other words, Hume's treatment—it is in no sense an analysis—of causality is only a fragment of the whole, a segment of the entire circle. He treats of Human Nature in perfect ignorance of that species of causation of which it is a special case. Human Nature is not material, it is organic. An owl or a man obey a very different necessity from that which rules over a mere lump of matter. Kill the animal : deprive it of its life and reduce it to its elements, and the necessity which tyrannised over it while it was alive is gone : it *must* no longer fly or run, eat, drink, or see, &c., that *end* has gone : and with it goes organic necessity. Hume's boasted analysis of causality is the reasoning of a blind man about colours : it is a futile attempt to account for biological problems without any insight into the sphere of the problem : the vain endeavour of a part to pass for a whole of which it is utterly unconscious : it resembles, to revert to a former illustration, the effort to account for the watch by reference only to its gold—a theory whose absurdity it would be impossible to surpass. Had Aristotle been presented in the shades with a copy of Hume's *Treatise on*

*Human Nature*, he would have thrown it aside, with the criticism, that the author was an acute reasoner who knew absolutely nothing of Nature, and was wholly unconscious of the extent of his own deficiencies.

III. Kant ranks in public estimation as fully the equal, if not even the superior, of Hume: the critic *par excellence*.

Very good. Now, does it ever occur to Kant, all the way through the *Critique of Pure Reason*, or elsewhere; does it ever occur to the author of that truly remarkable *dictum*—‘the matter of phenomena is given us *a posteriori*: the form must ‘lie ready for them *a priori* in the mind’—does it, I say, ever occur to him that man does not only *contemplate* phenomena, but *creates* them? What is a temple, a statue, a steam engine? Now, the artist certainly does not create the matter: we have even, were it necessary, Kant’s own authority for it. What then remains for him to create? The form? Oh no! according to Kant that cannot be; for the form of phenomena is given to them by our mind in the act of contemplation: it lies ready for them in the mind. Then what remains for the artist to create? Nothing: for form and matter exhaust the phenomenon.

And this is the critical quality of the Critical

Philosophy! that epoch-making system which was avowedly founded by its illustrious author on the assumption that 'objects must conform to our faculty 'of representation.' Imagine a rhinoceros conforming to our faculty of representation! Objects do conform to something: but it is not our faculty of representation: it is the organic necessity of circumstances. But of this Kant knew nothing: though it was 'writ large' in the writings of Aristotle.

IV. Yet once more. If there is any one thing plainer than another, it is, the *moral* consequence of the Cartesian principle. If the individual self, my 'ego,' is the sole reality, and all else mere phantom of me, then virtue is absurdity and obligation disappears: for continuity is gone, and the Self, having no fellows, becomes, as it were, itself the Deity, outside all control, alone in a world which is only a reflection, or expression, or manifestation of itself. Pan-egoism. *Le Monde, c'est Moi*<sup>h</sup>. It follows, with inevitable necessity, that selfishness, pure, ferocious, bestial selfishness, reigns supreme. In the frightful solitude created by the Cartesian principle, I am the sole and only reality, and to myself the only law. With what would you seek to bind Me? what meaning has the word Duty

<sup>h</sup> This is Fichte, a maniac who is perfectly logical, and corresponds to the Hindoo philosophy of the Upanishads and the Vedanta system.

to Me? I laugh the very notion to utter scorn. But now, even supposing the necessity clear to him, which is hardly ever the case, no Cartesian would for all that dare to lay such a moral consequence down, for if he did, he would be instantly doomed by the revolted moral judgment of the world. And accordingly, we see all the Cartesians labouring in the most grotesque manner to link an Ethic on to their principle: to get, by hook or crook, out of their principle a morality which it not only does not contain, but annihilates. Nothing in the history of the ludicrous can parallel the spectacle presented to us by the desperate efforts of Spinoza, Hume, Kant, Schopenhauer<sup>1</sup>, and others of the school to put forth some moral system that will square with their premisses. Spinoza's attempt to dovetail an ethic mathematically on to a system which sinks the individual in the universal sea of Being—called God for euphemism—was absurd enough. But the palm was reserved, here also, for Kant, in whose famous Categorical imperative the Sublime and the Ridiculous meet. It is a realised asymptote, the last desperate stronghold (or *weakhold*) of a false philosophy driven into a hole, not daring or willing to

<sup>1</sup> Schopenhauer is the most consistent: his moral system being, in fact, the thesis that there is none: 'what we are, we are; virtue, 'a fig! 'tis in ourselves that we are thus or thus.'



admit the obvious moral consequences of its own fundamental principles: the grotesquely ridiculous figment of a man whose heart was better than his head, and who shrank, either from timidity or politics, from boldly carrying his principles out to their bitter end. But give me the man who has the courage of his principles: he is worth his weight in gold. No logical coward ever made a great philosopher: though it is true that many have been regarded by the world as great philosophers who were in truth very far from being anything of the kind.

And exactly in harmony with this, though arrived at by a somewhat different road, is the specious accent laid nowadays on the principle of 'conscience,' in semi-philosophical religious thought: conscience, which in Dryden's fine language is 'the 'royalty and prerogative of every "private" man: 'he is absolute within his own breast, and accountable to no earthly power for that which passes only 'between God and him':—as opposed to the old system of external social control, exemplified in almost all ages and countries: *e.g.* in the Hindoo system of Caste, the old self-governing communities of Europe, groups and guilds, and so on. This internal principle of conscience sounds indeed magnificent: on no text is it possible to preach finer

sermons. But show me a society morally directed and controlled only by this grand interior principle of conscience, and I will show you a gang of knaves and hypocrites. Conscience, which has so fine a ring in the ear of pious bookworms who do not understand human nature *as it is*, but are always contemplating ideal human nature and pure reason--this conscience, regarded as a working moral principle, is utterly futile and *impotent*: it is the sanctimonious mask of any rogue, the specious cowl of any villainy that shuns the light because its deeds are evil; and the virtue contained in conscience is really derived from outside; for virtue, like language, is an organic, not an individual attribute. Embrace Cartesian principles, let go continuity and the organic nexus as the basis of human nature, and your 'individual' may have indeed a conscience, but only after the fashion of Tartuffe or Titus Oates. Conscience, in the good sense of the word, the conscience of the really good man, the *mens conscia recti*, is a result, not a principle: it is the inward spiritual sign and indication of an outward social virtue that is there; but it is not itself the principle of virtue. Any Macchiavellian soul who has not got it will laugh to scorn the vain efforts of Cartesian philosophers to establish morality for him on such a delusion. Conscience may be the finest

flower of virtue, but it is not its root. That root is, continuity, organic obligation, i.e., Duty, which is merely the moral aspect of that final cause totally neglected by Cartesian philosophers. The Duty of any organic being is determined by its relations to others : it is a special case of the οὐδένεκα. When a man dies for another : when he sacrifices his own life *for the sake of* some one else, he is, little as he may dream of it, illustrating and verifying the analysis of Aristotle : he is practically refuting the philosophy of Descartes.

The truth is, that the only logical attitude for one who begins, like Descartes, by making the abstract discrete hypostatised self the sole or primary reality is the ironical one. A didactic sceptic is an absurdity. Hence all these inevitable self-contradictions in the works of philosophers who endeavour to dogmatise on sceptical principles. A genuine, thorough-going sceptic, who laughs at all science, (he would have plenty to laugh at now,) never argues, but expresses himself in jest and mockery, scoffs and gibes, is at least not inconsistent ; you cannot touch him : he has a literary position, and even commands our sympathy to a certain extent : it is a point of view. But a *didactic* sceptic, a sceptic who seriously *reasons* and writes books to *prove* this

or that!—it is a monstrosity, a self-contradiction incarnate. Unfortunately, to get the reputation of a 'great sceptic' you *must* write books, otherwise no one will ever hear of you: consequently, a great sceptic is apparently of necessity an illogical thinker. The only really great sceptics are those of whom, by reason of their logical attitude or complete silence, the world has never even heard. It knows, then, nothing of its greatest men!

What these Cartesian philosophers all do is, in reality, very simple. They have embraced a principle, an original philosophical starting-point, which logically reduces the world to *zero* or *ego* (with a large or small E), and which would reduce them, were they critically consistent, to silence; for there is no room for language in their philosophy. But this would not do: the world's philosophers cannot be silent men: moreover, they do not see it, for there is not a single Cartesian who understands the logical consequences of his own principle. Therefore, though they parade their principle in the foreground of their dialectical endeavours, they really convey, by an illicit subterfuge, all that matter into their philosophical systems which has really no right to be there: *i.e.* they proclaim the Idealistic principle, while secretly profiting by all that vast field of continuity and potentiality which it eliminates

and cannot account for. There is accordingly very often much by the way in their systems of fragmentary insight, though it is quite irreconcilable with their original principle. Their pretext and banner is Idealism : but their thought forsakes their principle, when it comes to action, for the real nature of things is stronger than the sophistry of self-deluding rationalism<sup>k</sup>. Where they all fail is in critical consistency ; systematic organisation and coherence of thought : agreement of part with part. They have neither the grasp nor the courage to carry their principle out to its logical conclusion. They ought, in strictness, to do one of two things : either absolutely deny *all* that their principle will not admit, as Hume partly did,—*all*, virtue, necessity, language, society—everything whatever that depends on continuity and potentiality : or conversely, deny the principle itself. They do neither. They assert the principle, and combine it forcibly with consequences that do not follow from it, and are incompatible with it. They assert the principle, because they have never yet been able to see how or

<sup>k</sup> It is commonly asserted nowadays that Idealism is as valid an hypothesis as any other, because it can explain in its own way all that any other theory can. But unfortunately, the one thing no Idealism can explain is just the essence of the Universe—*potentiality*.  
Idealism = *esse minus posse*.

where it is erroneous : they combine it with inconsistent inconsequent consequences, because it is just these which are the matters of concern and importance to the world : all the vital interests of humanity being precisely the things which their principle logically sweeps away. Hence the grotesque want of critical consistency in their systems : hence the absurd and fantastic, wearisome and idiotic attempts to explain the continuous real by the discrete ideal, the universal background of things by one of its own particular manifestations : the substance by its reflection : the organic woof and web of existence by mathematical atomistic points, or worse still, by hypothetical figments and imaginary nonentities hence in short, the whole generation of the Idealistic school from Descartes down. Idealism was doomed from its birth to this self-contradiction, the arbitrary and forcible conjunction of mutually exclusive opposites. It professes to derive all from the self, while it is really obliged to derive it from other things : it professes an hypothetical theory which in practice it entirely disregards : its pages are full of discussions of things of which, *ex hypothesi*, it could never know anything at all, which could not even exist at all, on its principles : and the very language it makes use of is its running refutation.

There is, indeed, a sense in which Idealism, not

being founded on reason, cannot be overthrown by it : seeing that ' what came not in by reason cannot ' by reason be expelled.' To many people, Idealism means, not what it is, not that essentially nihilistic or egoistic phenomenalism which logical Cartesianism must be, but a vague sentimental magnificent something compounded of aspirations and imaginations, mysteriously related to *e.g.* Wordsworth's *Ode to Immortality*, Tennyson's *In Memoriam*, Plato's *Phædo*, and so on. Idealism is conceived to be a kind of sublime, ethereal, profound and lofty mode of thought ; its exponent, a soaring genius, a finer soul, raised far above your gross and grovelling, commonplace and superficial realist<sup>1</sup>. It requires courage as well as criticism to be a realist, since you run the risk of being branded with superficiality just for that reason. The truth is, in reality, the other way : Idealism being a superficial absurdity which ignores the potentiality of the Universe, and tries to make our shallow little human scoop the measure of that Infinite Ocean of Possible Being into which, here and there, it dips. But the world is governed by the sound of words, and better loves to

Realism is the true mean between the two equally false poles of Materialism and Idealism. It combines the virtues of both with the fallacies of neither.

go up in balloons than to go down in diving-bells ; and so it comes about that, deluded by their own faculty of language, people cling desperately to a philosophy that logically annihilates everything which they hold sacred. *Sancta simplicitas!* they resemble nothing so much as drowning men hugging to their bosoms—the anchor! And then, just as natural objects look more beautiful when reflected in water than they do in themselves, so an imaginative charm, a literary spell, hangs about the notion of Idealism—there is a kind of magical aroma in the very word—which exercises on minds of a certain calibre a far more potent attraction than logic of the sharpest ever can. *λυπεῖ τὸ ἀκριβές* : there seems to be something a little mean and illiberal in applying nicety of criticism to gorgeous or graceful speculations : the *noli turbare circulos meos* is not without its influence ; and there will always be people who prefer to err with Plato, Berkeley, Schopenhauer, and other masters of literary grace and beauty ; for however much men may talk about reason and truth, they prefer the Sophist, the man who discourses beautifully *about* the truth, to the man who nakedly and unmeretriciously exhibits it. There can be no finer instance of this than Plato himself, whose everlasting polemic against the Sophists completely blinds people to the fact that he was himself—



this is the real Socratic irony—a thousand times more of a Sophist than any of those whom he caricatures and confutes in his pretty dialogues by the most childish pretences at reasoning. With the appeal to reason always on his lips, he settles every question by his own dogmatic requirements, and his philosophy owes its own attractions entirely to those very allurements of sense which it is always condemning; its logical content taken apart from its setting would seem as miserable as a Persian cat shorn of its hair. This is why of all philosophies that of Plato<sup>m</sup> can least be abstracted from his works. You must go to Plato himself for it, since every account of it leaves out the one thing valuable about it: its vehicle, the style, the atmosphere, the by-play.

However apparently different, Platonism and Cartesianism are really and at bottom the same thing: the core of both is total ignorance, neglect, or denial of potentiality and the endeavour to subordinate the concrete to the abstract, realities to their reflection in the mirror of consciousness. It is not without reason that Plato's admirers regard him as the founder and anticipator of all modern philosophy. He is so, in fact. Cartesianism is simply the return,

<sup>m</sup> ἀνδρὶ τυφλῷ καὶ γοῆτι τὰ ἐν οὐρανῷ διηγουμένῳ, ὅς οὐδὲ τὰ ἐν τῇ γῆ καθορᾶν ἐδύνατο.

based on biological ignorance, to that abstract philosophy of Plato, which Aristotle annihilated by his discovery of the evolutionary process of Nature, the continuous march from possible to actual: a discovery rediscovered, verified and solidified by modern science, and one which is as valid and complete a refutation of the modern Cartesian, as it was of the ancient Platonic, Idealism.

But when any philosophy has once acquired *status*, prescription, authority: when sophistry has become a classic: when it is taught in colleges and bound in vellum: when its commentators have become a fraternity, its elucidation, a trade: when critical reputations have been staked on its truth, and professorial expositions of its principles stand or fall with it: it dies hard. To convict it of error is, as it were, to take down great 'critical' philosophers from their pinnacles, or make them, in Bolingbroke's malicious phrase, 'like little statues 'on great pedestals, only seem the smaller by their 'very elevation.' The world dislikes nothing so much as to see its idols broken, and have to confess that its gods were after all not porcelain, but common clay. Rather than admit this, it will obstinately refuse to see. And therefore, though it should ultimately, as it certainly will, awake, and cease to decorate with musk roses the fair large ears of

its Cartesian Bottom, meanwhile the thin ghost of Idealism will continue to haunt the dens of philosophers and lurk in the shadow of libraries, long after it is logically defunct.

The future of philosophy, like the past, belongs to Aristotle; the unique, the immortal Master of the Wise. He, he alone lives and endures for ever: all the rest are fleeting shades. I wandered in his deserted school, and raked in the ashes of his extinct altar, till a spark of his divine genius suddenly glimmered and glowed in the darkness: I fostered and fed it with fuel till it flamed into fire and showed me the way: lit me like a torch to the discovery of a definition, which, though not Aristotle's, is Aristotelian: which I venture to say that Aristotle himself would now have given, could Aristotle rise from the dead. I have but raised his spirit, and written down the oracle on scattered leaves.



## II. ANALYTICAL.

### α. ORIGIN : THE NATURE OF SIGHT.

*ἄριστος, γνωρισμὸς οὐσίας.*

AXIOMS.

τῆς γὰρ ἀρχῆς ἄλλη γνώσις καὶ οὐκ ἀπόδειξις.

δυνάμει μείζων ἢ μεγᾶθει ἡ ἀρχή.

ἡ γὰρ αἰτιθσις ἐπιστήμης ἔχει δύναμιν.

## α. ORIGIN: THE NATURE OF SIGHT.

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### § 1. *The Critical Blunder of the Idealist.*

STRANGE, and even incredible as it may seem to the reader, it is nevertheless true, and I shall now proceed to convince him by ocular demonstration, that Idealism is *critically* impossible, being confronted at its outset by a dilemma, either horn of which destroys it. The whole edifice of modern philosophical Idealism is founded on a critical blunder.

And this is the *punctum saliens* of all the subsequent paradox and difficulty: therefore I exhort the reader to give it his most serious and profound attention. The source of all those sceptical perplexities which have ruined philosophy and brought discredit upon human reason lies in this initial atom, so small as to be almost imperceptible, yet so tremendous in its potential results that the consequences of failing to detect it are fatal. Minute as it is, the mighty genius of evil lurks within it, and if we carelessly overlook it and let it pass, we are, like the princess in the fairy tale, lost irretrievably.

Philosophers of every school, realist, idealist, dogmatic or sceptical, however much they may differ in all other respects, do nevertheless agree in one point. They all unanimously admit that the testimony of consciousness, naive, unanalysed, uncriticised, is in favour of vulgar realism. That we *seem* to see the very external objects themselves, immediately, as they are, at a distance, is the opinion alike of the vulgar and of every philosopher, call him Hume or Hamilton, Kant or Huxley, Berkeley or Reid.

All philosophy, therefore, begins with, and is founded upon, the critical analysis of this vulgar opinion; which every philosophy must accept, unless and until it can be shown to be erroneous.

Idealism is founded on the *rejection* of this vulgar opinion.

Now, whether this vulgar opinion be right or wrong—a point to which I shall return on a future page—it has escaped the notice of all the philosophers that in either case Idealism is out of the question. *For it is impossible to refute this vulgar opinion, except on realistic assumptions.* You cannot refute vulgar realism by any process of reasoning consistent with Idealism. And therefore it is, that Idealism, as a *critical* philosophy, is *impossible*: for no Idealist can ever refute the vulgar view without



at the same time destroying the foundation of his own philosophy. In every attempt which has ever been made to refute it, the Idealist assumes the very thing which he is disproving, the denial of which constitutes the essence of his own theory. Every Idealist commits, and must of necessity commit, logical suicide on the threshold of his speculations. Though it is assumed by all that the initial position of their school has been long ago established, the truth is, on the contrary, that it never has been, nor ever can be, established at all. You can enter the philosophy of Idealism only by committing an outrageous critical fallacy at the door. A chasm yawns between the Idealist and his own philosophy, which is not surmountable save by an illegitimate and illogical jump. The Idealist plumes himself on the impregnable nature of his position: but what he does not perceive is that he never can get into it himself. It can be garrisoned only by ghosts, disembodied spirits, *i.e.* logically dead men.

I shall now call up in order the representative champions and master spirits of Idealism, and make them convict themselves out of their own mouths.

Take, then, to begin with, the strong man of scepticism, the renowned and redoubtable Hume, who, grant him but his premisses, will inevitably reduce you the whole world to a mere fiction of

the imagination, filling up the gaps in its *impressions* by a continuous hypothetical *nescio quid*.

‘Men,’ says this eminent philosopher, ‘always ‘suppose the very images themselves presented ‘to the senses to be the external objects, and ‘never entertain any suspicion that the one are nothing but representations of the other.’ [*There are, then, others?*] ‘This very table which we see ‘white and which we feel hard is believed to exist ‘independent of our perception, and to be some- ‘thing external to the mind which perceives it.

‘But this universal and primary opinion of all ‘men is soon destroyed by the slightest philosophy, ‘which teaches’ [*now mark*] ‘that nothing can ever ‘be present to the mind but an image or perception, ‘and the senses are only the inlets through which ‘these are conveyed<sup>a</sup>, without being able to produce ‘any immediate intercourse between the mind and ‘the object.’ [*There is, then, an object, other than and external to the mind?*] ‘The table which we ‘see seems to diminish as we recede further from ‘it, *but the real table which exists independent of*

<sup>a</sup> Note the words here. Hume pictures to himself the images travelling along from objects *through* the senses, conceived as tunnels or channels, to the mind situated somewhere over against the objects—*realism!* And what does he mean by ‘*can be present,*’ and ‘*without being able?*’ What meaning has *possibility* for his philosophy, which postulates *only* discrete impressions?

*us suffers no alteration*: it was, *therefore*, but *its*<sup>b</sup> 'image which was present to the mind. These,' concludes the *sceptical* philosopher, with obvious satisfaction, 'are the obvious dictates of reason.'

And is it really possible for such *criticism* as this to pass muster, and command general approval, from Hume's own day down to our own? *Obvious dictates of reason!* by all means, if you like; but they are instantly fatal to Hume the *sceptical Idealist*. What! then after all, there *is* a real table existing independent of us, at a distance? And pray, *how in the world do you come to know that?* You tell me that the *apparent* table diminishes, but the *real* table does not, *therefore*, &c., this is actually the reasoning on which you *found* your Idealism, your denial of the possibility of knowing any such independently existing real objects. That is, you employ *actual* knowledge of such objects to prove that none *can* be known: you base your proof that such knowledge is *impossible*, upon that very knowledge. Then, *whence came that knowledge of yours?* How can you refute the *possibility* of knowledge by means of just such actual knowledge? how refute the vulgar realism by employing a knowledge which you declare to be *impossible?* Will you be good

<sup>b</sup> *Its* image, forsooth! What is *it*, and what is an *image?* How can there be an *image* of an *unknown nothing?*

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enough to explain how you can contrast the apparent with the real object and prove them distinct and different, if there are no real objects and if, as your philosophy maintains, they *cannot* be known<sup>c</sup>?

This is the criticism of a great sceptic! On this dialectical pleasantry, this grotesque and almost incredible blunder, is founded the whole critical philosophy of Hume: founded, that is to say, on a dilemma, either horn of which annihilates it. Either the vulgar opinion, this *universal and primary opinion of all men*, recognised by Hume, is right or wrong. If it is right, his whole philosophy is elaborate nonsense. If wrong, then he must prove that it is so, *without assuming what he is disproving* in his proof. It may be wrong: we are perfectly ready and willing to admit it, but let him produce the evidence. Refute, by all means, the vulgar view, and then proceed with the alternative which you establish on its rejection. But it is really rather too much to refute realism by its own aid, and then coolly go on to substitute in its place an Idealism which you have yourself annihilated by the very reasoning you employ to demolish the vulgar opinion.

This is the foundation of those remarkable

<sup>c</sup> Cf. *Treatise on Human Nature*, i. iv. §§ 2, 5.

sceptical conclusions and speculations which are presently to awaken Kant from the dogmatic slumber in which, till old age, he lies, contentedly lapped in all the puerilities of spiritualistic pneumatological metaphysics. But before dealing with Kant, let us consider Hume's 'forerunner,' the source of his sceptical inspiration, Berkeley. Berkeley deserves attentive consideration, because his speculative paradoxes about the senses make him, after Descartes, the second founder of modern Idealism<sup>d</sup>.

Berkeley is a very curious 'phenomenon:' a most noteworthy instance of the disastrous absurdity that arises from speculative ingenuity not weighted by the ballast of exact definition. His attractive personality, his graceful literary quality, and the 'pulpit strain' in his eloquence, cover, as with a thick cloak, the multitude of his logical sins. But we must not allow these *argumenta ad hominem* to throw us off the scent: logic is logic, and sophistry, sophistry, be the reasoner saint or devil. Berkeley's logic is of the feminine type: charming in its absurdity. An eternal self-contradiction in his argument, of which more anon:

<sup>d</sup> Observe, that with his *Theory of Vision*, right or wrong, we have *in this section* no quarrel or concern: it is only his Idealism, based on that theory, yet wholly incompatible with it, that is now in point.

a grotesque hallucination about distance as 'a line 'projected endwise to the fund of the eye:' (as if we had only one eye! as if it were not clear as noonday that this conception of distance itself implies just that very externality or 'outness' which he labours to explain away!) inextricable confusion arising from the perversion of common words to new-fangled private meanings of his own; (the assassination of thought, for public or common significance is the essence of speech;) an irritating and incomprehensible incapacity or refusal to understand what is a general idea<sup>e</sup>: (arising principally from his own perverse signification of the term *idea*: no human being ever having supposed the existence of a general idea, in his sense of the word;) and a theological *arrière-pensée* by which, in spite of the constant appeals to reason, the course of the argument is always secretly determined:—there is Berkeley. Yet of all his characteristics the most significant is this, that though he insists continually that it is not he, but the other philosophers, that are the paradoxical rascals, he keeps on repeating the same arguments, over and over again, with a kind of unwearied, unsatisfied enthusiasm; *i.e.*

<sup>e</sup> Yet Hume takes this miserable *mal entendu* for a great new discovery. The confusion between intellectual conception (*νόημα*) and imaginative pictorial representation (*φάντασμα*) poisons modern philosophy.

he *felt* the absurdity of his own paradoxes, and was in fact labouring to persuade himself as much as other people. 'What means this iteration, 'woman?'' This, that he is arguing against the grain: inspired, not by the interests of truth, but the supposed interests of his creed. What is wanting in Berkeley, as it is wanting in his school generally, is the organic element, apprehension of the continuity of Nature: he *abstracts* soul from body, the actual from its vehicle, labouring to show that *esse = percipi*. And how then as to *dosse*? He ignores it: it is for him as a book with seven seals.

Nothing in history surpasses the strange absurdity of this perfectly serious endeavour to demonstrate that the *essence* of the world consists in its *aspect*, its mirrored reflection in consciousness. And any one who examines Berkeley's life and writings together can see at a glance that the good bishop was a visionary, a kind of theologico-mathematical enthusiast: full of quaint fancies and delicate suggestions, but wholly destitute of the two things above all necessary to make a great thinker, the sense of reality and the capacity of systematic organisation of thought. His thought takes its tone not from biology, (the sphere of the senses,) but from mathematics, recently en-

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nobled by Newton's achievements: nor can anything more conclusively demonstrate his extraordinary lack of consecutive and co-ordinating grasp than his astonishing blindness to the logical consequences of his own principles. What could be more ironical than the fervour of his crusade against his bugbears, the Atheists and Free-thinkers, the partisans of Matter? Did it never occur to him that he was rooting up along with the tares of his enemies' opinions the wheat of his own? that all mysteries reached not by sense but abstraction stand on the same footing? and that in hewing away at general ideas, he was cutting down a branch on which he was seated himself? Could anything be plainer? What kind of dialectical depth can we allow in the man who could not see so obvious a consequence? Need it astonish us, then, to find that the philosophy of his old age (*Siris*) actually preaches exactly that primordial universal matter which it was the whole aim and object of the philosophy of his youth to destroy? Is the old man or the young one to be our guide? for they will meet no better than the blessing of Judah and Issachar.

The simple truth is, that Berkeley did not know what it was to *think* a philosophy out. His merit lies in isolated fragments of insight, scattered here



and there in his writings like occasional gems in a heap of paradoxical rubbish, and couched generally in the form of *queries*: discrete, not continuous. Nor, as his life shows, did he really know anything, when he started his philosophy, but a little mathematics <sup>f</sup>. Experience taught him wisdom: he dropped quietly out of his paradoxes, and more into harmony with the common sense of the world, as age came on: the force of reality with all its myriad potentialities gradually weaned him, as it did Plato <sup>g</sup>, from the dialectical hallucinations that had beguiled his youth. And yet in that youth, actuated by the zealous enthusiasm that inspired many other actions of his life, he did not shrink from setting up his puny little unfledged philosophy, crude, raw, impotent, empty-headed little weakling as it was, against the profound, all-embracing, organically founded and systematically thought-out and world-tested evolutionary analysis of Aristotle and his giant logical followers, the Schoolmen. It was the well-meant rivalry of a farthing candle with the great Sun at noon. There is indeed something painfully ludicrous in the spectacle of

<sup>f</sup> It is the same with Hume, whose philosophy, the product of a young man, exhibits, naturally enough, acute deduction of accepted premisses to logical conclusions, not analytical regress from realities to principles that will explain them.

<sup>g</sup> See Appendix.

a man posing as a philosopher, and writing volume after volume, full of language and reasoning, whose particular bugbear is general ideas. He should, to be consistent, have expounded his philosophy by a series of pictures and diagrams.

Berkeley's Idealistic dialectic, his argument for Idealism<sup>h</sup> throughout, is nothing whatever but the kaleidoscopic repetition of one and the same wearisome fallacy, which runs through every page of his writings: the assumption of the very thing which he is labouring to disprove, Idealism established on realistic assumptions, the disproof of any knowledge of an *esse* which is not *percipi*, by its actual employment. For example:—

'*Phil.* Have you not acknowledged that no real property of any object can be changed without some change in the thing itself?

'*Hyl.* I have.

'*Phil.* But as we approach to or recede from an object, the visible extension varies, being at one distance ten or a hundred times greater than at another. Doth it not therefore follow from hence likewise that it is not really inherent in the object?

<sup>h</sup> 'According to my system,' he says, 'all things are *entia rationis*,' and he calls the distinction between *entia rationis* and *entia realia* 'a foolish distinction of the Schoolmen.' He takes his own rationalistic folly for wisdom, in entire good faith.

'*Hyl.* I own I am at a loss what to think.

'*Phil.* Your judgment will soon be determined, if you will venture to think as freely concerning this quality as you have concerning the rest. Was it not admitted as a good argument<sup>i</sup> that neither heat nor cold was in the water, because it seemed warm to one hand and cold to another.

'*Hyl.* It was.'

Or again :

'*Phil.* It seems then that light doth no more than shake the optic nerve ?

'*Hyl.* Nothing else.

'*Phil.* And that consequent to each particular motion of the nerves, the mind is affected with a sensation, which is some particular colour ?

'*Hyl.* Right.

'*Phil.* And those sensations have no existence without the mind ?

'*Hyl.* They have not.'

Such is the uniform and unvarying quality of Berkeley's thought : always and everywhere we find the very thing which he is disproving assumed as a fact and made the basis of the argument : *viz.*, Knowledge of an object, an *esse*,

<sup>i</sup> It was indeed. Here we see the necessity of Aristotle, to distinguish between the *actual* and *potential* heat.

beneath and without the *percipi* (water, light, optic nerve, motion, &c.). The very reasoning employed to establish his thesis utterly destroys it: he cuts his own throat in every line. The premisses assume what the conclusion denies<sup>k</sup>: certainly a mode of reasoning unknown to Aristotle and the poor old Schoolmen, whose distinctions Berkeley so much despises. But the obliging lay-figures in his dialogues, ever ready with their easy admissions, never detect the fallacy: how should they, poor *creatures*? they are only the interlocutor himself, under another name. By means of such dummy dialectic as that of Plato or Berkeley, there is no difficulty in proving or disproving anything. The thing is a sham, a parade: show *minus* substance; *esse minus posse*: imposing upon those only who take—God bless them!—dialogue for dialectic, verses for poetry, a grinning row of false teeth for Nature's genuine grinders<sup>l</sup>. Plato forgot, when he invented this method, thinking to fix Socrates on paper, that it lost *ipso facto* the

<sup>k</sup> A particularly striking instance of this common Idealistic method is this: how can an Idealist talk, as they all do, of an *inverted* image on the retina? How can the image be *inverted*, situated in an *opposite* way, to the real object, if there be no such object?

<sup>l</sup> As the doctor in Waverley 'was a believer in all poetry which 'was composed by his friends and written out in fair straight lines 'with a capital at the beginning of each.'

virtue and soul of the living question and answer, retaining only its dry bones, the galvanic activity of waxworks.

This glaring self-contradiction forms the substance and core of all Berkeley's reasoning. Yet it did not prevent J. S. Mill from pronouncing Berkeley the greatest of all the metaphysicians, for all his *Logic* did not enable Mill to see a fallacy that stared him in the face. Mill will go bail for Berkeley, but *quis custodiat ipsum?* Let Mill answer for himself.

Consciousness tells us, says Mill, that we see the real object: whereas we *know* that we see only a variously coloured surface<sup>m</sup>. Indeed! and *how come we to know that?* Let Mill answer that question, if he can, without committing logical suicide. He will refer you to the time-honoured old Chesselden case. But, *on Mill's principles*, what has that case to do with me? I am not the patient in that case. I am myself. You tell me that I see what I do not see: I ask for proof: and you refer me to something *outside*, something *not* myself, as a *type* of me: something *diseased* into the bargain. And you call this proof. *Proof!* Why, is it not just J. S. Mill who *denies* type, essence, and believes only in particulars? Who

<sup>m</sup> See § 3 on this point.

declares that syllogistic argument from type to particulars<sup>n</sup> is a fallacy? Yet here is this very Mill appealing from somebody else's experience to my own: arguing that I really see what I do not see, *because* somebody else, who was diseased, saw what I do not see. And pray, what is the evidence on which he knows of the existence of that somebody else? Surely not that he *sees* other people? What then?

And this is to replace the old Organon of Aristotle! This marvellous logical genius, who has annihilated the syllogism, and analyses thought, if he is not mistaken, 'under better auspices' than Aristotle: this nineteenth century prodigy, who tells us that the real fact of the matter, in Vision, is something not only not corroborated by consciousness, but even contradicted by it, is, if you please, the very same man whose cardinal philosophical principle is this:—that we can never know anything primarily about anything, except what experience and consciousness tell us!

To 'logic' of this kind the world erects statues: monuments of something other than it intends.

Where shall we turn for 'criticism?' where, but to the Critical Philosophy?

The epoch making genius of Königsberg, when

<sup>n</sup> See, on this point, Part II. B, § 2.

at length awakened from his dogmatic slumber, took a line of his own. Far from rejecting vulgar realism, he admits it, under the new name of Empirical Realism, as the primary fact: but he immediately proceeds to qualify and retract the admission by denying exactly that which forms the essence of the vulgar belief—that it has any validity apart from intuition. Space, Time, and Causality have, on the contrary, nothing to do with *things in themselves*, *i.e.* apart from the perceiving mind. These are absolutely incognisable. Then the question instantly presents itself: *And how in the world comes Kant to know anything about them?* How is it that this critical philosopher commences by dogmatising about the incognisable? and contradicts himself flatly at the beginning? You tell me that Space, Time, and Causality do *not* belong to things in themselves: and yet you assert that these things *cause* our sensations, and you speak of them in the *plural*. What! there are, then, *many* of these things in themselves? But how is this? for *number*, you say, applies only to phenomena. And then, Space, the possibility of figure and form, a purely mental contribution? What! the form of a saddle, a saw, a boot, the crab's claw, the bat's wing, the horse's hoof, the salmon's tail, of our own ear, eye, brain or lungs, which it is *impossible* to

perceive, all given by our mind in the act of perception! Why, we must invent a Deity, a permanent act of intuition, to explain the *continuous* existence of the world when it is not being contemplated by any human or animal eye: *Its* sole function shall be to *keep on contemplating*: if *It* were to stop for a moment, everything would go out 'bang, like a candle', like Alice, if the Red King stopped dreaming<sup>o</sup>.

Well does Aristotle say, that the mind when moving in absurdities becomes itself absurd. Kant's Critical Philosophy has reached the apex. Its grotesque absurdity escapes detection, owing to the fact that he never clearly understood his own meaning, and juggles everlastingly with the word *phenomena*, which he employs to denote both external realities and subjective perceptions: (the two being in his philosophy falsely identified:) *e.g.* he says, on the opening page of his *Critique*: 'it is the 'matter of all phenomena which is given us *a posteriori*; the form must lie ready for them *a priori* 'in the mind<sup>p</sup>.' Now, as long as we remain *in ab-*

<sup>o</sup> If God did not exist, said Voltaire, it would be necessary to create Him. Words prophetic of German philosophy, in which the Deity becomes a sort of explanatory dialectical necessity dragged in *ex machinâ* to prop Idealism.

<sup>p</sup> Of *notional* classification or recognition alone is this true: *e.g.*



*tracto*, thinking vaguely of *phenomena* as purely mental affections, the full significance of this astounding *dictum* does not come out: but take a concrete example, a particular *phenomenon*, and then see. Is the matter of a statue by Pheidias given us *a posteriori*, and its form by our mind? Is the matter of a corkscrew, a hippopotamus, or a bishop, given us *a posteriori*, and its form by our mind? You cannot save Kant by denying that these things are the *phenomena*, because it is just the essence of his philosophy that they *are*: vulgar realism being empirically valid. Did Kant really suppose that the mind *in actu percipiendi*<sup>3</sup> there and then converted an amorphous 'chunk' of the *Ding-an-Sich* 'given' to it who knows how, into shape? turn one chunk into a cartridge, another into a rifle, and a third into a Brahmin sepoy? and are there *three* chunks for the three *phenomena*, one apiece? or does the mind divide for itself the continuous *Ding*, chopping off such pieces as may serve its turn? Really, one might sometimes laugh, when one con-

this thing which I see is a *candle*: but this was always known to everybody.

<sup>3</sup> Cp. J. H. Stirling, *Text Book to Kant*: 'that house, this tree, 'this table, this pen, external as they are, are not wholly so, but 'have forms projected into them from within my own self even 'in the very act of my perceiving them.'

siders the imbecility of the world, for a quarter of an hour. Why, did it never occur to this wonderful critical philosopher, as we enquired in the Introduction, to reflect that *phenomena* are not only perceived but created by man? What is a hatchet or a shoe? what are machinery, sculpture, architecture? Forms created by man. And is the whole differentiation of Nature created by our mind in the instant of perception? Do not attempt to crawl off at a tangent by importing into the question hypothetical figments, universal *ego*, or any other such devices to bolster up one error by making another: I hamstring such quibbles with Occam's Razor: *entia non sunt multiplicanda præter necessitatem*.

The very absurdity of this protects it, because people are unwilling to suppose that any theory of which they have made an idol could possibly be such nonsense. But there is no escape: the absurdity is a rigorous, logical, inevitable corollary of Kant's fundamental dogmas. If, as he maintains, *phenomena*<sup>r</sup> are empirically just what they seem to

<sup>r</sup> 'In the Transcendental Æsthetic, we *proved* that everything intuited in space and time, all objects of a possible experience are 'nothing but phenomena, that is, representations: and that these, 'as presented to us, as extended bodies, have no self-subsistent existence apart from human thought.' (*Critique*, ed. Meiklejohn,

be, then and there : if yet space be a purely mental contribution of no validity *minus* the mind, and consequently its form accrues to the chaotic matter only in the moment of perception : then it follows with iron necessity that the whole differentiation of objects in respect of their form is bestowed upon them by the mind : and you can escape only by a concatenation of figments, the hypothetical supposition of some permanent act of perception, call it by any name you please.

The simple fact is, as any one who closely examines the *Critique of Pure Reason* can see, that, busily occupied in elaborating his internal rational superstructure, Kant never clearly understood his own meaning as to the most important point of all, the *phenomenon*, its significance, and its relation to the 'thing in itself.' His thought in this respect is simply a muddle, as he shows whenever he attempts to explain himself. He wavers indefinitely between vulgar realism and sceptical idealism, the inevitable consequence of making space at once empirically valid *and* a subjective phantasm : his *outside* is *inside*, and he moves in a haze of confusion, because, having once identified the phenomenon with the real ex-

p. 307.) Kant's notion of *proof* is truly remarkable : there is nothing in the Transcendental *Æsthetic* bearing the remotest resemblance to an argument.

ternal object, he is obliged to keep on contradicting himself, by using the term *object* now for the phenomenon, now for the thing in itself. These *things in themselves* are really nothing but external objects, which Kant's *theory* makes incognisable, but which are, *in fact*, known not only to the world in general, but to himself. Hence his actual knowledge of them is constantly contradicting his theory that they are incognisable; and accordingly every page of his book is a tissue of this self-contradiction: the *actual* display of knowledge respecting a sphere, knowledge of which he declares to be *impossible*.

His theory is simply a combination of two errors: its psychological genesis is this. First, he accepts vulgar realism: then he gratuitously denies it. Hence he first identifies the phenomenon with the external object: and then dogmatically severs them, thus reducing the external object to a *je ne sais quoi* by deriving all its qualities from the perceiving mind. It thus becomes a nonentity—in *theory*: in fact, it continues to exist, in spite of Kant, just as if the *Transcendental Æsthetic*<sup>s</sup> had never been written.

If,' says Kant, 'things could be contemplated otherwise than 'as they are, and *as the pure Understanding would cognise them*, 'then they would all seem quite different: *ergo*, Space and Time 'are mere forms of intuition.' This is what he calls *proof!* And what is this miserable figment, *a pure Understanding?* If *three times six were thirteen*, then, &c., &c.

And yet it is just this foolish Transcendental Æsthetic which Schopenhauer, a most fervent disciple, singles out as the *only* part of Kant's whole philosophy which is sound: but then its extraordinary merit and profundity console Schopenhauer for all Kant's other shortcomings. The disciple, adopting the doctrine of his master as to Space and Time, has argued elaborately for it in a special treatise. Here is a specimen of his reasoning:

'Sensation is and remains a process within the organism, and is limited as such to the region within the skin: it cannot, therefore, contain any thing that lies beyond that region, or in other words, anything outside us.' (*Four-fold Root, &c.*)

Here, forsooth! is *criticism!* What! there is, then, after all, an *outside*, a *beyond*, which sensation cannot contain? And pray, *how do you know that?* Do you not see that you are assuming the independent existence of Space in order to refute it? We cannot perceive what is *outside*, because it is outside: *therefore*, we perceive what is *inside*: *therefore*, there is no *outside*. Q.E.D.

Elsewhere, Schopenhauer breaks forth poetically, *à propos* of vision—he was a great writer—as follows: 'Sight needs no contact, nor even proximity: its field is unbounded and extends to the stars.' Perfectly true. But reconcile this

opinion, if you can, to the *Transcendental Æsthetic*. Why this laudation of Sight? If Space be a purely mental subjective contribution, why admire Sight more than Touch? or why feel more admiration for the Sight of the fixed stars than the Sight of your own nose? What is the ground of distinction between Sight and Touch? This, that Touch informs us about bodies *in contact* with our organism, and Sight, about bodies *at a distance*. Let any one square Schopenhauer's rhetoric with his criticism, who can.

Enough of the critical philosophers: take, now, some typical specimens of the scientific physiological sensationalism of our own day: and to begin with, listen to the late Professor Huxley, who has stamped the doctrines of Descartes, Berkeley, and Hume, with his eminent physiological approval.

'What the senses testify is neither more nor less 'than the fact of their own affection'. As to the 'cause of that affection, they really say nothing:' or again: 'the impact of the ethereal vibrations 'upon the sensory expansion, or essential part of 'the visual apparatus, is sufficient to give rise to 'all those feelings which we term sensations of light

† It is not the senses, but the *organs* of sense, that are affected: see below, § 3, for the criticism of this lamentable confusion between *senses* and their *organs*.

‘and colour, and to that feeling of outness which ‘accompanies all our visual sensations’<sup>u</sup>.

Now, how is it that Professor Huxley comes to be exhibiting here *knowledge* of those very *causes* of sensations which he declares to be *unknown*? Who does not see that his denial reposes upon the very possibility which he denies? These *ethereal vibrations*, this *sensory expansion*, this *visual apparatus*, not only are these *causes* well known to him, but he *actually knows* that they are *sufficient* to give rise to that *feeling of outness*, &c.<sup>x</sup> Why, his knowledge is perfectly amazing. And *where, then, did it come from*? Surely, Professor Huxley could not descend to the humble, self-contradictory admission that it came by observation and experiment, *i.e.* Sight? for he tells us that it could not so come, since the senses tell us *nothing* of the causes of their affections. Did he get it, then, by Divine Revelation, or did he dream it? To say that he got it in the laboratory or the dissecting-room is to cut his own throat. He uses the knowledge that came in through his eyes to disprove its own possibility, which shows us that more things than physiology are required to make a philosopher. Huxley’s actual science is

<sup>u</sup> *Elementary Physiology*, pp. 240, 223. Similarly in his *Essays* on Descartes, Berkeley, and Hume.

<sup>x</sup> *Feeling of outness!* ‘Is this the mighty ocean? is this all?’

the disproof of his own philosophy: and yet the world took the philosophy on the authority of the science! Truly, there is here food for joyous laughter.

Take a still more modern instance:—Professor Theodor Ziehen, who says, in his *Introduction to Physiological Psychology*, ‘our science stands ‘in the closest relation with the founder of the ‘Critical Philosophy, Kant. Locke, Berkeley, ‘Hume, had prepared the way for the great truth<sup>†</sup> ‘which Kant finally expressed, that primarily we ‘have only the psychical series, the series of appearances or phenomena, as he called them. ‘The hypothetical “cause” of the phenomena or ‘the psychical series is 1. merely inferred, 2. a factor ‘of which we know absolutely nothing.’

Very good: *merely inferred* and *absolutely u-n known*. We turn, then, to any other page of his book, and we read, *e.g.* on p. 101, as follows: ‘the adequate physical stimulus of the eye is ‘furnished by the vibrations of the ether’ . . . . ‘not all velocities of ethereal vibration impart ‘a sensation of light to the eye’ . . . . ‘the ‘number of vibrations *per* second may be too ‘large or too small to produce such a sensation’ . . . . ‘in general, only more than 400 billions and

<sup>†</sup> This *great truth* is either a truism, or a fallacy.



'less than 900 billions *per* second are capable of 'exciting visual sensations.'

So Professor Ziehen was quite right, when he said that his 'science' was closely related to Kant's philosophy. It is indeed of the same critical quality. From this, or almost any page of his book, it turns out, that so far from the causes of sensation being *absolutely unknown* to Professor Ziehen, he possesses, on the contrary, a knowledge of them which is *absolutely appalling*: he can count with accuracy in billions in this *absolutely unknown* sphere. What an astounding achievement! But I want to know, *how comes he to know about the unknown?* Doubtless Professor Ziehen would be justly annoyed if any one were to tell him that his knowledge was all moonshine—a delusion and a dream. But if it is really knowledge, how can it be knowledge of the *unknown?* Of two things, one. *Either* he does not know what he says he knows, and it is all nonsense about the billions, *or* the causes of phenomena are not unknown. Which is it that is wrong—optics and the undulatory theory of light, or Kant? It *may* be both: it *must* be one or the other. The only question is, *which?*

These citations, which might be increased in-

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definitely, will suffice to show the reader clearly the nature of the point here enforced: he can add to them himself to any extent that he pleases by rummaging the literature of philosophy.

The truth is simply this, that Idealism is necessarily founded on a self-contradiction. It is obliged to assume, in its own establishment, the very thing, of whose possibility it is the denial: knowledge of that which lies behind the phenomenon, of the reality independent of its sensations, ideas, impressions, &c. You cannot possibly refute vulgar realism, except by realistic arguments. The preliminary refutation of vulgar realism is a task beyond the power of Idealism. I challenge any reader to discover, in all the literature of philosophy, or, if he can, to manufacture for himself, a disproof of vulgar realism which does not assume either that, or realism of a modified kind. How can anything be more obvious? How can you first derive externality from Sight, and then employ it to prove that Sight contains none? How base the disproof of the *possibility* of a certain kind of knowledge upon the *actually* possessed knowledge itself? The thing is manifestly ridiculous. And yet, from Berkeley down, every Idealist without exception commits without suspicion this astonishing fallacy, and bases his philosophy upon the very

thing which it maintains to be impossible. But I ask, again and again: *If Sight contains no externality, whence then comes all that external knowledge by means of which they prove to us that i' is impossible?*

They all admit *implicitly* what they *explicitly* deny, viz.: that somehow or other, as all their proofs and arguments imply, we *do* get at the causes of phenomena, 'behind' them. The question therefore for us is, How?

To that question we accordingly turn. Note, meanwhile, the conclusion as to Idealism. There is only one kind of Idealism possible: Idealism by faith, the *credo quia absurdum*: the Idealism which adopts its first principle without critical examination. *Critical* Idealism is *impossible*. No Idealist can open his mouth to refute the vulgar realism which is primarily in possession of the field, and valid till it is refuted, without annihilating himself. Refute it, by all means, if you can. But if you *cannot*, you must accept it: and if you *can*, you must cut your coat accordingly: your disproof disproves also Idealism.

This much therefore is certain: that the much despised vulgar person, however it may subsequently turn out with him, may at least laugh to all eternity at the futile efforts of the Idealist to

capture his position. He may indeed capture the position, but only to arrive in it dead himself, like the old Rajpoot chieftain before Chittore. Alive, he cannot take it. Idealism, like those unfortunate souls of whom Plato tells us somewhere, is destined to yearn for ever for critical existence, yet fated not to be. Idealism is a philosophy only *de facto*, and not *de jure*.<sup>2</sup> It is the illogical realisation of the *impossible*<sup>2</sup>.

§ 2. *The Raison d'être, or Duty, of Sight.*

The founders of modern Idealism, whose evil that they did lives after them, were the victims of their own point of departure, abstraction. The senses are unintelligible, they have absolutely no meaning, except when considered in a light never dreamed

<sup>2</sup> There are four possible theories, and only four, as to visual *phenomena*. They may be—

1. The very external realities themselves.
2. Copies, images, more or less closely resembling those realities.
3. Signs, or symptoms, indicative of realities, but totally unlike them: *phenomena* of an unknown *x*.
4. Signs, symptoms, ideas, impressions, sensations, or what you will, indicative of nothing but themselves.

Of these four, the two last are the view of Idealism: the first of the vulgar: the second contains the truth, but it requires explanation. Properly understood, it coincides with the vulgar view. See below, § 3. Note, also, that on either of the last two theories, science is impossible.

of by Descartes or Berkeley, Hume or Kant, Reid or Hamilton. All these philosophers, when dealing with the senses, fumble in the dark void of abstraction with a mere spoonful of isolated water, knowing absolutely nothing of the vast ocean of organic existence and natural economy, the whole, of which our senses are but special cases. The immeasurable superiority of Aristotle to every other philosopher, ancient or modern, a superiority which he retains even in these days of evolution, arises principally from the fact that he always has his eye upon organic existence as a whole, and his thought moves accordingly in the true sphere of the problem. He never converts realities into non-entities by abstracting them from that *nexus* of relations in which alone they can be what they are.

The philosopher, who, meditating upon the nature of Sight, comes to the conclusion that the vulgar are mistaken, and adopts views analogous to those which we analysed in the last section, is settling in a very summary manner a question that does not affect men only, but involves the whole world of living creatures, which stands or falls theoretically by his answer. Is there now a single Cartesian philosopher who recognises Sight to be that which it is, a capacity not human, but animal? Do you find a glimpse of this conception in Berkeley, Hume,

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Kant, or their commentators? But, says the reader, how should we expect to find it? it is only since Darwin that we have learned to view these things in their true light; but they lived before evolution. And how, then, about Aristotle, whom they despised and rejected? This point of view is the very soul of him: it runs through every line of his works; it is printed large on every page of him: and yet, for the Cartesians, he wrote in vain. None, says the proverb, are so blind as those who will not see. Aristotle was to be condemned, because he was Aristotle, and so the modern philosophers went on their way rejoicing in the new light of their dense ignorance of Nature and her methods. Observe, for example, how, two thousand years after Aristotle, the fact of a chicken seeing as soon as it is out of its shell disconcerts J. S. Mill<sup>a</sup>, and how lamely he endeavours to reckon with it. Why this awkward uneasiness? Why, because it had never occurred to Mill before to consider his philosophical premisses in their true light, the universal, organic, animal point of view. This chicken, seeing accurately and well, in so unexpected and annoying a manner, is quite a novel idea to Mill, who though he knows nothing about chickens or any other animal, looks down from the height of his wisdom

<sup>a</sup> See his *Dissertations*.

upon poor old Aristotle. Mill has read his Berkeley and his Hume, but he has never observed the facts of Life: he is a mere *book* philosopher, a continuator, a commentator: the source of his principles is not Nature and original analytical thought, but his library, and his awful father. Life as it is in living beings, animals: Nature, her methods and means of attaining her ends, are foreign, strange, and surprising to him. Who could have supposed that this wretched chicken would see in this disgusting manner? Well indeed might it set him thinking. This miserable little fluffy atom, this absurd little egg-shaped insignificance, annihilates the philosophy of J. S. Mill, and upsets Berkeley's *Theory of Vision*: proving, beyond all possibility of denial, that Sight *does not always* require experience and the association of visual and tactual sensations. Then, if *not always*, does it *ever*? Do we ourselves see like the chicken? What is Sight?

Discussions of Sight by Cartesian philosophers resemble a treatise on comparative anatomy written by a man who had never seen any skeleton but his own. As if it were possible adequately to handle any general characteristic of animal life, *sex, generation, development, sense*, by confining yourself to a single specimen! When Darwin discusses sexual selection, does he confine himself to man?

Aristotle could have taught these philosophers better than Darwin, had they not been so wise in their own conceit, that it is as animals, and not as men, that we have Sight<sup>b</sup>. The sense of Sight is, in animals that have it, one of the *sine quibus non*: it is a means to an end, an instrument of life, like the capacity of flying, running, swimming, burrowing, &c., to each capacity being assigned its appropriate and necessary organ, as fins, wings, legs, eyes, &c. Consequently, before proceeding to lay down the nature of Sight, the first question of any one must be, what part does Sight play in the animal economy: thence, *a fortiori*, in our own? The general precedes the special: the animal foundation comes before the human edifice reared upon it. If you want to understand Sight, you must go to the sphere of its operation, the scene of its action, and watch it at work. *Then, and not till then, after having accumulated your observations, you can speculate on its nature*<sup>c</sup>. You can no more

<sup>b</sup> οὐκ ἦ ἄνθρωποι ἐσμὲν, ἀλλ' ἦ ζῶα, ὑπάρχει.

<sup>c</sup> It is really extraordinary to see how completely the Cartesians reverse the truth as to themselves and Aristotle. Hume or Mill, *e.g.*, preach experience, and condemn *a priori* metaphysical methods. Yet it was they themselves, not Aristotle, who were erecting schemes of *human* nature on a basis of ignorance as to Nature in general. Aristotle's method is the *analysis of accumulated facts*: theirs is *abstract deduction from a rationalistic dogma*.



understand the nature of Sight apart from the sphere of its operation, than you can understand the tail of the salmon or the mouth of the whale, away from the water of the river or the sea. For it is the *work*, the *duty*, of all these organs and capacities that made, explains, and accounts for them: and that work can be performed only *in mediis rebus*. How can the philosopher who ignores this utilitarian, or evolutionary, or altruistic principle of explanation, who does not know that everything organic is *for the sake of* some other thing, make head or tail of the senses? For Sight is as strictly an instrument as any other organic capacity. Can you explain the *differences* of sight, the vision of the eagle, the swan, the owl, without reference to their peculiar habits? and if not the differences of the capacity, how then the capacity itself? For the general capacity is only contained in the sum total of the particular species of visual power. Contemplate the economy of Nature: consider her hosts of animals, creeping, flying, burrowing, diving, dashing about in all directions in escape or pursuit, by means of their organs and capacities, depending at every moment amid a legion of enemies and hostile influences on their powers and faculties and senses for their lives: and then turn to the dogmas of Cartesian philosophers about the senses: you will

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see that they all ignore the essence of the matter. They are attempting to deal with organic *means* without reference to their *ends*: they do not even know that they are *means*: they turn the *utility* of the senses to the *futility* of the senses, by isolating them and abstracting them from their work. Ignoring this work, which alone gives them significance, they rob the senses of their point and stultify them altogether.

For they invariably argue as if the mind's interest in its *ideas*, *sensations*, *impressions*, *phenomena*, &c., were a purely æsthetic interest, *θεωπλασ ἕνεκα*: they represent 'the *ego*' as the disinterested and indifferent spectator of these idle *phenomena*: as if the torpid and curious contemplation of *phenomena* were the primary and original function of the mind. Whereas, on the contrary, the truth is that such contemplation, scientific, æsthetic, or metaphysical, is a luxury, an amusement, a pastime; possible among the countless hosts of creatures only to man, and even of men, only to those in comparatively easy circumstances: to a mere handful, as it were, of beings. It is *universally ignored* by Cartesian philosophers that the senses of the animal are the means and possibility of its life and its action a hostile world: or in other words that its *ideas*, *impressions*, *phenomena*, &c., are its WEAPONS in

the incessant struggle for existence: their permanent, primary and underlying function, the preservation of that self to which they belong<sup>d</sup>. τέλος γὰρ οὐ γνώσις ἀλλὰ πράξις: the phenomena that appear in Sight are not, as they become in Art or Philosophy, an end in themselves, but only a means to that end, which is life itself. The mind is no mere magic-lantern to amuse or delude us with shadows (*phenomena*): it is rather a lamp, the light of Nature, to discover objects in the surrounding darkness and enable us to cope with them. And yet this is just what Cartesians deny. They eviscerate the senses of their externality, and deny that they either can or do give us any information of the real nature of the external object<sup>e</sup>. But the proof that they do is the fact of existence. Imitating a formula of Kant, we may say, 'they *do*, for they *must*, otherwise life 'were impossible,' and Idealism is the theoretic impossibility and stultification of organic Nature.

<sup>d</sup> This is the principle on which Aristotle accounts for the parts or organs of animals: the end of all is the preservation of the animal (*σώζειν τὴν φύσιν*) in various ways, by fighting or fleeing, &c.

<sup>e</sup> 'No sensation can give me any information but how I am affected, I myself: of any information as regards the object I am 'entirely void.' Stirling's *Text Book to Kant*. As to which, see below, § 3: and observe how Stirling, just like Kant, as we saw, is obliged to speak of the '*thing in itself*' as the *object*, i.e. to imply knowledge of the theoretically unknown *x*.

Oh! but Hume admitted it, the acute reader will exclaim: he admitted that action refutes scepticism, though reason cannot: as an agent he was perfectly satisfied. But this objection mistakes the point: which Hume never saw. His point is quite different. What he says is this: that the necessities of action compel us to disregard the sceptical conclusions of reason, which are still irrefutable. What I say, on the contrary, is that the *fact* of organic existence<sup>f</sup> proves its *possibility*, and this possibility demonstrates that the senses give us the real nature of things, show us really what they are:—that is, disprove his premisses, for he denied the fact. He is candid enough to allow that life and action will not square with his philosophical *conclusions*: but he never either saw or suspected that, properly considered and analysed, they annihilate his *premisses*. That his premisses were erroneous it never entered his head to imagine: his faith in them is perfect and implicit: he never entertains a momentary scruple concerning them<sup>g</sup>, notwithstanding

If it be objected, that the sceptic can, *from his standpoint*, know nothing of organic existence, I retort by challenging him to disprove vulgar realism *from his standpoint*: which, as I have shown in the last section, he can never do. Dogmatic and didactic scepticism, as I have shown throughout this essay, is a tissue of self-contradiction.

<sup>g</sup> *e.g.* he says of Berkeley that his writings are the best sceptical education possible, because his arguments produce no conviction,

the fact that, as we have already seen, they are based on self-contradiction.

To return.

Every organic body, said Aristotle, ages ago, lives by its wits, and must therefore, if it is to preserve its life, perceive things not only when it is in contact with them, but also from a distance<sup>h</sup>.

What is it, now, that enables vultures to flock to a dead camel, owls to catch mice in the dark, and in general, each animal to pursue and capture its prey or elude and escape from its enemies? Wings, legs, beak, claws, &c.? Certainly, but these are all only secondary: there is a prior weapon which makes all these possible by conveying intelligence: in a word, Sight, which initiates all, by instantaneously discovering the *where* and the *what* of the object to avoid or pursue *betimes*: *i.e.* at a distance<sup>i</sup>.

But in opposition to this, what says Idealism? This, that Sight is, in fact, not what it seems to be: that 'the *ego*' perceives, not others, but only

yet *admit of no answer*. Not only do they admit of an answer (see § 3), but their argument in a vicious circle (§ 1) is so palpable that it does Hume small credit to have failed to see it.

<sup>h</sup> εἰ γὰρ μέλλει σώζεσθαι οὐ μόνον δεῖ ἀπτόμενον αἰσθάνεσθαι ἀλλὰ καὶ ἄποθεν.

Hearing and scent do the same of course, in special cases very powerfully: but we confine ourselves here to Sight.

itself: that the distant object itself cannot be, and is, in fact, not seen: that 'of any information with regard to the object I am entirely void:' that the real nature of external objects is not given by Sight: that 'the *ego*' is shut up in itself, knows and can know nothing but purely subjective phenomena, &c., &c.

Why, life is possible, only if all this is absurd: only if the very external objects are and can be perceived, as they actually are, at a distance: aye, and a very great distance too.

I repeat: Life, the whole organic creation, is POSSIBLE, only if the creatures, ourselves included, do actually perceive external objects as they really are in themselves at a distance: otherwise, IMPOSSIBLE. The premisses of Idealism contradict the possibility of organic existence: *ergo*, conversely, the fact of organic existence annihilates the premisses of Idealism: for *ab actu ad posse valet consequutio*. The real nature of external objects must be perceived at a distance: for if not, no creature could live for a day<sup>k</sup>.

When Berkeley laboured, in the supposed interests of theology (he was really injuring his cause) sophistically to dissociate what God and evolution have joined, Sight and Touch, and dogmatically denied

<sup>k</sup> πᾶσι μὲν τοῖς ἔχουσι σωτηρίας ἕνεκα ὑπάρχει ἡ ὕψις.

that the object we see is the very same object we touch (see his *Theory of Vision*, §§ 49, 136, &c.), he was only proving, little as he suspected it, his own blank ignorance of that natural economy, discovered by Aristotle, of which the first law is, that every creature, and every organ of such a creature, exists for the sake of its peculiar work. Now, what is the work or duty of Sight? It is simply, the revelation of distant objects betimes to the organism possessing it, to enable it, among other things, to avoid THAT, which it would injure it to touch. Were there, as Berkeley labours to show, no identity: were the object we see in fact other than the object we touch, then life would be impossible. But it is not only not impossible: it is actual: *ergo*, Berkeley's thesis is absurd: an ingenious but unsound paradox, reposing, as we shall see in the next section, on a want of sufficiently close analysis and an abuse of language. His own existence, could he have but seen it, disproved his theory. For how had he preserved it himself, how had his countless generations of ancestors handed it on to him, like runners, from individual to individual, but by learning at every moment from Sight at a distance how to avoid that very self-same object which it would have injured them to touch. Berkeley does not understand *what* Sight *is*: he confounds a bit of Sight, an

element, with the whole, its potentiality with its actuality<sup>1</sup>.

Idealism reposes on the dogmatic stultification of the senses. Perception, on the Idealistic hypothesis, has absolutely no meaning at all: it is nonsense. Perception in its very notion *implies* that its possessor lives not by and in himself but in *others*: lives by continually adjusting himself to those *others*. He has perception precisely in order to do this, by perceiving, not himself, but those *others*, as they really are: for if he perceived them otherwise than as they are, he might just as well not perceive them at all, and would in fact speedily cease to do so. Idealism stultifies perception: explains it by futilising it: by laying down that perception of others is really only perception of self, and that what those others really are in themselves is beyond knowledge. Much use this sort of perception would be to the hawk or the eagle, the tiger or the shark! Is it not plain that all these philosophers ignore the dependence of life on the senses, the USE of all these *phenomena, impressions, ideas, sensations*? Are these mere otiose

<sup>1</sup> Astronomy, in particular, would be impossible, if Berkeley were right: see Airy's *Popular Astronomy*, p. 65, for a type of almost all experimental reasoning in that science. Do two men on opposite sides of the earth observing a star, see one and the same, or two different stars?



meaningless phantasms, indicative of nothing but themselves? Or are they not rather information by telegram to the creature to warn it to action? What is a beast of prey? are not all animals, ourselves included, beasts of prey? and how then do they prey? Certainly not by perceiving only themselves.

When we consider the wild beasts and their ways, the fowls of the air, the fishes of the sea, the myriads of insects, all living from hand to mouth by perceiving things (each the other) as they really are at a distance, there is something unspeakably grotesque about this philosophical paradox: this solemn trifling of rationalistic speculation which has neglected the analysis and exact determination of the nature of sense. Objects are distant, and therefore cannot be themselves seen: therefore, what is seen is inside; the mind is limited to itself. Eh! wiseacres! and how then does the salmon rise to a fly, how do the eagles gather together where the carcass is? Are you so sure that objects cannot be themselves seen at a distance? Have you disproved that yet? Will you decide *a priori* upon what is or is not *possible*, without *looking to see*? But you say, vulgar realism is absurd. Is it? How do you know? Because the things are at a distance, and therefore cannot be seen there—*n'est ce pas*? And pray, how do you know that they are at a distance, if you cannot see them

there? Can you, or can you not, see the Moon? That is the question.

The curious delusion that causes all this paradox and absurdity has not only tangled the Idealists in its nooses: but it has snared even their antagonists, who always concede to them their point, even in the very act of endeavouring to refute them. This is just why they have none of them ever succeeded. Take, for example, some statements on this point made by the author of *Physical Realism*, the latest attack on the position of Idealism<sup>m</sup>.

'Berkeley certainly proved that we do not see 'an object at a distance,' 'we do not see external 'objects at a distance from the eye. The propa- 'gation of undulations to the retina and the con- 'sequent nervous motion prove that we do not see 'external objects at all' (p. 239); 'we see no solidity' (p. 228); 'there is no vision of the third dimension' (p. 229); 'we see an extended coloured plain' (p. 232). 'Berkeley proved that we do not see the

<sup>m</sup> My obligations of all kinds to Professor Case are such that I differ with him only with reluctance and against the grain. But it was from himself I learned the *ὑσιον προτιμᾶν τὴν ἀλήθειαν*. *Physical Realism* consists of 1. an argument from what is known to how we know it, its *data*: we do know, *ergo*, we can, *somehow*, reach a physical universe: and 2. an attempt to supply a solution of this *somehow*. It is this second point which seems to me to be unsuccessful: with the first I entirely coincide.

'real situation of objects, and in especial that we 'do not see which is up and which is down, but 'an inverted image' (p. 234); 'we see no remote 'distance, no real magnitude, and no real situation 'of external objects; no solidity, no resistance, no 'protrusion, no outness of the world in external 'space; this is what Berkeley proved' (p. 240); 'no external object is sensible' (p. 24); 'we speak 'of perceiving the fire though we only infer it' (p. 25); 'the external thing is inferred by reason' (p. 82); 'we have no empirical intuition except of 'ourselves' (p. 54); 'sense never apprehends a *non-ego* distinct from the *ego*, that is, the man himself' (p. 82).

To all this I reply by a question: does Professor Case really hold that all Nature is *invisible*? What is the distinction between *visible* and *invisible* Nature? Is it not that we *see* one and infer the other? We see one side of the moon, and infer the other: but according to Professor Case, both are inferred. Do we, or do we not, see ships, butterflies, snipe, newspapers, legs of mutton, cricket balls?

I give a direct negative to every statement about Sight quoted above. I assert that we see everything which Professor Case says that we do not see. Or in other words, the error of Professor Case, if I may venture to say so of one whose learning and abilities

I know to be far above my own, is precisely the same error as that of all the Idealists : he does not understand what Sight IS: he confounds its elementary constituents with its whole, wrongly identifies the *ego* with its organism, and is therefore necessarily obliged to assert that we see what we do *not* see, and that we do not see what we do see. Sight is *not* inference ; nor has reason anything whatever to do with it ; we do *not* see a coloured plain, nor an inverted image ; nor did Berkeley prove any of those things specified by Professor Case. All those statements repose on and spring from that error which is exactly the cause that generates and perpetuates Idealism ; the confusion between the nature, the complete whole, of Sight, and its constituent elements and conditions. Why does the world *think* and *say* that it sees *e.g.* trees and flowers, if it does not ? What is the essence and meaning of seeing ? That is the question to which we now turn.

Meanwhile, we may sum up the argument in this section as follows.

The aphorism in which Descartes wrapped up Idealism for his successors to unfold and develop was : *Cogito ergo sum : je pense ; donc, je suis ?*

[Note, that this *cogito ergo sum* is valid, only if we strictly define and limit the *sum*, thus : *Cogito ergo sum, quâ cogitans*. But how then as to me, not

*quâ* cogitating, but *quâ* everything else, *quâ* living, dying, loving, hating, eating, drinking, begetting, talking? Descartes' position is in fact utterly futile. You can argue existence from cogitation, only in that sense of the word existence which is limited to cogitation, the merest superficialities of existence. Descartes' aphorism places the essence of existence in *thought*, which is pure nonsense: he ignores and leaves out the whole of man's other potentialities, all his organic nature *en bloc*, with the solitary exception of *actual thought*. This is simply ridiculous: it cuts off the *esse* from the *posse*, and makes it absolutely unintelligible. The rational faculty of man is that which is peculiar to him: but his organic animal nature is far more universal and profound: 'one touch of nature makes the whole world kin;' and his senses are even more essential than his reason to his life. Descartes destroys the kinship, the continuity. To place the core of human nature in its rational activity is to miss life altogether, as the development of Cartesianism proves. And in fact, Descartes shows plainly, by the use he made of his aphorism—he uses it to infer his existence as a *man*, whereas it only justifies him in inferring his *rational* existence—how sorely he stood in need of a dose of those categories of that old Aristotle whom he despised. What do you mean, my dear

Descartes, by *sum?* for *πολλαχῶς λέγεται τὸ ὄν*. The truth is that he and his followers supplement the narrow content of a bad principle by illicit conveyance: they make up for the deficiencies of their original starting-point by illegitimately introducing those organic elements which it does not contain. They smuggle in the potentiality and continuity of the real world and real men and women up the back stairs. This is why, in Cartesian treatises on human nature, the human nature is conspicuous chiefly by its absence: such elements as are in fact actually present being dragged in forcibly over the wall, not by the door of their principle. They are treatises, not upon human nature, but upon *abstract individual rationality*—an *ens rationis* with no blood in its pallid spectral body.]

The aphorism, then, which we may oppose to that of Descartes, as containing the fruitful germ of all continuous and organic Nature is: *Sum ergo percipio: i.e.* existence of *Self* implies perception of *others* and is *impossible* without it: the senses are prior to thought, and more universal, more common, more vital.

So again, the question which Kant, whose philosophy is a mere restatement of Descartes, a fuller explication of his implications, propounded to meta-

physicians, was this: How are synthetic judgments *a priori* possible?

[A question, observe, to which his own answer is no answer at all. Even if we grant that Time and Space are mere forms of intuition, still that does not give the possibility of any judgments at all, as Kant thought. So far, you have nothing but *blank forms*; no spatial or temporal *determinations*; no subjects or predicates; nothing to judge about; no elements of a judgment. These can come to us only *a posteriori*, and *then* it is that we obtain our generalities by abstraction from concrete particular material cases: thus, one (egg), two (dogs), three (men), straight (stick), curved (bow), round (moon), and so on; *i.e.* mathematics: which do not, as is constantly asserted, deal with pure space and time, but with determinations of space and time, wholly abstracted from concrete particulars and all necessarily *a posteriori*<sup>n</sup>. That such extremely poor stuff as Kant's 'analysis' of this matter could ever pass muster is simply unintelligible to me. There are no synthetic judgments *a priori*, for the very simple reason that there are no judgments,

<sup>n</sup> I refer the reader, for some admirable discussions on this subject, to Professor Case's *Physical Realism*, Stallo's *Concepts and Theories of Modern Physics*, and Harper's *Metaphysics of the School*. But it is all in Aristotle.

nor any possibility of any judgments *a priori* at all. Like all the other Cartesians, Kant pretends to derive from the subject what he really obtained long ago, before he became a philosopher, from the object: he bestows on his hypothetical subject, or 'ego,' the benefit of all that experience which the real one, *i.e.* he himself, has acquired: producing, like a juggler eggs, synthetic *a priori* judgments from a bag that does not contain any.]

The question which in Kant's fashion we may propound to Idealists is this: *How is life possible?* *i.e.* how is it possible for any animal to live, unless it can adjust itself to external objects by perceiving their real nature, and at a distance?

### § 3. *The Analytical Definition of Sight.*

τὸ μὲν δυνάμει, τὸ δὲ ἐντελεχείᾳ ὄν.

THE error committed by all the philosophers without exception with regard to Sight is this, that they do not distinguish between the potentiality and actuality of Sight, but sometimes abstract the latter from the former, sometimes confound them together and identify the *esse* of Sight with what is only a part of its *posse*. To explain this clearly and fully is the object of this section,



which brief as it is has cost me many years of intense meditation : and I hope that the reader will chew and digest it line by line : it will be worth his while. The extreme subtlety and delicacy of this beautiful problem are not more remarkable than its simplicity, when once it is mastered. But mangle it with the coarse and indiscriminate sledge-hammer of carelessness, and you destroy philosophy.

Whoever begins with abstractions must end with them. You cannot get, logically, more *out* of the sack than you originally put *into* it : and if the external world or the real nature of things is not *in* your premisses, you will never get it *out* of them. It has accordingly always been easy for Idealists to show, and so far with justice, that logic is on their side—*assuming the premisses with which everybody starts*. If what ‘the *ego*’ perceives is always only itself, by whatever term you call it, then the necessary logical corollary is and can be nothing but Idealism.

But now, we have seen that Idealism involves self-contradiction and absurdity. Where then lies the solution ? I answer, in the exact analytical definition of the nature of Sight : which owing to the want of this exact analysis has always been muti-

lated, dogmatically eviscerated of half its contents. For the picture presented to us by Sight is no abstraction. It is, on the contrary, the point of continuity at which mind and matter, logic and physics, touch: it combines and partakes of both: its nature is double, it is a whole, compounded of two halves, which has been confounded with, and degraded to, now one, now the other of its halves. This is one of those cases wherein the half is not more than the whole but infinitely less.

Owing to their failure to detect the double nature of Sight the philosophers have fallen into confusion. This confusion consists in a latent *a priori* fallacy, to which, in order to mark it distinctly, I give the somewhat alarming title of the *Objectification of the Subject*: the confusion in various ways of the *ego* with its own organism. It is this which drives the philosophers inevitably, and as it were against their will, into the hopeless quagmire of Idealism, Scepticism, eternal perplexity and self-contradiction: yet they can never free the question from its paradox, because the misconception is latent, lying unobserved beneath and anterior to all thought upon the problem, involving them *a priori* in misunderstanding and foredooming them to failure. It is not a *Critique of Pure Reason*, it is a *Critique of Impure Reason* that is wanted, showing how false notions or

prejudices, latent and unobserved, form *a priori* categories in which all new ideas are received. It did not seem, for example, to Kant, that he himself was, in fact, under the influence of just such a distorting *a priori* prejudice which poisoned and futilised his whole philosophy *a priori*.

I, the conscious personality, the '*ego*,' the subject which perceives and knows, is neither something existing *within* the organism, in any pineal gland, to which the senses are inlets, nor is it something over and above, additional to, and numerically other than, the organism—the old barbarian conception of the soul as a sort of tenant or lodger in the body: the notion of Animism, of 'Pneumatology,' of the savage, and of Plato:—nor, yet again, is it the organism, identical with it, one and the same thing. It is the actuality of the organic powers—*ἐντελέχεια τοῦ δυνάμει ὄντος*. To illustrate by a metaphor, which is, however, only partially adequate<sup>o</sup>, the *ego* stands to its organism as its focus stands to a concave mirror: it is its outcome, essentially bound up with and dependent on it, exists through its agency and apparatus: yet it is not another extra thing located within it, nor is it the same thing. What the or-

<sup>o</sup> Because in the case of soul and body the relation is reciprocal: whereas with the focus and the mirror the first is wholly determined by the second.

ganic powers *can*, that the *ego is* and *does*: it is actually what they are potentially: it is the inward illumination and realisation of organic possibilities.

But now, in considering the senses, the philosophers all without exception unconsciously abstract, hypostatise, as it were materialise the *ego*. They all argue and think and talk of the perceiving *ego*, the percipient subject, as if it were, not the actuality and expression of the organic powers, but a sort of separate and distinct materialistico-spiritual substantial thing, co-existing with and in the organism, with a shape and a place, an extent and content, an outside and inside of its own: they *objectify the subject*, bestow upon the nature of an object, either by completely separating it from, or by identifying it with, its organism. All their language and thought is pervaded by, inwoven with, and poisoned by the misconception. The '*ego*' has '*impressions*'—a metaphor from wax and a seal: ideas, phenomena, &c., are '*in*' and '*on*' it: it lives '*in*' the body, and the senses are '*inlets*' or '*avenues*' or '*channels*' to it: it is '*within*' and objects are '*without*:' the forms of objects, as in Kant's philosophy, '*lie ready for them in the mind*'—it is then a kind of box, surface, or receptacle? Take any exponent of Idealism, from Berkeley down; examine carefully his argument: you will see, better

than any explanation or quotation can show you, how this *a priori* delusion determines the thought: and the *first* cause of the insoluble perplexity will discover itself: the scales fall from your eyes, and the question rights itself like a ship, when the cable that chains and submerges it parts with a snap.

For it at once becomes plain how this initial underlying conception of the *ego* as a sort of receptacle or surface *in* or *on* which impressions or representations from objects *impinge* naturally forces them to the conclusion that the *ego* is conscious only of *its own* modifications<sup>p</sup>, *its own* self or substance—hence the perplexity. The philosophical dead-lock is generated by the initial *a priori* misconception of the *ego* as a sort of extended thing or substantial entity: the confusion of the *ego* with its organism, of the senses with the material organs of sense. These philosophers all make an antithesis between the distant object and the *ego*: but there is no such thing: the antithesis is between the object and the organism. The *ego* is not a thing like an object: it is an act: it has no parts and no magnitude: its essence and being are its action, *i.e.* knowing or perceiving. Images and impressions do not ‘*strike the senses,*’ as, from Hume down, philo-

<sup>p</sup> Modern physiological sensationalism puts it in another way: for which see below.

sophers all with irritating and obstinate absurdity, repeat: there is no impinging or striking upon the senses or the *ego* at all, but upon the *organs* of sense: the sense is the conscious result, the actuality and realisation of the possible operation of an organ so affected. In all the reasoning of the philosophers on this head, physiological and critical confusion reign. It is never the *ego* and the senses, but always the organism and the organs of sense, which are affected by external objects. The philosophers all transfer to the *ego* the nature and qualities of its organism: hence all the trouble. What right, for example, has Hume, or any similar philosopher, to talk of objects or images from objects '*striking upon the senses?*' That is realism and physiology and confusion: it implies just that external knowledge of the causes of '*impressions*' *ab extra* which he denies. From the purely sceptical point of view no such conception or phraseology is either possible or permissible.

So far from perceiving always and only itself, what 'the *ego*' perceives is, on the contrary, always and necessarily something *not* itself. For the *ego* is always perceiver, never perceived, because not even perceptible: it is the *seer*, not the *seen*: it knows itself not perceptibly, but only by reflection, thought turned back and bent inwards; nay, it

exists only in the first person, as the term '*ego*' implies: from the outside there is only an organism, the material possibility and vehicle of 'the *ego*': you cannot perceive it, either your own or any one else's; it is never a perceptible object, and has no qualities of perceptible objects; each of us is confined to his own, which he knows only indirectly in its exercise. And in swoons, 'we' disappear, like ghosts: the act ceases: nay even in sleep, which returns at regular intervals, the *ego* ceases, not absolutely, but temporarily. 'We' are then, not actually, but only potentially: the dream being the dim mysterious suggestion of the potentiality of an *ego* which for the moment is not actual, not in full being, but which emerges, when the spell that bound it in sleep (we know not how) is broken, and arises, like the electric spark, once more out of its gloom, and again becomes a reality.

And so, even if Sight were, what it is not, but what many suppose it to be: even if, that is to say, what we *saw* were, not the real object, but only our organism, it would still be altogether false to say that the *ego* perceives only *itself*: its own organism being just as much *external* to the *ego* as is the furthest of the fixed stars.

But what then do we actually see? What is the nature and essence of Sight?

We find that, *apparently*, we see the external object at a distance: whereas physiology seems to contradict this, placing 'what we see' in our head. For example, if, when we were contemplating any object, say, a ship at sea, sudden pressure were exerted on our brain, the whole picture would instantly disappear: we should lose consciousness. How, then, account for the apparently flagrant contradiction between the verdict of the vulgar and the verdict of science, the organic means in our brain and eye, and the seen object apparently away at a distance?

The paradox and perplexity here arise from not understanding *what Sight is*: from our latent and inveterate confusion in thought of the organism and the *ego*: of the potentiality of Sight with its actuality: the false identification of the final and complete conscious result with its sub-conscious organic condition.

The Intuitive Realism of Reid and his followers was a mere uncritical, unanalytical *deus ex machinâ*, the refuge of anti-scepticism to dogmatic absurdity: and yet in a way its advocates were wiser in their foolishness than the 'critical' philosophers were in their wisdom. For the explanations and accounts of Sight given by philosophers from Berkeley down are all mere caricatures: attempts based upon in-



sufficient insight to degrade, by bad analysis, the complete function to its undeveloped raw conditions: to confound and mix up the nature and essence of Sight with its elements: to identify evolved power with unevolved impotence: to argue us out of our acquired capacities and deny them, for want of ability to understand. When Berkeley, Hume, Huxley, and the rest identify Sight with '*sensations or ideas of light and colour,*' they show only that they completely fail to grasp the nature of Sight. Sensations of light and colour are no more Sight than a lump of gold is a watch.

Sight is an evolutionarily acquired organic power or capacity (ᾠξίς). The eye rises by gradations, from incapacity to capacity, from the dubious pigment spot of the 'Naked-eyed' Medusa, to the telescopic organ of the eagle or the vulture. Now, these organs of vision, the eyes of animals, however much they may differ in their several ranges, powers, and special adaptations, agree nevertheless in this essential particular: they are all of them *mirrors, reflectors*<sup>1</sup>.

The eye, the organ of vision, is acted upon and affected by rays of light, apprehended from 'within,' *i.e.* consciously, as *colour*. But though the conscious apprehension of colour, as such, is a mere sensation,

<sup>1</sup> There are in the eyes of some animals remarkable and anomalous structures whose use is not known.

*i.e.* the transfigured effect of a wholly different cause: nevertheless the sensitive apprehension of colour is not Sight at all<sup>1</sup>.

The preliminary condition of Sight is the imaging, mirroring, organic photography of objects by the agency of light on the receiving surface of the eye, the retina. What appears there is not colour, but colours in forms, or coloured forms. A single such coloured form never appears alone: it appears as one among many others, often almost infinitely numerous, of different sizes, colours, forms, impinging from different angles and distances: all being taken in which are for the time being commanded by the field of the eye. Thus the retinal photograph is still insufficient: it is only a chaos: something further is necessary before there is Sight: its constructive architectural arrangement.

Now, this capacity, this power of constructing an ordered whole out of colour sensations, is Sight. It is a power acquired, ingrained, and perfected by the practice and inherited accumulations of the whole sum of geological periods *ab initio rerum*, rising by gradations from original impotence (*στέρησις*) till it culminates in eagle vision. The primitive organism with a pigment spot or rudimentary incipient 'eye,'

<sup>1</sup> See, for example, the misleading argument in Huxley's *Hume*, about the flash of light on a low protoplasmic organism.

or organ of vision, dimly and subjectively conscious of light and colour sensations, as such, could not see: could, that is to say, be said to 'see' only in the sense in which a fowl obscurely conscious of the number of its eggs may be called a mathematician, a Newton or La Place: yet of such an oyster-like organism alone would the assertion of those philosophers hold, who degrade the powerful capacity of Sight to *sensations of light and colour*. Sight is infinitely more.

I define Sight as: *the realisation or actual exercise (ἐντελέχεια) of an organic power: the power of automatic instantaneous and involuntary (reflex) construction of the spatial determinations\* (figure, size, position, motion, rest, number) of any distant object out of its images projected upon the retinal surfaces: or briefly and elliptically, the instantaneous spatial objectification of colours.*

It is the external object, and *not* the sub-conscious organic image, which is seen. I exhort the reader to follow this carefully: simple as the point is, nevertheless the philosophers all go down like nine-

\* Observe that Sight operates only within definite limits; what is too near or too far, too large or too small, is either not at all or only imperfectly seen: e.g. we only see the stars imperfectly, as points of light at an inestimable distance.

pins before the deceptive snare in this problem : and once down, never rise again.

Sight is not the sensational apprehension of the colours, but the creative construction of spatial determinations out of them. Colour sensations are no more Sight than wood is a table<sup>1</sup>.

In spite of the universal assertion of philosophers that what we see is colours—a deceptive statement which seems so obvious that we all originally accept it—I assert, on the contrary, that we do not see colours, that colours are not what we see: and a little reflection will convince the reader that, notwithstanding the consensus of authorities on this head, they are wrong. Of course colour is the vehicle, the *sine quâ non*, of Sight, but for all that what we actually see is not colours. When, for example, we are contemplating any scene, so far from seeing the colours, it is only by the very strongest possible effort of concentrated will and attention that we can conquer our true Sight, and bring ourselves artificially to the point of *seeing* only the various colours, if indeed it is possible to do it at all. What we really do see is, not the colours, but forms, figures, spatial determinations and relations; it is these that we see, and colour

<sup>1</sup> 'Light or colour is all that Sight can see.' Stirling, *Text Book to Kant*, p. 38.

is only the means through which we do it: a means to which, unless we specially for other reasons direct our attention to it, we pay, for the utilitarian purpose of Sight, no attention at all. Sight is not the apprehension of the colours, but the intuitive architectural construction of an ordered spatial edifice out of them. And this is so true, that if you tell the 'vulgar person' that what he sees is only colours, he will either deny it and laugh at you, or accept it with doubt, hesitation, testing experiment and uncertainty as an altogether novel idea: and he is quite right, he does *not* see colours: what he sees is objects; for to see is, to pass instantaneously and involuntarily through the colours to their spatial signification. Further, every artist knows well, and every one learning to paint will find, that until he really studies the subject he is totally unaware of how his Sight is arrived at: he gets at it instantly, and yet is quite unconscious of the colours and shades that gave him his Sight, his constructive intuitive knowledge. Look at a statue: you see it instantly: now, try to reproduce on a flat surface or diagram the colours that enabled you to see it: you cannot: because you have not a notion what were the elements, the colours, that gave you your Sight: your instantaneous cognition of its figure and form. Everybody can see: not one in a million knows

anything about the elementary conditions of his Sight, *i.e.* the colours that make it possible. Moreover, a colour-blind person, except in respect of identifying colours, *as such*, will and does *see* just as well as anybody else, and indeed, such a person may pass the greater part of his life, and yet this incapacity of his may never have been discovered, just because it is not colours apprehended as such that constitute the essence of Sight. For we see, not colours, but through colours: what we see is *that which the colours accidentally bring with them*, *i.e.* space relations. As artists, we may specially attend to colours, but yet colour sensations are not the essence of the matter in Sight. Colours are internal subjective sensations, but Sight is not: not internal subjectivity, but external, *i.e.* spatial, objectivity.

To one born blind, who had just recovered, not, observe, his Sight, but a certain possibility of Sight by a surgical operation, the field of vision, the expanse of the retina, would appear like a chaotic palette of colours. Objects there mirrored would seem, if we may trust the time honoured Chesselden case, 'as if they all touched the eye like a shutter,' a variously coloured flat surface. From this such 'critics' as J. S. Mill conclude, that what we ourselves see is just such a surface. And now, what *does* the case prove? *Exactly the opposite*—that we do

*not* see such a surface. That patient 'saw' and similar patients 'see' such a surface, *precisely because they cannot see*. Is that plain or not? They do not resemble, they differ from us. They have not Sight but only a part of it, its elements: their Sight is not *whole*: their capacity is maimed, diseased, imperfect: it is not so much a capacity as an *in-capacity*: the power of instant automatic spatial construction is not theirs.

The truth of any definition shows itself especially in its power of conciliating opposing views. The apparently paradoxical *datum* of consciousness, when carefully considered in the light of the definition of Sight, is explained and understood: it turns out to stand in no real contradiction with the demands of physiology. The seeming contradiction and the puzzle arise from confusion of thought, and vanish as soon as we clearly and exactly comprehend what Sight actually is, what it is that we do when we see. Consciousness tells us that we see the very external objects, while Idealism denies this, having learned from physiology that the affections of the organs of sense and the nervous system, *i.e.* something *here* and not *there*—are the internal (organic) conditions of Sight. But now, the mere organic affections, the nervous mechanism, the physiological machinery, all this

is not Sight, but only the possibility of Sight: the organism is not the *ego*, nor are the organic conditions of Sight themselves Sight. Sight is the conscious spatial cognition *actually* realised from those sub-conscious conditions. When I say, 'Yonder I see a horse,' this does not mean 'here my organism is thus or thus affected,' but 'there in space is a horse which I know from here:' *i.e.* the assertion means only that I *locate* and *spatially define* a horse at a distance: and this is just what we found it was, to see (τὸ τί ἦν εἶναι τῶ ὀράν). We do not only seem to see the object itself at a distance, but we actually do so, for though our organism (*the posse of vision*) is *here*, the organism is not the *ego*; the *ego*, like the focus of the mirror, is where it acts. That conscious picture of the horse which we unconsciously build out of organic hints is not *in* our organism, though it is *of* it, it is constructively referred to a distance or 'thrown outside,' and this is just the peculiar power and capacity of Sight, which is so hard to understand just because there is nothing like it in the Universe. All things *sui generis* are difficult to comprehend. The organic hints are inside—this is physiology, the *posse*: the conscious picture is not—this is Sight, the *esse*<sup>u</sup>. Consider, now, the antagonism

<sup>u</sup> The reader who will carefully examine the curious phenomena



between the view of the vulgar and the physiological claim: the actuality and potentiality of Sight. The vulgar view says: there is only one thing, the 'object which I see:' physiology says, 'No, there are two: the external object *and* its image in your head.' Now, both these views are correct. The conscious *perceptum* is the result of a relation between two terms, but then physiology deals with the relation *beneath consciousness*. The antithesis is beneath and prior to consciousness, between the *organs* of sense and the object (*not* between *ego* and object), and when these two opposites are suitably disposed—organs here—object there—then comes the result, the conscious act arising out of the relation or antithesis 'I see the object,' *i.e. in consciousness* there is only *one* thing, whereas *beneath* it there are two. Sight, as we said at the outset of this section, is the point of continuity, at which mind and matter touch: it welds together two sides and makes one of them. The vulgar person is perfectly right in saying 'I see the object,' and the physiologist equally right in saying, that there are two poles of the operation: the paradox comes

presented by *convex* and *concave* mirrors and magnifying glasses, which throw their images into the most extraordinary places, will be enabled to see the point of the mystery. The eye is not a flat surface.

in, when we forget that the physiology is *beneath* consciousness, and confound the organism and the *ego*, potentiality with actuality of vision; and sever, as Berkeley and his friends do, the *esse* of vision from its *posse*; making the conscious result hang, as it were, alone in the air, abstracting it from the sub-conscious relation that produced it. Berkeley's Idealism (on which all subsequent variations are founded) is the divorce of the *ego* from its organism, a stick with but one end. The vulgar in *result* agree with Berkeley, but then they do not pretend to account for their belief, whereas he does: and so turns a truth, which is true only *as a result*, into a fatal and mischievous sophism and error by divorcing the soul from its body. I see the object, says the vulgar person: yes, says Berkeley, so you do; only it is merely an idea. This is the conversion of truth into error. Criticism does what Berkeley could not do: it explains and justifies the vulgar view while harmonising it with physiology by distinguishing *ego* from organism, actuality from possibility of Sight. The vulgar view (of which Reid was the uncritical champion) is merely the statement of the conscious result: Berkeley's paradox is the dogmatic conversion of the vulgar view into an absurdity by abstraction: physiology is the material analysis of the organic

means: the true definition of Sight conciliates physiology with the naïve superficiality of the vulgar, and annihilates the one-sided paradox of a self-contradictory Idealism.

I repeat; the confusion results from failing to distinguish the actuality of Sight, the conscious 'idea,' from its physiological conditions, which are latent and only subsequently discoverable, only known by scientific analogical inferences from others to self. It is perfectly true that interior, *i.e.* organic, affections are the sub-condition of Sight: it is no less true that I see the external object itself, for this 'I see' is not the mere statement of the sub-conscious organic affection, but the expression of the resulting conscious cognition of the spatial determinations of the object itself. To deny that we see the object itself is simply to misunderstand the meaning of the word *see*, which consists in the instant cognition of the figure and whereabouts of a distant object or objects from the unconscious, unknown, and *invisible* images projected upon the retina of the eyes.

I say, *invisible* images. It is most curious to observe how invincible even to philosophers is the delusion that exists on this head. I see, for example, a ship. Now, it is true that the ship itself is not in my head. What is there is, two miniature

images of the ship, one on each retina. Yet it is quite a mistake to suppose that I see these images. That assumes other two eyes behind each eye, looking at it. I do not see my own eye or retina: no man ever did or could: I see *with* my eyes: *i.e.* spatially construct the ship; define, locate it, in relative size, shape, situation, &c., by the stereoscopic combination of the two images into one solid whole, the final result alone being conscious. Just as the reflections are in the mirror, yet the mirror does not reflect its own reflections, but distant objects: so the images are in my head, yet what I see is the distant object: for this 'I see' is not the statement of the means, but the expression of the conscious result.

When, for example, Berkeley or one of his friends tells me that I do not see the distant object, I ask, what does he mean? Of what object is he speaking<sup>x</sup>? Not his 'visible idea,' for that is just what he says I do see, but the object—which I do not see—the moon, for example? Eh! Why, is it not as clear as noonday that Berkeley is only

<sup>x</sup> Dirk Hatteraick denies all recollection of the murder, and they measure his boots. The devil! he exclaims, how could there be a footmark on the ground, when there was a frost as hard as the heart of a Memel log? Ah! says the lawyer drily, that was the day you do *not* recollect. Just so, Beaumarchais caught Mme. de Gozman over the immortal '*quinze louis*.'

saying that to see is not to see, that we do not see exactly what we do see. Do I not see the Moon? then how in the world do I get at it? how know that it is there? and is the moon at a distance, or is it not? The truth is, Berkeley's position reposes on a mere misunderstanding. Truly a little physiological learning is a dangerous thing. With absolutely *no* physiology or physics, no knowledge of eye, brain, nerves, retinal image, undulations, &c., it would never seem to any one to assert that what we see is *internal, within*, we should all be vulgar realists. But when we learn about optic nerve, retina, &c., then the mischief begins. Then we are in a position to confound the *ego* and Sight with the organs that make them possible, and assert that the *ego* is conscious only of *its own* self, that what we see is *within*, and so forth<sup>v</sup>. All this is only an example of that half-knowledge which is worse than the most vulgar ignorance: knowledge just enough to go wrong, not sufficient insight or criticism to go right. Men reduce, accordingly the power of Sight to impotence, and perception

<sup>v</sup> As Kant, for example, does. It is not the *ego* but its organism which conditions the spatial perception of objects, the form of the eye. Kant bestows upon the *ego*, which is an act, the spatial qualifications that belong to its organism: he gives it the *possibility*, *permanence*, and *form* which arise from its organism. His Idealism is only a bungling caricature of the realism which he denies.

of others to perception of self, owing to a want of ability to analyse and distinguish things that are distinct: τὸ γὰρ διορίζειν οὐκ ἐστὶ τῶν πολλῶν, says the Master: and in their handling of the problem of the senses modern philosophers belong entirely to the mob.

But your 'visible idea' alters and changes perpetually, rejoins the Berkleian: how then can you be said to see the object itself? (Because, forsooth! *that* does *not* change? and how do you know that, my dear Sir?) This apparently formidable objection reposes on the same misunderstanding of what it is to see. He would, it is to be presumed, hardly say that the mirror does not reflect objects because their reflections alter continually in it as it moves. Yet his assertion is no less absurd. It is precisely *because* the mirror does reflect objects that its reflections alter and must alter continually: just so, it is precisely because we *do* see the objects that the 'visible idea' alters perpetually: and this, now, is a beautiful illustration of the truth of our definition of Sight. If we contemplate, *e.g.*, a stool from different points of view, it is true that its perspective, its images projected on the retina, change continually: and yet it is always the stool itself that we see, just because Sight does not mean the dull wooden reception or apprehension of a plane image,

but spatial reconstruction or localisation out of the two images. Berkeley is here only displaying his exasperating faculty of abusing language. He never took the trouble to criticise his instrument, speech—before starting to philosophise in matters that require above all extreme nicety and exact accuracy of meaning. He never understood what it was *to see* because he never understood what it was *to define*. According to him you could truly be said to see an object only if, at whatever distance or point of view you stood, it remained always identical and invariable in your view. Now, the only thing that really does this is a *hallucination*, a thing really internal, *i.e.* the proof that we see the external object is among other things exactly those changes which Berkeley imagines to disprove it. He is only playing on the word *see*. What he demands is that Sight shall be Identity: *i.e.* he will not allow that the mirror reflects the objects unless the objects themselves are actually in the mirror, which would make all reflection impossible. Exactly so with Sight. It is the *object* we see, but he confounds and mixes up the organic *posse* of Sight with its conscious *esse*, and denies accordingly what is the truth. The stereoscope will enable any one to understand: Sight being, not the reception of either or both retinal images, but the total solid picture resulting.

But, the reader may object, all this may be expressed in other terms; the physiology of our own day has corroborated Berkeley, by stating his thesis anew—cerebral motion, nervous energy, stimulation, and so forth. On the contrary, what has happened is, that some physiologists of our day, more skilled in physiology than in criticism, have been beguiled by the baneful influence of Idealistic philosophy into the endeavour to establish a sort of physiologico-sensational Idealism that contains self-contradiction in its heart, and crumbles to pieces at the very first touch of analysis.

The fatal error of much of the higher scientific speculation of our day is due to a want of training in scientific method, and it lies in ignoring the fact that though you may reduce by analysis a thing to its elements, the elements are not, as such, the thing<sup>z</sup>. Two entirely different things may consist of precisely the same elements. A butterfly pounded in a mortar and reduced to its elements is no longer a butterfly. Now, this is exactly the mistake that is made in the false identification of all the senses as sensations.

Heat, for example, the feeling, the conscious apprehension of motion, is a *sensation*, the transfigured effect of a wholly different cause: just so

<sup>z</sup> See Part II. β, *passim*.



in a different way are sound and colour. Hence it is, that the sense of Sight is classed with the feeling of heat, as being both *sensations* of the same kind, because Sight is falsely regarded as sensations of light and colour. But as we have already seen, it is nothing of the sort. Though colour is a sensation, colour sensations are not Sight at all: and the nature of the sense of Sight is altogether different from the nature of the sensation of heat or colour. Colour sensations, as such, are to Sight exactly what ink is to the words composed of it. Just as ink conveys the words, so does colour bring with it the spatial forms of objects: and just as it is not the vehicle, ink, as such, which makes the word what it is, so it is not colour at all, but the space element that comes with it, that make Sight possible. Thus, though the *sensation* of *colour* is the conscious feeling of a cause of a wholly *different* kind, Sight, which is made possible by the space brought with the colour, accidentally associated with the colour, is, on the contrary, the cognition of an element whose cause and effect are the *same* in kind.

No amount of colour sensation, as such, will ever produce even the very lowest form of Sight. Sight begins not with *colour sensations*, but with *space*

*apprehension*, the noticing, that is to say, and taking stock of, those spatial elements and forms which accompany colours, for colours must bring forms to the retina. The reduction of Sight to colour sensations is based on a wholesale misunderstanding: it is exactly analogous to the mistake of reducing a printed page to the ink-blot made by over-turning the bottle. From ink alone you will never get words: and from colour alone, Sight will never come. The original starting-point of the evolution of Sight, its  $\epsilon\xi\ \sigma\delta$ , is not colour, but form, space: and just so, Sight itself, when we have got it, is, not the apprehension of colour, but the instantaneous cognition of space.

This false identification of Sight with colour sensations, and consequently a confusion of objective *knowledge* with subjective *feeling*, is the fatal error of physiological sensationalists who lump together all the senses indiscriminately as *sensations*: meaning by that term transfigured effects of unknown causes. But when we come to examine their books these *unknown* causes turn out to be *perfectly well-known* motion: for their analysis, as we said, is palpably self-contradictory. If the senses transfigure: if all the senses are sensations, and all sensation transfigures, how is it possible to discover that heat, colour, sound, *ab intra* are motion, *ab*

*extra?* The actual science of these philosophers disproves their analysis of its origin. We are astounded by their profound knowledge of those causes which they declare *ex cathedra* to be *unknowable*. The truth is, that they derive objective knowledge from Sight, and employ that very knowledge to disprove its own possibility. They do get at objective knowledge, but they do not know how they do it. The solution lies in the accurate analysis of the nature of Sight.

And by the way it is important to notice another point closely connected with this, in which physiology has gone beyond her last. Sight is often stated to take place 'in' the brain, because, when the optic nerve is severed, there is no longer any Sight. But now, this does not prove that we see in the brain. It proves only, that an eye *minus* a brain is as powerless as a brain minus an eye<sup>a</sup>: that the whole apparatus must work together in order to see. The eye will mirror, will perform its part, even though the optic nerve should be cut, but in that case 'I' shall not see, because you have deprived 'me' of my eye: the telegraphy does not work, the wire is broken. To say that it is the brain which sees, that Sight takes place

<sup>a</sup> The reader will not fall into the error of supposing that a *human* brain and the *whole* of it are required: see below.

'in' the brain, is a misconception: it makes the eye otiose and stultifies its structure. Brain and eye see, all together: that is the truth: but to emphasise the brain at the expense of the eye is worse than to ignore it. We hear with our ears, touch with our fingers, smell with our nose, and see with our eyes: Sight is not thought, but sense<sup>b</sup>: and Aristotle says well that Sight is the soul of the eye: the eye, which by reflecting the forms of the objects surrounding it makes possible their spatial cognition at a distance.

Sight is, not the transfigured effect of a cause incognisable to us, but the organic, inwardly conscious and illuminated photography of Nature. Observe, that if physiology denies this, we may deny physiology, for it is only committing suicide. Physiology can claim no authority, if sense cannot reach the real nature of things, for it is all built upon that assumption. Whence comes the knowledge of the physiologist as to his own brain? If all sensation transfigures, all Science is nonsense, including physiology. But science is not nonsense: it is only the dialectic of some of its ambitious professors who would be philosophers that is bad. All the science in the world will not make up for the absence of dialectic.

<sup>b</sup> See below.

And the absurdity of the original dogma becomes glaring in the fashionable constructive physiologico-sensational psychology, which, like all other feeble ill-defined speculation nowadays, is baptized with the name of a 'science.' (Can you make bread, if you do not know what bread is? Can you make a science, if you do not know what is science?) The attempts of its exponents, however, as *e.g.* those of the celebrated Wundt, to construct our actual experiences from sensational atomistic points<sup>c</sup>: to derive, for example, all our cognition of space from movements—'space-construction by ocular movements'—break down altogether the moment we touch them; as indeed even Wundt is obliged to admit: a momentary electric flash, during which there is no time for any movement at all, will reveal a perfect picture: and the experiment on a large scale is familiar to every one who has been out in a thunderstorm at night: a sudden flash of lightning will reveal the whole country and every feature in it with glaring distinctness for miles around. This demonstrates irrefutably that ocular

<sup>c</sup> It is here that the ridiculous modern speculations about space of more than three dimensions come in: they are all based upon the farcical notion that our space has a form, is an actuality, instead of being what it is, the infinite *possibility* of form. This sort of mathematical foolishness is regarded as the most profound wisdom: it is simply the result of a want of training.

movements<sup>d</sup> are totally unnecessary for the ordinary perception of objects: although they very well may be for the exact and delicate estimate of comparative and approximately identical lengths or sizes. This however is a different thing, and one practically altogether useless: what does the exact appreciation of almost indifferent differences matter to the animal for its life? It sees all essentials instantaneously, and ocular movements are altogether unnecessary for the purposes of Sight. Wundt, however, consoles himself by saying that anyhow they were, once<sup>e</sup>. But though this should be the case, what has that got to do with it, now? What we are and can, that we are and can: never mind what we were and could not. In spite of 'science' of this kind, the eye of the eagle will continue to differ in power from the pigment spot of a miserable Medusa. Nothing, however, seems to satisfy your sensational philosopher but the reduction and degradation of power to impotence: then he thinks he has explained everything. To explain away and end by denying the very thing you started to explain, or at least mutilate and mangle it, is

<sup>d</sup> 'The duration of the retinal stimulus must be exceedingly short, 'as the electric flash lasts only 0.0000068 second.' Landois and Stirling, *Human Physiology*, p. 773.

<sup>e</sup> *Human and Animal Psychology*, p. 165, &c.

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the golden rule of modern philosophical 'speculation'.

All these efforts to reduce what is to what was, to degrade the whole organic capacity to the incapacity of its elements, and prove that the space and its contents which we see at a glance are all made up out of movements and inference, are palpably ridiculous. In their endeavour to drag our senses into the Procrustes bed of their sensationalist dogma, these philosophers most unaccountably overlook the most obvious facts. Can anything be plainer or more undeniable than this, that the capacity of vision depends, to begin with, on the structure of the visual organ, the eye? For if not, why should it have a form at all? *Cui bono* the elaborate and highly specialised structures of the organs of sense, of the eyes of animals, so admirably adapted for seeing by night or day, in air or water, at long or short ranges? The retina is a *camera*: why? In attempting to construct the continuous *perceptum* out of a sensational series of hypothetical points, these philosophers argue as if our two eyes were in reality nothing but the punctual extremity of a nerve<sup>§</sup>. As if the finished and

<sup>f</sup> I wonder whether the physiological sensationalists have ever watched a hawk striking. There you see what Sight can do.

<sup>§</sup> Kant's 'chaotic manifold' of sense: a piece of absurdity. The

complicated machinery of the eye, its elaborate *speculum*, were all to no purpose! as if Nature had made it in vain! as if the eye contributed nothing to the power of Sight! Of course it does: the eye receives its whole field at one and the same moment, no part being prior or posterior to the other. And though we cannot *attend* to so vast an extent, but only to one thing at a time, it is nevertheless there.

What can be more ridiculous, more forced and preposterous, than all these attempts to identify the vision of to-day with the ante-diluvian, pre-geological, problematical 'vision' of conjectural animals with incipient tentative guesswork eyes. Sight is a *power* acquired not by the practice of one individual life, but that of whole geological epochs: and the eye of to-day need be at no such shifts to reach its object as the eye at the origin of things, which was not an eye at all, or the speculative theoretical 'eye' of the sensationalists, which is apparently not an eye but a point. If Sight were only what these pettifogging theorists seek to make it out, laborious effort, piecemeal construction, disjointed mosaic, rational inferential patchwork out of successive sensational 'manies,' then evolution and development would have been in vain. All senses do not give us *chaos* but order. Kant understood nothing of the senses, and the want was fatal to his whole philosophy.



this sort of philosophy is the mistaken endeavour, based on a want of training in the philosophy of definition, to degrade by analysis the highly developed powerful capacity as it *is* to the highly problematical incapacity that it *was* or may have been, for we know what we actually now see much better than any one knows what, ages ago, we may possibly have seen: it is, in the matchless phraseology of Aristotle, to confound and identify the οὐσία, the ἐντελέχεια, with the original ἐξ οὐ or στέρησις; it is to ignore evolution and degrade the highest rung of the ladder of being to the lowest.

And now, we come to a point which has been running alongside the argument all the time, and which no doubt has repeatedly occurred to the reader. I cannot understand how any one can go so far astray as to maintain that Sight is Inference and performed by Reason; an opinion which, notwithstanding its manifest and open absurdity, is nowadays commonly received. Sight, *Inference!* It is infinitely far from being so: it is a wholly distinct and different capacity. It is true that we may, for explanatory purposes, *compare* Sight to a conclusion from premisses which are latent and only physiologically discoverable: but this is only an analogy, against which we should be always on our guard: the resemblance is merely superficial

and the difference profound and essential. It is also true that we find, in man, seeing and reasoning united: this is what supports the error. But that they are distinct and different is irrefutably demonstrated by a single glance at the animal world.

The automatic intuitive flash or 'leap in the dark' of Sight to its constructive 'conclusion,' its finished spatial stereoscopy<sup>h</sup>, is to Inference, what Nature is to Reason, what the whole geological series of animal life in space and time is to a single individual human life. Sight is profound, organic, intuitive, involuntary, universal, unerring, the vitally necessary means of existence throughout the animal world: Inference is shallow, rational, discursive, conscious, fallacious, exclusively human (for animals possess only faint germs of it), and exhibited in but few specimens even of men in any degree of excellence. Inference is aristocratic: but Sight is common, vulgar, democratic, nay, bestial. Inference is reasoning, and performed by reason: Sight, not: Inference is logical, essentially bound up with speech and society: Sight, not: it arises from the inner depths of the individual animal nature: only social animals can have reason, but the lonely solitary animal has, and must have, Sight. Reason we have, as men: Sight, as animals: the

<sup>h</sup> For Sight is *pictorial*: Inference *noetic*.

one is a superficies, the other, an abyss. The man least capable of Inference, the woman, child, barbarian, or animal barely or not at all capable of reasoning, may see far better than a Humboldt<sup>i</sup> or an Aristotle. It would indeed be a bad business for the world if Sight were Inference, if its Sight depended on its Reason. But this is so far from being the case that Reason may not only be absent, in animals that have not got it, but even utterly destroyed in those that have it, and yet Sight may remain: a maniac or idiot will see as well as a sane man, and many animals infinitely better. How can Sight be Inference, or in any way whatever connected with Reason, when it exists in the highest perfection, keen and powerful and telescopic, where Reason is dull, weak, or even absent altogether?

The truth is that to call Sight Inference is to abuse language, and argues a complete failure to understand its nature, originating in the biological deficiencies of the founders of modern philosophy. Sight is a wholly distinct and different power, belonging to the animal as such, with which Reason has nothing to do. It is beneath and independent of Reason: we see as we digest: it is an animal and non-rational function: a faculty and weapon

<sup>i</sup> See his *Kosmos*, vol. iii. p. 70.

analogous to claws, teeth, wings, beaks, talons, and similar indispensable instruments of self-preservation.

We do not *infer* the objects we see: we *see* them: it is not discursive inference, but constructive pictorial presentation: we open our eyes and there they are: the thing is instantaneous, involuntary, automatic, and inevitable: it is a pictorial 'conclusion' without premisses, which are unknown, and only discoverable by subsequent anatomy, and analogical inference from others to self. So far from deriving Sight inferentially from physiological 'premisses,' the truth is the opposite: we know that there are such 'premisses' only by a roundabout process of reasoning. That physiological knowledge which is employed to prove that Sight is 'inference from sensations' is itself derived from Sight assumed to be, what in fact it is, valid and objective: it is secondary to the original authority of Sight. But as we have seen, these 'premisses,' these physiological conditions, are only the sub-conscious potentiality of Sight. We do not see our own internal organs, we see with them; what we see is, as has been shown, the external object; to see being to reconstruct spatially the external object from hints furnished by the two eyes. But the process is unconscious; when we open our eyes external objects, as it were, crowd in upon us; and the proof that

they are *there* is the fact that we are *here*, for otherwise we should not be here to see. Sight is a faculty whose exercise is the proof of its own veracity ; for to see wrong is for the animal certain and almost instant death. It is not the veracity of the Deity which is the proof of the veracity of the senses : it is, the very existence of the percipient animal. For existence is *impossible*, except on the hypothesis that the senses exhibit the nature of things.

And therefore it is, that the vulgar argument, the appeal to the eye, is not absurd, not philosophically ridiculous : it is perfectly sound and unanswerable : although it is only a concrete argument and does not explain itself. The absurdity lies on the contrary with the paradoxical philosophers, whose sceptical arguments, and subsequent dialectical edifices to reconvert scepticism into reality, are all really based on the very authority which they deny, the authority of the eye. The vulgar are perfectly right : objective knowledge, knowledge of the true independent nature and constitution of things, of an *esse* which is not *percipi*, is given, though they know not how, directly by the eye, the mirror of Nature which reflects its object *tanquam in speculum* : and the truth is, curiously enough, the exact reverse of the way in which the Kantian philosophy puts it. It is precisely the *form* of the object which is ob-

jective, valid independently of perception, and only the sensational element, the colour as such, which is the contribution of the conscious self. Kant's absurd *Æsthetic* is the truth turned upside down. And yet the world has been vainly endeavouring for a century to think itself by brute force into this nonsensical dogmatism, trying as hard as it can to stand intellectually on its head, and then wondering with ludicrous amazement at the impotence of reason. But *grant one absurdity and the rest follow*. Divorce, as Plato and modern philosophers do, soul from body, *esse* from *posse*, and you doom yourself to absurdity as the sparks fly upwards.

The founders of Idealism in the seventeenth and eighteenth centuries had a wholly erroneous conception of the value of the vulgar opinion. They viewed the vulgar superciliously from the heights of their own rationalism uninspired by any insight into natural economy and organic possibilities. But there is nothing more foolish than abstract rationalism. As Aristotle, the wise, the profound, the prophetic Aristotle, knew and aid, the vulgar opinion, when it really is vulgar, *i.e.* common to all, and not factitious, is more than all the wisdom of the learned; for it is *φυσικόν*: it has in it what the individual opinion, however well grounded, never has: it has in it the depths and vital necessities of organic

Nature, the profundities of the needs and creative demands of life. Sight, touch, hearing, language, *στοργή*, the sentiment of kinship—the wisdom and authority of these is not rational, but real, organic. *Oculus populi, oculus Dei*. Dr. Johnson's repartee, when he rapped his stick upon the ground, has afforded food for many an Idealistic gibe: and doubtless, considered as dialectic, it was poor: but was it poorer than the dialectic of the Idealists themselves, whose soul is self-contradiction? It *contains* the answer it does not unfold—viz., that the sophistry of rationalism carries less weight than the instinctive evidence of sense. And we have seen that the critical analysis of the senses is the answer to an Idealism that begins by denying them, on evidence derived from themselves.

And so, the authority of the eye, though disease may now and again pervert and falsify it, and prejudice warp it, is yet the first and highest of all authorities, and the solid foundation of all scientific knowledge of the Universe. The very illusions, hallucinations, to which we are subject in states of disease or semi-disease, the curious spectral phenomena (these are *really phenomena*) which mock and mimic the genuine objective deliverances of Sight, and furnish superficial dialecticians with sceptical arguments against the testimony of the

senses, are, in reality, only an inverse proof of the truth of healthy Sight<sup>k</sup>. For they mean, when profoundly considered, that the organic mechanism of vision has during æons of practice and experience become so accurately trained to its work, so delicately responsive to the touch on the trigger, the stimulus from outside, that now and then in a moment of aberration due to disease or fatigue, when the machine is out of order, it anticipates orders and works without its appropriate cause. But now, observe, that this is no refutation, but on the contrary, a confirmation of its normal deliverance. *For it could not do this, exceptionally, were not its normal action so exact.* The nature of its occasional error, or *faux pas*, exhibits the truth and unerring accuracy and entirely trustworthy fidelity of its general testimony: and, as Aristotle often insists, we must base our conclusions about human nature not on diseased, aberrant specimens, but those which are healthy and sound. The diseased eye is not an eye, nor, in spite of reasoners like J. S. Mill, is a patient in an ophthalmic hospital the type of healthy men.

The strong, simple, and profound proof of the

<sup>k</sup> Moreover, the sceptic cuts his own throat by admitting that they are illusions: for to know that you must be able to compare the appearance with the reality; but this is just what he denies to be *possible*.



independent reality and existence of the external world is, notwithstanding all the pseudo-dialectic of critical incapables, just this, that we see it. The instinct of the vulgar coincides with and is confirmed by the most severe and exhaustive metaphysical analysis: the necessary postulate of science, that the senses introduce us to the nature of things as they are in themselves, turns out to be solid and philosophically correct: and the only result definitely achieved by the philosophers who have laboured with such inadequate equipment to throw doubt on the senses of the world, is, that they have discredited its reason. They have brought philosophy herself into disrepute and bad odour by the absurd conclusions which they declare to be the necessary result of self-examination, and opened the door to every description of feeble mysticism, which presents itself bravely, as being not more absurd than reason herself<sup>1</sup>. But the incapacity which they would fasten upon reason belongs in reality only to that portion of it which has fallen to their share: they would saddle humanity in general with their own particular imperfections. Humanity, however, is not so foolish in its instincts

<sup>1</sup> 'Un manœuvre qui a toujours séduit les esprits plus ardents que 'sages, de fonder la religion sur le scepticisme.' Renan, *Averroes*, p. 97.

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as it is in its reason and its prejudices, and wisdom will often be found to lie with the vulgar rather than a corrupt school of hereditary error, floating about balloonwise in the rarified atmosphere of abstraction, the chain that bound it to *terra firma* long since broken and cast away.

To emerge from the labyrinth of Idealistic paralogism into which Descartes and his followers have beguiled her: to shake off the long debauch of sophistry, the deep draughts of stupefying jargon and outrageous abuse of language, continued till the very nerve of male and vigorous thought is paralysed and drugged into impotence, modern philosophy will have to drink the waters of Lethe and again become a child: burn all her books, and emerge like a phoenix from the ashes of her philosophical library: go back and sit at the feet of Aristotle, and learn from him that subtlety is worse than useless, if it is not based upon insight into the sphere of the problem and exact analytical definition.

β. UNITY : THE LOGIC OF  
NATURE.

*τίς οὖν ὁ φυσικὸς ; πότερον ὁ περὶ τὴν ἕλην, τὸν δὲ λόγον  
ἄγνωων ; ἢ ὁ περὶ τὸν λόγον μόνον ; ἢ μάλλον ὁ ἐξ ἀμφοῖν ;*

## AXIOMS.

τὸ γὰρ αἴτιον τοῦ εἶναι πᾶσιν ἢ οὐσία καὶ ὁ λόγος τῆς οὐσίας.

ἢ φύσις αἰτία πᾶσι τάξεως.

## β. UNITY: THE LOGIC OF NATURE.

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### § 1. MOLECULE, or *Physics*.

THE ultimate unit and radical of modern Physics is the *molecule*. The physical world, to its eye, is an immense accumulation of *molecules*.

The material objects that surround us, and in their totality constitute the physical world, solids, liquids, gases, animals, vegetables, minerals, rocks, trees, rivers, beasts, birds, fishes, &c., are all composed of stuff, material, itself compound. Analysis decomposes these compounds into elements. And the sum of its investigations is this: that the various substances of which all things are composed are nothing but masses or aggregates of minute homogeneous particles or *molecules*: each of a definite and peculiar constitution. These *molecules* consist of and can be resolved into definite proportional quantities of ultimate (*i.e.* not hitherto further decomposable) elements. Water, for example, decomposes into oxygen and hydrogen. The (physical) molecule consists of (chemical) elements<sup>a</sup>, oxygen and hydrogen.

<sup>a</sup> I say elements, not atoms, because the molecule is quite inde-

All composite substances, then, consisting of *molecules*, or combinations of ultimate elements, in different proportions, ratios, and arrangements (?), any such substance can be expressed in terms of its molecule: defined by its molecule. The molecule is the root, the radical, the epitomised expression of the nature of the substance. Water, *e.g.*, is composed of oxygen and hydrogen, in the proportion, by volume, of one to two, by weight, of eight to one. Every molecule of water, then, will exhibit this proportionate amalgamation: in other words, water is  $H_2O$ . And this is typical: what holds of water holding, *mutatis mutandis*, of all other substances: *e.g.* alcohol is  $C_2H_6O$ ; sulphuric acid,  $H_2SO_4$ ; common salt  $NaCl$ ; and so on. Thus though every special substance is *sui generis*, has, that is to say, its own peculiar definition, its own molecule: yet the molecule in general, the essential nature of any substance may be defined as

‘the smallest mass into which a substance is ‘capable of being divided without changing its ‘chemical nature:’ or ‘the smallest particle of pendent of any theory as to the nature of the elements. What is certain about the elements is the *ratio* or *proportion* required in a compound. The atomic theory, in my opinion, makes the mistake of trying to actualise the potential, as also does the kinetic theory of gases.

‘a substance in which its qualities inhere<sup>b</sup>.’ (Note, parenthetically, that this is exactly the Aristotelean form of expression, ἡ ἐλαχιστη σάρξ, φλόξ, or whatever it may be.)

There is, however, something more. Observe, that the elements, *as such*, though present in the correct proportion, do not constitute the molecule composed of them. The molecule of any particular substance is its elements only in that peculiar combination; *i.e.* it is not the elements that constitute the molecule, but the special synthesis of the elements. It is the peculiar disposition of each special synthesis that makes each molecule what it is, and gives to each substance its peculiar qualities and attributes. The *same* elements may make *different* molecules or substances: *e.g.*

‘the pleasant odour of apples, and the disgusting  
‘smell of rancid butter come from substances con-  
‘sisting of the same elements united in the same  
‘proportion. . . . what, then, can be the cause of  
‘this difference? . . . for the past ten years a great  
‘part of the intellectual power of the chemists of

<sup>b</sup> Cooke, *New Chemistry*, pp. 84, 86: cf. Wurtz, *Atomic Theory*, p. 326. ‘Why is mercury indivisible? I do not understand: I do not pretend to do so: only I admit that physical and chemical forces cannot divide it any further, because otherwise *it would cease to be mercury.*’

'the world has been applied to this problem . . .  
'and the answer they have obtained is, that the  
'difference of qualities depends on molecular struc-  
'ture, and the same atoms arranged in *different* order  
'may form molecules of different substances having  
'wholly different qualities'.

Thus does the stone which the builders rejected become the head stone in the scientific corner. Here we find modern Science going unawares back to Aristotle: unconsciously repeating his very words; unintentionally verifying his logic of science, his analysis of the essential nature of things. For what is this molecule but the physical aspect of Aristotle's essence? τὸ γὰρ αἴτιον τοῦ εἶναι πᾶσι ἢ οὐσία, καὶ ὁ λόγος τῆς οὐσίας. The essence of Aristotle looks at us from every piece of salt or sugar, coal or diamond, every drop of oil or water, every under-trodden clod or stone, lump of clay or chalk; and the chemists of modern times are metaphysicians *sans le savoir*, Peripatetics against their will. This 'lowest possible realisation' is nothing whatever but the unconscious translation of Aristotle's Greek. This is that very ἐντελέχεια ἢ πρώτη τοῦ δυνάμει ὄντος which the world has been rejecting for centuries. This synthesis of matter and form, with

\* *New Chemistry*, p. 294.



the stress laid upon the form, is taking the very words from Aristotle's mouth. It is the essence of anything that makes it what it is, and definition is the declaration of that essence. In vain, then, did modern philosophy reject Aristotle: it was doomed to come back to him, whether it liked it or not; he lay inevitably across the onward path of modern Science, and while men thought they were receding further and further away from him, they were in reality drawing nearer and nearer to him. Is there not something ironical in the spectacle of modern Science running into the very jaws of the philosophy which it is always abusing, and pronouncing to be obsolete and 'metaphysical?' 'Physics, beware of Metaphysics!' Water, beware of H<sub>2</sub>O. What if Metaphysics should turn out to be the very core and heart of physics? The essence of physics is in fact, metaphysics, and every physical molecule is metaphysic *in concreto*.

Now this *molecule*, this *οὐσία*, this essence, this nature, this synthesis of elements into a compound, a *σύνολον* or whole, which thereby becomes *ipso facto* something new and entirely different from those elements, just as *water* differs wholly from its constituent gases, is, as we shall now see, the root and core of science, the secret of reality in every grade of the ladder of being<sup>d</sup>.

<sup>d</sup> Further considerations with respect to this particular § will be

*Note:* As regards the ultimate constitution of matter, Aristotle is in advance of modern chemists, notwithstanding the fact that they have gone beyond him in detail.

Everything, he says, is either an element, or composed of elements: *πᾶν ἐστὶν ἢ στοιχείον ἢ ἐκ στοιχείων*. And he defines an element, with precision and accuracy, as, *that into which other bodies are resolved, existing in them either potentially or actually (for which, is not clear) but which itself is not resolvable into anything further, different in kind*<sup>c</sup>. Now, according to Aristotle, the mistake made by those modern chemists and physicists who, speculating on the ultimate constitution of matter, offer us *atoms* or *vortex-rings*, is that of attempting to reduce the actual, not to the potential, but to the actual: a mistake analogous, as he says himself, to that of attempting to break up a sword into little swords, or a saw into little saws. 'The attempt to bestow an intrinsic figure on the elements is absurd,' he says: 'an element cannot have one<sup>f</sup>.' Elementary matter must be formless and amorphous: ready to take any form according to circumstances, but itself possessing none: *e.g.* water will accommodate

found in *Harper's Metaphysics of the School*, vol. ii.; the coincidence of which with this § is all the more remarkable because it is independent: my own § having been written before I had seen it.

<sup>c</sup> *De Caelo*, III. 3.

<sup>f</sup> *Ib.*, III. 8.

itself to a vessel of any shape, and fill it; it is itself amorphous. And though Aristotle was wrong as to what the elements were, in particular; for we know now that air and water, earth and fire are not elementary, but compound: yet what he says holds, apart from the particular error: he knows what an element, as such, must be. The difference between physical *mixture* and chemical *combination*<sup>g</sup>, is exactly this: that in the former the elements exist *actually*, whereas in the latter, they do not: they are lost: oxygen and hydrogen exist in water, not actually, but potentially: they can be educed and become actual only by the destruction of the water: *i.e.*, of that special form, which in water they possessed. Therefore Aristotle says, that the elements come out of one another—λείπεται ἐξ ἀλλήλων γίνεσθαι: by which he means, that what is *actually* one substance may be *potentially* another. And in fact, I venture to say that no one but Aristotle

<sup>g</sup> Admirably defined by Aristotle in the tenth chapter of his *De Generatione et Corruptione*. When barley and wheat are mixed together, you have only mixture, juxtaposition (*σύνθεσις*), but when gas becomes water, you have mingling, chemical combination (*μίξις*), the point of which is that the elements disappear, as such, but remain potentially—σώζεται γὰρ ἡ δύναμις αὐτῶν. And this combination Aristotle defines admirably as τῶν μικτῶν ἀλλοιοθέντων ἕνωσις—‘the unification of mingled elements that have changed their ‘nature, as elements!’

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ever thoroughly understood the philosophy of chemistry: because this too also depends on the great distinction between potential and actual, which modern Science, with all its wonderful discoveries, ignores, though it is staring at her out of them all.

§ 2. SYLLOGISM, *or Logic.*

Modern Philosophy began by rejecting, amongst other things, Aristotle's analysis of thought, Syllogism. And though the rejection of this part of his philosophy has never been so universally accepted as that of other departments, yet gathering force and consistency, like a snowball, as it has run down the hill of Cartesian development along certain lines, it has reached its fullest and most comprehensive, most mature and elaborate statement in the *Logic* of John Stuart Mill. The denial of Syllogism is, in fact, at once the necessary corollary of sensational principles and their apagogical refutation: for, as we shall presently see, you can deny Syllogism no more than you can deny modern Physics. The man who, like Mill, denies Syllogism shows thereby only this, that he has not a glimpse of insight into the nature of things.

A word, to begin with, on Bacon's rejection of

Syllogism, so well known, and so completely misunderstood. Here is his own charge:—

“Syllogismus ex propositionibus constat, propositiones ex verbis, verba autem notionum tesserae et signa sunt. Itaque si notiones ipsae mentis (quae verborum quasi anima sunt, et totius hujusmodi structuræ et fabricæ basis) male ac temere a rebus abstractæ, et vagæ, nec satis definitæ ac circumscriptæ, denique multis modis vitiosæ fuerint, omnia ruunt. Rejicimus igitur Syllogismum.’

Now, it is obvious, that this is not an argument against Syllogism, as such, at all. It is only an argument against *bad* Syllogism. On such grounds as these we might with equal justice reject Bacon’s own method, or indeed any other method whatever, as the Syllogism. Bad reasoning, says Bacon, is bad reasoning: certainly: so is bad observation, bad observation, and bad experiment, bad experiment. And will you reject observation and experiment, because they may be, and very often are, bad?

But further, it is palpable that this rejection of Syllogism is really a rejection of language altogether. *Nil probat qui nimium probat.* Bacon’s quarrel is not with the Syllogism, but its elements, the words. And thus it stands in close relation with Berkeley’s quarrel with general ideas, Descartes’ isolation of the self, and other such

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manifestations of individualism; all but various denials of the continuity of Nature. Yet in Bacon such an attitude is altogether inconsistent and absurd. How could, of all men in the world, Bacon, whose great idea was *co-operation* and *continuity* in Science, fail to perceive that in this rejection of language he is rejecting the very possibility of both? Whatever defects there may be in language, words, the constituent elements of Syllogism, we cannot for all that get along without them.

We see, then, that Bacon's apparent rejection of Syllogism is, properly understood, only a demand for exact definition of words and terms and notions: than which nothing could be more desirable. It is not Syllogism, as such, but its abuse, that Bacon denies.

But what he did not do, was done by others, and the rejection of Syllogism, as such, mature and considered, is seen fully developed in J. S. Mill, whose *Logic* is the developed statement of what is indicated more or less clearly in earlier philosophers from whom he drew inspiration: the Lockes, Berkeleys, Humes. It is in reality an inverse disproof of his philosophical principles, and reposes on his ignorance of essence, a problem which, as Ueberweg says<sup>h</sup>, he entirely failed to solve.

<sup>h</sup> *Logic*, p. 152.

The Syllogism was pronounced by Mill to be a *petitio principii* (though his own writings are, as the writings of all reasoners must be, composed throughout of Syllogisms; for a man may deny the Syllogism in theory: in practice he must obey it, whether he will or no) because he wrongly regarded the major premiss as merely the numerical sum-total of the particular individual cases; whereas, on the contrary, the major is not numerical but typical. It is not 'all men are mortal' but, 'every man is mortal,' every man, *quâ* man; it contains the type, the essence. Deny this, as Mill does<sup>i</sup>, and of course there is no Syllogism: but then Aristotle knew this as well as Mill, and said so, ages ago. 'No universals, no syllogisms.' This is true, but it is not new: it belongs not to Mill but to Aristotle himself: whereas what *is* new and what *does* belong to Mill is what is at once erroneous and absurd.

1. In asserting that the conclusion gives, not something *different* from, but something already contained in the major, Mill, to begin with, overlooks the fact, obvious and elementary as it might seem, that the conclusion results from, and is possible only

Yet though he denies this, in theory, he appeals to it, in fact: as, for instance, I have shown on p. 85 of this book. No man ever contradicted himself more flatly throughout than J. S. Mill.

through, the *combination* of the two premisses. The question-begging example in the first figure, by which he endeavours to support his position, might deceive, and has doubtless often deceived, a tyro: but how it could possibly deceive a professional logician, writing a huge treatise to advocate a revolutionary subversion of the consent of ages, is beyond my understanding. A single example in the second or third figure would have made the truth plain even to J. S. Mill: e.g. some Mussulmans are good men: no Musulmans are Hindoos: *ergo*, some good men are not Hindoos, *i.e.* there may be virtue outside the pale of Hinduism. It would have puzzled Mill to say, which premiss contained the conclusion here. And is it credible that an elaborate condemnation of Syllogism should be gravely put forward by a man to whom, after presumably years of meditation, it should still be unknown that the conclusion depends not on one premiss only but on the combination of the two?

2. But this is not all. Little did the unfortunate 'logician' suspect that in thus pronouncing on the Syllogism he was running his head against a wall buttressed by the Universe: that he was deliberately writing himself down ignorant of the very thing which he professed to understand and expound, the inner nature of all Science. The irony of this is almost



overpowering. In denying the Syllogism, what Mill is really denying, though he does not know it, is the *molecule*, the plan of Creation, the law which runs through every form and grade of being, and binds all the Sciences together as a string binds beads.

For what was, as we saw, the *molecule*, the physical essence? It was, something *new*, something *different* from the elements, necessarily resulting from their being *what* and *as* they were. Well now, that is *exactly* Aristotle's definition of Syllogism—*συλλόγισμός ἐστι λόγος, ἐν ᾧ τεθέντων τινῶν ἕτερόν τι τῶν κειμένων ἐξ ἀνάγκης συμβαίνει τῷ ταῦτα εἶναι.*

Syllogism is to thought exactly what its molecule is to a physical substance: Syllogism is the molecule of thought. Thought consists of Syllogisms just as a substance consists of molecules. . The premisses are the chemical elements; the conclusion is the necessarily resulting new and entirely different substance: the mind is the alembic or crucible in which the chemico-intellectual process takes place. The conclusion differs from the premisses, and yet depends on them, exactly as water differs from and depends on oxygen and hydrogen, being contained in neither.

We see, therefore, that Aristotle's wonderful analysis harmonises with and is confirmed by the axioms

of modern Chemistry, as well as by those of the other Sciences, as we shall find. For the Syllogism to be erroneous would contradict Nature: it is impossible that it should be so: it is only the logical aspect of essence. In the sphere of material bodies, the essence appears as the molecule: in the sphere of thought, it appears as the Syllogism. The two things are at bottom identical; one and the same thing in different clothes. But a Mill looks at the Syllogism, Aristotle's wonderful and profound discovery, with the sightless glare of complacent fatuity, and wisely pronounces it an error!

*Note.* 'By chemical action we signify that which occurs when two or more substances so act upon one another as to produce a third substance differing altogether from the original ones in properties.' Roscoe's *Elem. Chem.* This, as the reader will observe, is almost identical with Aristotle's definition of Syllogism.

### § 3. SYSTEM, or *Astronomy.*

THE uranological scheme of Aristotle was wholly erroneous. But what is especially worthy of notice is that he went further astray in this field than others of the Greeks, *precisely because he was a better reasoner than them all.* All his errors flow logically from

a fundamental position *in harmony with* observation<sup>k</sup> and experience, which was for all that an error. Yet no man would have hailed the Copernican-Newtonian astronomy with more delight than himself, because in fact the Newtonian astronomy fits into his philosophy, his continuous ladder of Science, much better than his own did, which, as many little touches in the *De Cælo* show, was unsatisfactory in his own eyes.

In the view of Aristotle, which remained the view of all the world till Newton, celestial motion was *different in kind* from motion on the earth. To show that, on the contrary, the two were *the same* was precisely the point in which Newton revolutionised astronomical conceptions. By thus identifying all motion, he brought the heavens down to earth, or raised earth to the heavens<sup>l</sup>. He thus for the first time classed astronomy among the physical Sciences. With Aristotle, astronomy was, as it were, hyper-physical. Its peculiarity broke the continuity of his

<sup>k</sup> τὸν δ' οὐρανὸν ὁρῶμεν κύκλῳ περιφερόμενον (*De Cælo*, I. 5). From this principle it follows necessarily, as he shows, that the heaven cannot be *infinite*, that it must be composed of different *stuff* from our matter, &c., &c.

<sup>l</sup> Note, that Aristotle condemns the Pythagoreans for their opinion, that the earth was itself a celestial body (wherein they were more right than he was), *because* their opinion, he says, does *not* correspond with phenomena. (*De Cælo*, II. 13.)

series of particular sciences; it contained celestial elements foreign to all earthly things—circular motion, eternal sameness, &c.—and it thus appears among the other Sciences like a mysterious Deity among common mortals. This is why nothing can be a greater mistake than to estimate the scientific value of Aristotle by his astronomical speculations, as is commonly done by those who do not know him. As Leibniz<sup>m</sup> says somewhere, excellently well, Aristotle ought to be forgiven for making the earth the centre of the Universe: the mistake lay not so much in him as in his age. Appearances in astronomy are the direct reverse of the fact, and in an age when as yet nothing worth mentioning had been done in mathematics, mechanics<sup>n</sup> or geographical exploration, what but appearances were available? The more scientific caution a philosopher might have, the more likely he was in that age to go astray in astronomy. It had no ground to stand

<sup>m</sup> The germ of the Calculus, the idea of continuous infinitesimals, is clearly expressed by Aristotle (esp. in *Physics*, iii. 6), where he shows, that just as a given quantity may be potentially divided *ad infinitum*, so, conversely, every definite quantity contains within it a potentially infinite number of quantities whose sum never reaches it. Query, was Leibniz indebted to Aristotle?

<sup>n</sup> The discovery which made the fortune of Archimedes *almost* belongs to Aristotle—‘in air, a piece of wood weighing a talent is ‘heavier than a piece of lead weighing a hundred drachms: *but in water it is lighter.*’ (*De Cælo*, IV. 4.)

on, and no instruments to work with: hence those notions of circular motion and mystical divinity which form the basis of Aristotle's theory of the heavens.

And yet it is astonishing to see, how with all his limitations, Aristotle's appalling sagacity places him, even here, in the same class of ideas as the truth. His endeavour, though it does not succeed, is to get an explanation of celestial phenomena on the principles of *gravity* and *levity*, *i.e.*, motion *to* or *from* the centre. Newton himself had not a clearer perception of the astronomical importance of *weight* than Aristotle: and Newton's first and third laws of motion are stated<sup>o</sup>, in the very words of Newton, in Aristotle's *Physics* (iii. 5 and iv. 8), 'no one can say why, *in vacuo*, anything moved should ever stop anywhere; for why here rather than there?—so that it will either remain at rest, or move on, for ever, unless some superior force should interfere.' But he does not see how this applies. This was

<sup>o</sup> 'The great misapprehension which possessed the minds of nearly all men till the time of Galileo was that the continuous action of some force was necessary to keep a moving body in motion . . . it is hard to say who was the first clearly to see and announce that this notion was entirely incorrect, and that a body once set in motion and acted on by no force would move forwards for ever. . . we can hardly be far wrong in saying that Newton was the first who clearly laid down this law in connection with the correlated laws that cluster round it.' Newcomb's *Popular Astronomy*, p. 75.

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reserved for Newton, who founded the true astronomy upon it<sup>p</sup>.

The Newtonian astronomy has destroyed and replaced the astronomy of Aristotle; but it has not destroyed his philosophy: on the contrary, it strengthens and exemplifies it. It strengthens it: for it makes astronomy a physical Science like all the other Sciences, and so avoids that breach of continuity which was caused by the anomalous mystical character of old astronomical speculations; it exemplifies it, for it furnishes another and most beautiful illustration of the essence of Aristotle, in the clothing of the night and stars.

For what is it that holds in astronomy the place that we have seen the molecule and the Syllogism to hold in Physics and Logic? What is the astronomical essence, the molecule, so to say, of the Universe and the celestial spaces? It is, *System*: as, *e.g.*, the Solar System, the System of Jupiter, of Saturn, &c. For the Universe does not consist in its matter; nor do the countless bodies scattered in space constitute, as such, the sphere and Science

<sup>p</sup> The predecessor of Newton is not Aristotle, but Empedocles, whom Aristotle quotes to disagree with him (*De Cælo*, II. 1), 'we must not suppose that the heavenly bodies remain as they are because the speed of their revolution is so great as to conquer their natural tendency to fall, as Empedocles says.' This is exactly Newton's idea. Query, did Newton get a hint from Empedocles?

of Astronomy. The stars, suns, planets, comets, are not the Universe: the Universe is, the regular and harmonious system and co-adjustment of those stars and suns<sup>9</sup> and planets: their balanced and delicate correlation, so admirably expressed by the old Greek word *κόσμος*, which denotes not only the order but its beauty. It is not the elements, the masses, that constitute the Universe: it is that *something different* from the elements, which results necessarily from their being what they are. This is the soul of Astronomy: of which mathematics is only the instrument. And Astronomy is scientific, only in so far as it can detect and establish *System*. It has done this admirably, and we might almost say, completely, for our Solar System. But the enormous distance of the suns which we call stars relatively to our faculties places them beyond our scientific grasp; and there is, properly speaking, little Scientific Knowledge, but only observation and cataloguing of the stars: in spite of the spectroscope, the most audacious instrument ever devised by the aspiring spirit of man. The goal of Astronomy is perhaps unattainable: it aims at discovering

<sup>9</sup> 'The result of the observations hitherto made proves that the firmament is studded not only with *red* and *yellow* suns (as was known long ago to the ancients), but also with *blue* and *green* suns.' (Arago, in Humboldt's *Kosmos*, iii. 283.) Can any idea be more magnificent than this?

the system of the Universe ; but how shall we tackle this portentous problem, when we can hardly succeed in estimating doubtfully the distance of a few of the nearest stars ?

Now when we reflect how the life of all organised beings, including our own, with all its infinitely various moral and political development, is determined by and dependent on heat and cold, a very slight variation in which one way or the other would annihilate all : how these again depend on the regularity of the seasons, the mingled influences of Sun and Moon, and are *possible* only through the extremely delicate balance and order of our System, we shall recognise what this astronomical essence, this celestial *realisation of the possible*, means. Chaos might come again ; every individual element, every particular sun or planet might be still materially there : but the essence of the Universe, the world and all its beauty, all the myriad corollaries of order, the very possibility of art or science would be gone. So true is it that harmony is the soul and condition of all : and this is not poetry, but science ; or rather, one of the points at which they touch each other. But the astronomical essence is harder to perceive than that of Physics, because it is so large and universal, escaping observation much in the same way as the names in a map which are spread out



over large spaces are harder to find than the names of little towns. Just so, even the savage knows that his life depends on food and water, but he never suspects that it is also dependent on gravity, on the continuous spinning of our globe round the Sun and upon its own axis, and so forth. And not only the Savage, but the highly civilised man, is equally blind to the truth. Has he not been laughing for centuries at the absurdity of Aristotle's *dictum* τὸ γὰρ αἴτιον τοῦ εἶναι πᾶσιν ἢ οὐσία καὶ ὁ λόγος τῆς οὐσίας. Perhaps instead of laughing, he would have done better to try and understand it.

§ 4. 'ROCK,' or *Geology*.

THE lovers of *Geology* may be excused for preferring their fascinating Science to all others. For though every Science has its own peculiar and absorbing interest, and none can claim to be before or after another in dignity and honour, nevertheless *Geology* has in it this remarkable peculiarity: it is what Bacon would have called a 'bordering' instance. Border countries are particularly rich in instruction; now, *Geology* stands on the border between the inorganic and organic worlds, the Sciences that deal with dead and those that deal

with living matter, and it partakes of both. Geology contains in it the obscure germs of higher things: in rivers and mountains, plains and valleys, seas and shores, lakes and deserts, we dimly recognise the first faint indications of a personality and character which are coming; *i.e.* which rise into definite and clearer grades in plants and animals, and attain their highest expression in the souls of men.

The singularity of Geology lies in this, that its essence is, as it were, temporary and unstable, fleeting: it is a sort of historical accident.

What is the central conception of Geology? It investigates the Crust of the Earth, and its component elements and substances: its granites and basalts, marbles and quartzes, its coal, clay, sand, chalk, and what not: in a word, all materials that go to make up the Crust of the Earth. But observe, now, that Geology does not investigate these materials as such. That is the business of Chemistry or Mineralogy. The object of Geology is to investigate and account for all these materials, not as such, but as existing in peculiar local and temporal positions, situations, forms. Primarily their form, and only subsidiarily their matter is the object of Geology. In the language of Aristotle's Categories we might say that the function of Geology is to account for the *κείσθαι* of materials. Geology,

in other words, is the Science which aims at accounting for the formation of rocks ; a 'rock' being geologically, any natural aggregate (layer, stratum, deposit, upheaval, &c.), of any material which contributes to form the Crust of the Earth ; including therefore, not only solids, but liquids, and even gases. The word 'bank' would convey to an uninitiated ear what is meant geologically by a 'rock,' which contains no reference to the quality of material, but only to its form, having long ago lost its popular connotation of hardness ; since it was soon discovered that it is impossible to draw any line, owing to the gradual continuity and 'shading off' of substances that are hard into those that are not so.

If, then, Geology should ever succeed in fully accounting for every 'rock,' in explaining how every particular constituent portion of the Earth's Crust has come to be what and as it is, it will have done its work, and arrived at its goal. And so, Geology is essentially a historical Science ; it deals with continuous change. This, and the fact that it includes palæontology, the archaeology of the Earth's life, gives it a peculiar analogy to economics and politics ; and the most fruitful conception of history proper is that which sees its type in Geology, with its successive epochs, layers, and strata, its up-

heavals and catastrophes<sup>r</sup> (occasional corollaries of slow continuous changes), political and social institutions being to the historian just what 'rocks' are to the geologist.

And so, here too we see that the law obtains. Geology, too, has its essence, though it is, as we saw, one of a peculiar kind. As, to the logician, all thought is an aggregate of Syllogisms, to the physicist, all substances are aggregates of molecules, to the astronomer, the Universe is an aggregate of systems, so to the geologist, the Crust of the Earth is an aggregate of 'rocks.' Here, as always, it is not the material elements as such, but that *something different*, their peculiar disposition or composition, which is the essence of the matter. The geologist is not a chemist nor a mineralogist, though both these come to his assistance; he is something

<sup>r</sup> Compare the Reformation or French Revolution with such facts as these, 'in 1783, at Skaptar Jokul, in Iceland, a great fissure 'opened; two streams of lava issuing from this rent were in bulk 'equal to the mass of Mont Blanc! A century later, in 1883, the 'most violent explosive eruption on record occurred at Krakatoa, 'in the Sunda Straits. There was no outflow of lava, but pumice 'and dust were thrown to the height of sixteen miles into the air, 'the pulsations of the atmosphere travelled two and a half times 'round the globe, violent waves were produced in the ocean, which 'were registered on the tide gauges all over the world, and ejected 'materials were scattered over a circle with a radius of 1,000 miles!' (*Student's Lyell*, p. 467. Judd.)

more: one who can account for the shape of hills, the dip of strata, the position and age of fossils, the trend of valleys, the structure of volcanoes, the height of lands and depths of seas, &c.: in a word, he is the biographer of the 'rocks,' and can tell how each came to be what it is. To a Humboldt or a Lyell, the whole Earth is full of friends: each peak or cañon, each dune or desert, appeals with an interest almost personal: he follows the fortunes of a 'rock' with the sympathy of a reader reading a novel; nay, he can tell you, like Hamlet's gravedigger, how long each skull has lain in the ground, as if it were that of Yorick himself. For the whole earth is after all but a cemetery, a burial-ground: *πάντα γῆ τάφος*. It is marvellous to think how many centuries have passed, while all the time men took the earth for granted, and saw not what was staring them in the face, as we can see, now that Geology has lifted the curtain from our eyes, and invested with scientific interest the very mud and stones on which we tread. What poetry that was ever written appeals to us weighted with such sublimity as the bare unvarnished tale of Geology, the record of the rocks? We seem to listen, as we read it, to the slow and measured beat of the pendulum of Time: the infinite patience of Creation is almost appalling: age after age, series after series,

generation after generation, comes into being and passes away; mighty rivers flow on for æons unperceived by human eyes, and disappear: great seas beat on shores that now exist no longer, and mountains crumble and waste away, grain by grain, into flat and level plains: huge forests grow silently, flourish, fade, decay, and die, leaving their transmuted substance to drive the engines of a future age; and the weird creatures of early periods slowly and mysteriously change into descendants that do not resemble their parents. Would any man appreciate the continuity of Nature, let him meditate on Geology: there, if anywhere, he shall find a sermon in the stones to set him thinking. Let him lie on a cliff that hangs sheer over the sea, some hundreds of feet below, and listen to the breaking of the waves, the sough of the wind, the scream of the gulls: even at that very moment creation is going on before his eyes: Nature is showing him her hand, so naïvely and openly that for thousands of years he could not see it: the organic method of creation, the continuous change, the universal *κίνησις*, the ordered march from possible to actual, destroying with one hand and creating with the other, is visibly proceeding from day to day and hour to hour: and a text-book of Geology is an abstract of its course.

Aristotle knew nothing about Geology<sup>s</sup>. And yet of all the Sciences Geology is the one which most admirably confirms and exhibits his metaphysical law. The geological process is an everlasting series of variations on one theme, which is Aristotle's definition of Motion or Change. ἡ τοῦ δυνατοῦ ἢ δυνατὸν ἐντελέχεια is the motto of Geology. The brain of man could rise no higher: that definition marks the summit of human intellectual power: for it not only seizes and expresses the evolutionary process of the Universe, but carries with it the stamp of the eagle genius which was capable of so seizing and expressing it.

§ 5. CELL, or *Biology* (POTENTIALITY.)

OF all the discoveries of modern Science, there is none more wonderful than that of the *Cell*. The revelations of embryology, or the study of development, pregnant in themselves with profound significance, are from our present point of view doubly interesting and important, for they vindicate the insight of Aristotle in the most curiously exact manner, and prove conclusively that the abuse of Aristotle by the philosophers of modern times was the abuse of knowledge by ignorance.

<sup>s</sup> But see Appendix.

The *cell* stands to the organic world in the same relation as the molecule to the physical world: the cell is the organic molecule, the organic unit and radical, the stuff out of which all is constructed. Embryology tells us that every living organism comes from a cell, a fertilised *ovum*; was, that is to say, originally a cell, which by a mysterious power, implanted and initiated by fertilisation, gradually evolves under appropriate conditions into a fully developed animal or plant.

Though every branch of modern Science illustrates Aristotle's philosophy, even where it destroys his particular views, nowhere do we find such a remarkable corroboration of his analysis, as here. In this he is right even in the detail, as those who misunderstand and abuse him in other respects are obliged to admit. The theory of Epigenesis, with which the name of Harvey is inseparably associated, was first propounded by Aristotle in his *De Generatione Animalium*: biological differentiation, an idea which made the fortune of Von Baer, belongs to Aristotle; the constant *segmentation* of the originally undifferentiated cell, in which the process of development consists, is described by himself—ὡὸν γὰρ τὸ μὲν πρῶτον ἀδιόριστον, εἶτα διακρινόμενον γίνεται πόλλα.

There is a very great difference between a modern



text-book of embryology and Aristotle's imperfect efforts, in point of fulness of detail and elaboration. None the less, such a text-book runs on the lines laid down by Aristotle, and does but fill up the sketch, outlined by the hand of the old master. The man who studies such a modern text-book is also studying unintentionally a particular branch of the philosophy of Aristotle.

Now, there is one very important error frequently committed by modern scientific exponents of this process of development that was never committed by Aristotle. It is constantly asserted, and the most far-reaching philosophical conclusions are founded on the assertion, that all protoplasm is identical. Protoplasm is spoken of generally, as if it were everywhere the same, the common life-material of all organic beings. The protoplasm of plant and animal, of different plants and different animals, is, we are told, microscopically indistinguishable. It may be so: the resemblance may even go further: the chemical constituents may be the same. Yet not only does that not warrant us in pronouncing on the identity of all protoplasm, but on the contrary, it is demonstrably certain that the reverse is the truth. Two portions of protoplasm may *look* the same, may even consist of the same chemical constituents, but they are for all

that *potentially* different, and development proves it. No cell ever becomes anything other than one definite thing. Consider, e.g. among vegetables, the bamboo, the bulrush, the carrot, the onion, the orange, the cucumber: among animals, the camel, the elephant, the eagle, the porcupine, the mole, the owl, the swan: suppose, to make the case as strong as possible, that the chemical elements of the several cells of these essentially different beings were the same or nearly so in all: yet is it not plain that every cell must be intensely *sui generis*, and that the more the elements are the same, the more is it necessary that the *cause of the difference* must lie in the composition, the synthesis; that *something different* from the elements which as we have seen is everywhere the essence of all being? With this agrees the extraordinarily complex nature of the organic cell as compared with the physical molecule, a complexity which defies the efforts of analysis, for it is unstable, and therefore examination disturbs it; alters, even in the endeavour to detect it.

Here, as everywhere, the truth clearly exhibits itself. Just as water is a thing totally different from its elements, so is each cell a thing wholly other than its component materials. Between cells, as between molecules, there obtains the most in-

tense difference ; a difference that lies, not in the elements, but the structure. To every cell its own potentiality that determines the result : τὸ γὰρ αἴτιον τοῦ εἶναι πᾶσιν ἡ οὐσία καὶ ὁ λόγος τῆς οὐσίας. The essence of every living creature lies potentially in its cell, and appears fully developed in the grown animal : growth being the process of the change, the realisation of the possible as such.

*Note.* It is precisely in connection with the cell as the potentiality of the fully developed animal that the impotence and superficiality of Darwin's theory of *Natural Selection* becomes so glaring. I have proved in my *Body and Soul* that that theory is not only erroneous, but impossible : that it is at once a truism and an absurdity, the absurdity being quietly swallowed for the sake of the truism. But in connection with our present subject I invite the reader to consider the following argument.

The problem of evolution is not only physical but metaphysical : that is to say, the solution must take account not only of the historical genesis and chronological origin of organic forms, but also of their definite nature and constitution, when they have originated : not only the passage, change, and transmutation of one form into another, but also

the fixity of the form so obtained. Now the theory of Natural Selection utterly ignores this fixity and what it implies. It solves the *origin* of any form by happy accident, casual variation. Very good. But the continued production of similar forms is not an accident. Why does a rhinoceros go on producing a rhinoceros? Obviously, because the *cell*, the fertilised *ovum*, is obliged by the necessity of its nature to become a rhinoceros and nothing else. Now, no accident will account for this necessity, this *formal cause*. Any one who will reflect upon this will inevitably come to the conclusion that the transmutation of any form into another is somehow or other determined by and bound up with changes in the *generative* system and process: that is, in the formal cause, the cell, the potentiality of the complete and perfect animal. It is not a trifling miserable accidental variation in the *fully developed* animal, of no account whatever in the nature of the animal, but some radical and profound chemico-organic change in the *cell* which alone can explain final and definite alteration of the animal's form; an alteration which is therefore constant, and goes on without change, with the regularity of clock-work: for fixity is no more to be disregarded than change of form. According to Darwin's way of looking at the matter, this fixity would be a mere

accident<sup>t</sup>, like the shape of water in a cup, ready to change without demur or hesitation at the call of circumstances. But what he ignores is the *formal cause*, the *potentiality* of form. To explain the origin of species you must explain that: it is certainly not explained by accidental variation. No amount of accidental variation will add up into necessary potentiality of a definite form: will in other words, make up, explain, or account for, a cell. That, once having arisen, a superior form will defeat an inferior one, is a thing that stands to reason: it is a mere truism: but the difficulty is, to understand, how<sup>u</sup> that superior form came about. Darwin's theory never touches the point: he *assumes*, just what constitutes the difficulty; the arising of favourable variations. But *how* do these arise? The *Origin of Species* is an *ignoratio elenchi*.

Imperfect as it is, the geological record proves conclusively<sup>v</sup> that the historical series of life on the globe exhibits a constant progress *upwards* in organisation from lower to higher: otherwise expressed, cells have constantly been becoming richer

<sup>t</sup> Just as rocks are geological accidents, so according to Darwin's views are organic forms. It is a view derived from geology.

<sup>u</sup> This is where his fallacy lies. If the variations were very *slight*, they would not be *favourable*: to be so, they would have to be very large and sudden. See Appendix.

<sup>v</sup> Lyell's *Geology* (Judd), p. 446.

in potentiality, growing in power and variety. Now to imagine that this continuous acquisition of additional potentiality, of further formative power, can be accounted for by the *impossible* selection, or survival, or preservation of a minute, haphazard, almost imperceptible variation in the fully developed animal, argues a want of understanding of the point where the difficulty is. The difficulty does not lie in seeing, that the advantageous form will defeat its competitors,—but in seeing *how* that advantage comes about. Darwin's theory only explains what is obvious: what is difficult it does not explain; it *assumes* it. It *postulates* the advantage: this is simply to beg the question. The insignificant variation in the full grown animal, the accidents of matter, could never exercise the slightest influence. On the other hand, it is certain that the very strangest and abrupt departures from type, new organic points of structure, are sometimes produced suddenly, by the mysterious agency of generation. Two parrots have been known, for example, abruptly to produce a third adorned with a brilliant scarlet hood possessed by neither of its parents. This, and similar instances, show that the solution of the problem lies, not in the casual variation of the full grown animal, but in the changes produced by some mysterious agency in the form of the *cell*, the poten-

tiality of the animal<sup>x</sup>. The developed animal lies *a priori*, potentially, in its cell, which must therefore be rigorously determined by organic necessity: it is this that contains the mystery. In other words, the change of fully developed forms lies in some difference of composition in the cells, exactly as, analogously, the difference of molecules lies in some chemical difference of the composition of their elements.

That cells do become transmuted is certain: but equally certain is it that Darwin's theory is not the explanation of how it is done. That theory is altogether superficial; it does not touch the point. It is a mistaken endeavour to account for inner organic potential *necessity* by trifling exterior *accident*.

The cause of the transmutation of cells certainly lies in *generation*, of which we know absolutely nothing: the mixture and as it were chemical composition of the cell. Aristotle has some profound *aperçus* on this point. 'We ought to observe,' he

<sup>x</sup> 'When we remember such cases as the formation of the more complex cells, and certain monstrosities, which cannot be accounted for by reversion, cohesion, &c., and sudden strongly-marked deviations of structure, such as the appearance of a moss-rose on a common rose, we must admit that the organisation of the individual is capable through its own laws of growth, under certain conditions, of undergoing great modifications, independently of the gradual accumulation of slight inherited modifications.' *Origin of Species*, p. 151 (5th Ed.). This destroys his theory.

says <sup>3</sup>, 'that a change in a very small principle will 'bring about concomitantly change in many things 'that depend on that principle. This is plainly to 'be noted in the case of eunuchs. For though only 'the organs of generation have been destroyed, yet 'the whole form changes to such an extent as to 'seem almost womanish: plainly indicating that 'that part or power which determines the sex of 'the animal is of the very first importance in its 'economy<sup>2</sup>.' This is a very pregnant consideration in connection with the origin and transmutation of forms, and it is here that the core of the problem lies.

Darwin was a very great naturalist, and his powers of observation were of the first order, but he was a very poor thinker, and the only part of the *Origin of Species* which is original is altogether futile. The transmutation of species is a necessary deduction from geology: it was 'in the air' when he wrote, and we should have had the idea now, even had he never existed. But the endeavour to account for that transmutation by 'Natural Selection' is only one of the innumerable instances of the sort of palpable absurdity that can pass for philosophy, when the appeal is to the vulgar. A

<sup>3</sup> *De Generatione Animalium*, i. 2.

<sup>2</sup> Cp. also *Ib.* iv. 1, and v. 7.



man nowadays may be totally destitute of training in analytical thinking, definition, and method: he may not even know what 'science' is: yet if he collects beetles or cuts up frogs he is a 'man of science,' and qualified accordingly to pronounce on the profoundest questions, betraying at every step that the *sutor* is *ultra crepidam*. For no amount of knowledge of particular scientific detail will make a man a master of science. It is not the accumulation of facts, it is the interpretation of facts, in which lies science; nor as a rule are 'men of science' even aware that thought has laws. And this deplorable state of things must continue, until Physics learns, not to beware of Metaphysics, but to understand, and revere her.

§ 6. SOUL, *or Biology* (ACTUALITY.)

THE *cell* is the potentiality of the living being: its actuality is the *soul*, on which so many strange delusions have existed since the beginning, founded on the error of divorcing and abstracting the *esse* from the *posse*. Here also Aristotle alone was equal to the problem.

Observe a dead crab, impaled on a pin or otherwise preserved in a collection: there you have the body. Watch the same crab, scuttling about side-

ways over rocks and sea-weed, half in and half out of water, when the tide is coming hurtling and heaving in: there you have the soul, the essence of life. It is not the body of the crab, but the soul of him, the energetic activity of his peculiar frame, in its due situation and circumstances, that constitutes his being and fills us with such inexhaustible delight to see. This is that *ψυχῆς ἐνέργεια κατ' ἀρέτην* wherein consists the happiness, the end and goal of all organic existence. The infinite varieties of plants and animals are all only incarnations of *soul* of various kinds, and therefore Aristotle says well, that the business of the natural philosopher is with the soul rather than the body: *τοῦ φυσικοῦ περὶ ψυχῆς ἄν εἴη λέγειν καὶ εἶδέναι*, not the dead quiescent structure, but its living energy.

Anatomy and physiology deal only with the body, the means to the end: they tell us nothing about the *nature* of that whose parts and structure they investigate. 'Man is only entitled to that rank in 'a morphological system which, in future ages, when 'nothing is left of our race but a sufficient number 'of fossil bones, a thinking being would assign to 'him in a scientific arrangement of the animal 'kingdom. According to the principles of comparative anatomy and by scientific requirements 'he would then be separated from the apes of

'the present geological era only as an order or 'sub-order'<sup>a</sup>.'

Now, though this may be true, it proves only this, how little anatomy penetrates into the nature of man. The skeleton does not contain the soul. Contemplate the skeletons of man and the gorilla; who could dream, from such inspection, of the infinite difference between the natures of the two? Who could tell by examining the skeleton of the elephant, that this enormous unwieldy bony structure can walk through dense jungle so silently as to come upon deer by surprise? Who could imagine by examining the skeletons of the cuckoo or cow-bunting that these birds have the habit of laying their eggs in the nests of other birds? Who could foresee, from an examination of the anatomical structure of the sand-wasp, its habit of laying its egg in a tunnel of mud filled with dead spiders for the future nutriment of its grub? And so universally. No amount of anatomy will give you a particle of insight into the *nature* of bird or beast or fish<sup>b</sup>. To understand this you must go to their haunts and watch them. Only there will you get that *Realisation of the Possible*, that actual

<sup>a</sup> Oscar Peschel's *Races of Man*, p. 6.

<sup>b</sup> Except of a purely general description, as *carnivora* from their teeth, &c. : yet this is not always certain, for there are animals whose habits contradict their structure.

energy which is the soul of each, and which it is the object of natural history and biography to seize and depict. And with man it is clearly the same. The dissecting table is democratic and levelling. Lay open on it Loyola, Napoleon, Shakspeare, Aristotle, or a peasant from the plough, it will not show you the difference. You must view them at work, alive, to understand the peculiar nature of each. Do the stupid crowds who flock to Zoological Gardens in great cities understand the strange and melancholy beasts at which they stare with lack lustre eyes, offering them all indifferently buns? How should they? The carcasses of the wild animals are there to see, but not their *souls*, their *selves*: they left those in the jungles and the forests and the deserts which were their homes, and lost them in captivity. This is why in all such places there is something gloomy and oppressive: a *Thiergarten* or a 'Zoo' is, in fact, a *morgue*, a place of death and corpses, a dungeon of the dead-alive. Lifted out of the economy of Nature, in which they filled a place and had their being, these singular structures lose their *raison d'être*, lose their grace and appositeness, and become absurd: mere misshapen lumps of matter without any visible appropriate end, like a lid without its box, a corkscrew where no bottles are,

or a Hindoo Pundit at Timbuctoo. For the soul of everything lies not in itself, but in other things and its relation to them: each thing is for the sake of those others. Sever the continuity, and you slay the soul, leaving only something that seems to live but does not. It wants only that infinitesimal thing, that *something different* which constitutes the essence of reality in every grade of the ladder of being; that imperceptible touch of Nature which alone of all philosophers Aristotle could seize and understand, because he only was not the victim of abstraction.

The soul of every living creature lies indeed in others; experience will furnish every man a bitter proof of the truth as he grows old. For then the old circle of friends with which he started and in which he had his place gradually disappears, and with it disappears also the best part of himself: for the element in which he was at home is gone, and he may now say sadly with Ovid: *Barbarus hic ego sum quia non intelligor ulli.*

Thus old men are already dead, when Death finally arrives to take them away: and they get up from the table and follow him gladly out of the room, for their life has long been a void, a mere mockery, containing nothing of that which made it what it was.

§ 7. WEALTH, or *Economics*.

THE unit, or *molecule*, of Economics is a single one of those instruments of life which collectively we call Wealth.

Now, it is to be carefully observed that there are two distinct and different points of view from which we may approach the subject of Wealth: and it makes not a little but all the difference in the world which we adopt. The remarkable fact is that almost all economists confound the two and waver between them: they avowedly adopt the one, and yet give a definition which is harmonious only with the other. The only really logical economist, who has clearly and wholly adhered to one point of view, is Mr. H. D. Macleod, and what he gains by this on one side he loses on the other: for his point of view is the wrong one: he is not a *political* but a *mathematical* economist.

Wealth may be considered either as *created* or as *exchanged*: either as a *product* to be used, or as a *commodity* to be sold: and Economics become accordingly the scientific analysis either of the process of *creation*, or the mechanism of *exchange*. To confine your attention to this second view is to mistake the *means* for the *end*: for the true end of all wealth as, *e.g.*, a shoe, is not to be *sold*, but to be *used*. For the

commercial man, the means is the end ; but for the statesman, not so.

I. If, therefore, we adopt the first, which is the true and philosophical point of view, admirably indicated by the *title* of Adam Smith's work,—*An Enquiry into the Nature and Causes of the Wealth of Nations*<sup>c</sup>—we obtain the true definition of Wealth, which I have elsewhere called the *Quadruple Principle* of Wealth-Creation. The Wealth of any nation is a vast accumulation of units, each one of which is to the whole aggregate exactly what a molecule of water is to a mass of it : each, that is to say, is a synthesis or compound of essentially four constituent causes, viz. : Material, Labour, Form, and Demand<sup>d</sup> : the four Aristotelean causes. (Aristotle never applied them to Economics, but he may be regarded as the potential author of the true definition, here as in the case of Sight.) According to this definition, two things are especially to be observed. First, that the highest form of Wealth would be a great work of art : a statue, a picture, a drama,

<sup>c</sup> There is not a line, from end to end of Smith's book, on the *nature* of wealth: its *causes* were, as he partly sees himself, wholly other than the theory which he advocates ; and that theory, it realised, would destroy all the *nations* in the world : it is *anti-national*.

We might express it thus : as water is  $H_2O$ , so Wealth is MLFD.

a temple, an oratorio; and the highest activity of the nation, the full development and expression of the creative faculty. Secondly, that the *power* is more than the *act*, the *posse* of Wealth than its *esse*, and that we ought to think rather of the permanence of the causes of Wealth, than the actual Wealth itself. And this was *not* done by the economists.

II. But the enormous development of commerce, coupled with want of insight into the nature of Wealth, has led to the general adoption by economists of the commercial or business point of view, resulting in this definition of Wealth, that it is anything whatever that will exchange. The essence of Wealth is thus placed, not in its true end, but in its exchange value. And according to this definition, the highest form of Wealth would be Money, and the goal and aim of human endeavour, national or individual, to make it.

This is the chrematistic view, which has a partial truth, but becomes an error in so far as this *part* claims to be *all*, which makes money the *τέλος*, the essence and final cause of all productive effort; which turns all the sciences and arts into means to that end, and makes venality the test of worth. Nemesis will overtake the nation which adopts this view. For just as the true end of man is the *ψυχῆς ἐνέργεια κατ' ἀρέτην*, so is the true end of creation



or production the object created: for Wealth must subserve the end. And indeed, the world, though in its business relations it would agree with the shortsighted shopkeeper definition, yet in its heart of hearts agrees with the other. For it looks upon its great works of art, rightly, as its best and truest Wealth, and recognises, obscurely, that business is not the end, but only a means to the end. Nor does it class the business man, the man who makes most money, on a level with the artist or philosopher or statesman: it may envy, but it does not admire him: no one erects statues to business men or money-makers. And this shows, though it is not understood, that the essence of Wealth is not exchange-value. That is the highest form of Wealth which embodies the soul of all Wealth and combines each necessary element at its highest power: which gives us the choicest material, the hardest labour, the best intellect, and satisfies, expresses, or answers to the highest need of man.

Which is the real Wealth: the Parthenon, or its weight in gold? there is the choice of Hercules. On the answer to that question depends, theoretically, the economic system: practically, the national character and achievement, and its reputation in history. As a rule the solution will be that of the poet,

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‘ video meliora, proboque,  
Deteriora sequor,’

a quotation which is painfully, humiliatingly true: for it has caught the spirit of humanity; whose better part aims at higher things, but which is too *weak* to attain them.

### § 8. INSTITUTION, or *Politics*.

EVERY State is a system of institutions: *institution* is the essence of the State. What its molecule is to a physical substance, its cell to an organism, that its institutions are to a State. And the same relation obtains here, as there: it is not the elements but the composition that determines the result. The men make the State, but still more does the State make the men; it ‘turns out’ its men. Hence the indescribable difference between good and bad institutions.

It is the essence of Liberalism to ignore this truth: hence the political convulsions of this century, hence the everlasting endeavours to realise the impossible by legislative juggling; to identify the essential differences existing between the members of the State.

The mathematical tone of Science inspires, and lies at the root of, this error. When the State is

conceived, correctly, as a community, this conception is not a mathematic but an organic conception. Community does not mean, as political theorists assume, union of *equals and similars*, but of *unequals and dissimilars*, οὐ γὰρ γίνεται πόλις ἐξ ὁμοίων. A State is an organic unity, composed of lesser organic groups which are *different in kind*. The conception which lies at the root of Liberalism is what we may call the Atomic Theory of society: a State of homogeneous units; a mere *numerus* of identical atoms: a community of individuals. No such 'State' ever did, ever will, or ever could exist, except for a moment. The French at the close of last century made, under the influence of this theory<sup>e</sup>, a clean sweep of their *institutions*, and set up a mathematical 'State' of units, which immediately became the only thing it could become—a barrack; and vanished, as things settled down again, leaving France a prey to convulsion, owing to the destruction of her institutions.

The accepted statement, that the progress of society is from status to contract, harmonises with this Atomic Theory. But this statement is only true legally: if understood socially it is false and absurd. It is altogether a delusion to suppose that

<sup>e</sup> Admirably shown in the best of all histories of the Revolution, that of Taine.

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you can get rid of *status* in any State. You may abolish it, in a particular technical sense; you may change its form; but it will always be there. And the reason is that you cannot have any State without institutions, and institutions involve *status* of a kind.

The men of a State are not individuals but persons: the two radical elementary conceptions of the State are, in the language of Roman Law, *personæ* and *res*, persons and things, *i.e.* property, for *res* does not mean a thing in the metaphysical sense, it means a thing in relation to persons. Law has nothing to do with a thing in the abstract.

Take, e.g., England. Among English institutions, we observe a Monarch, a Peerage, a House of Commons, a Church, a Bar, Universities, Public Schools, an Army, consisting of different Regiments, a Navy, &c. Now, the Queen, a Duke, a Member of Parliament, a Bishop, a Q.C., the Head of a College, an Oxford or Eton man, a Colonel R.A., a Captain R.N., &c., are none of them individuals. They are persons. They are made what they are by their positions. Their lives and actions are determined at all moments by the myriad influences of the *corps* to which they belong. For example, the spirit of Public Schools and the University has the most profound influence on the Government of

India : abolish them, and India would be governed far otherwise than it is. Or again, the past of any Regiment hovers over its living members and inspires them when in action. And so it is universally. That is to say, that the nature and activity of Englishmen is determined, made what it is, by their institutions. This is the true self-government, of which the Liberal or Atomistic theory, which thinks of nothing but the numerical representation of individuals, is the bastard caricature.

I say, then, that here, as in all the other spheres of Science, it is not the elements, but that *something different* from the elements, which arises from their being what and as they are ; that is, the institutions, which are the essence of the matter in the political area. It is not the men that make the State, but the State that makes the men.

Obviously, volumes might be written on this theme. But as the present object is only to connect politics with the Aristotelean conception of nature in general, I shall content myself with two illustrations of the way in which a misconception of the truth may bring about fatal results, *with the best intentions in the world.*

The false effort after unification, equalisation, identification of opposites and dissimilars, which arises from and reposes on the Atomic or mathe-

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mathematical conception of the State, appears especially nowadays in two directions: the attempt to realise *equality of properties* and the attempt to realise *equality of persons*.

I. Viewing with moral disapproval the actual system, according to which property is very unequally divided, and owned to a large extent by 'idle rich' men, the economists and political philosophers of this century have industriously laboured to show, and the Socialists and other Utopians now repeat after them, that the foundation and principle of property is industry: that this alone is its legitimisation: that only that is properly your own which you have made yourself: that the true law of the State is that he who does not work shall not eat, and that he only should have and enjoy who has made.

I assert, on the contrary, that such a principle is inconsistent with the existence of the State, and that its realisation would be the death of every State and the annihilation of every existing system of property. I say that the principle of property is, and must necessarily be, that he who does not work shall have and enjoy.

To exist, the State must have a *continuous* existence, from parents to children onwards. Now, the principle of political continuity is *inheritance*. With-

out inheritance, no State is possible. But with inheritance, it is impossible that property should be founded on industry. For you cannot prevent property from passing into the hands of those who had nothing to do with the making of it. And now, in addition to the main stream of inheritance, consider also the minor but still immense affluents of marriage, gift, bequest, gambling, swindling, theft. Are you going to stop them? Can you prevent property from passing by their means? You might as well attempt to dam Niagara. These things are the foundation and explanation of every system of property in the world. It makes not the slightest difference how property was originally acquired, whether by force, fraud, or industry. Be that how you please, a few generations later it will be in the hands of an *heir* of some kind; *i.e.* of some one who had no hand in the making of it.

Without the State, no property, for no security. Without inheritance, again, no State. *With* inheritance, property is and must be, sooner or later, owned by those who did not make it. This is the law of property which no human force can alter.

And this is one of the many tests by which we may judge of the degree of insight possessed by any economist into the nature of the State. J. S. Mill, for example, asserts that bequest is involved

in the nature of property, and inheritance not ; that you can have property without inheritance. I say that it is just the other way : that you can have property without bequest, but that you cannot have it without inheritance. And history would confirm this : but why appeal to history when reason is so clear ? How is it possible for property to exist without some principle of inheritance ? Who is to possess that which was owned by one who dies without a will ? Are we to scramble for it ? Mill's conception of property, like his conception of almost every other thing, is not the mirror of property as it is, but the visionary notion of property as it is not and *cannot* be : here as everywhere, his thought is not analytic of the real, but abstract and fictitious. He does not penetrate into the necessity of the actual system of property and understand its *raison d'être*, why it is as it is, but he frames an idea of what he supposes property ought to be, and condemns existing systems because they do not agree with it. The attempt to bring property into harmony with the conception of society as a community of equal workers is simply futile. To be unequal, and to be in possession of those who do *not* work, is the necessity involved in the principle of property, and however you may start, time will realise this possibility, whether you will or no.



II. Turn, now, to the second idea, the effort after *equality of persons*, which arises from the radically false conception of the State as a community of homogeneous units agreeing in their 'common human nature.' The method of realising this state of things lies in advocating the abolition of all such institutions as recognise, embody, and perpetuate differences of degree or kind in the members of a society. This is described as Liberty, and its partisan is a Liberal, *i.e.* one whose aims are 'noble,' and whose insight into possibility is *nil*. Liberty is the one thing Liberals might have been supposed to understand. It was, as it were, their political stock-in-trade—their private farm. There is no one thing which they understand less. This is why every society that falls into the hands of Liberals is doomed: it ruins itself in pursuit of a false ideal. True Liberty; the fact, not the phrase; the actual, not the ideal; the reality, not the dream; is not a natural and inalienable right, it is a constitutional privilege; not a universal, but a peculiar thing; positive, not negative; not inherent in, but added to, humanity; not opposed to authority, but presupposing it; not contrary to institutions, but dependent on them: not natural but acquired; not common but enclosed ground; a *ἱερόν πτολίεθρον*, the result of the holy communion

of the State<sup>f</sup>. No philanthropy can ever bestow liberty on the human race, or turn what is essentially a privilege into a cosmopolitan attribute. The attempt to do so, the realisation of 'human liberty,' however beautiful its emblematic head may appear on the coins of a momentary Republic, can only result in its opposite, the slavery of man. For if you give to the *weak* that freedom, that emancipation which can belong only to the *strong*<sup>g</sup>, you cast them unprotected on the world, and they will sink, by the law of moral gravitation, to their natural place.

Is it not plain? can anything be plainer? Take illustrations. What two things have been more zealously denounced by middle-class Liberalism than the two old institutions of Slavery and Concubinage? The Slave and the Concubine are regarded with pious horror as hideous features of a barbaric and immoral age. Well, we have got rid

<sup>f</sup> 'You may inflict on me death, banishment, or dishonour,' says Socrates to his judges, 'and some might think these things evils, *but I do not.*' That is, he despises the institutions of the city to which he owed everything. Rightly did they put him to death.

<sup>g</sup> Liberals call out that Greece is being deprived (1897) of the control of her own affairs, 'inalienable rights of every independent nation.' But the fact is that Greece is utterly unfit to be independent, and would not remain so for six months, if left to herself. The independence of Greece is the diplomatic fad of Western Europe: it must pay for its toy accordingly.

of the words ; how is it with the things ? We have substituted liberty for institutions ; and we have got, accordingly, instead of the Slave, the Proletariate, and instead of the Concubine, the Prostitute. The very institution of Slavery secured to the weak, the slave, more true liberty than the 'free' man enjoys under the regime of competition, *i.e.* Liberty ; for his very freedom is his slavery : it throws him defenceless into the hands of fortune, accident, and the myriad fluctuations of circumstances. Under the old system, both Slave and Concubine had a recognised and not dishonourable position in society : now, under other names, they are outside society, while forming part of it, and constitute two of its most formidable dangers and crying reproaches. Institutions that recognise human nature, or 'Liberty' and 'Morality' that do not : choose, Starvation and Prostitution, or Slavery and Concubinage.

The emancipation of women is a very pretty idea ; very pleasant for the aristocratic few : it means things horrible even to think of for the democratic many. Women are altogether unfit to be emancipated : the necessity for their subordinate (not, observe, inferior) position is physiological, organic. The theory, and a little coquetting with the practice, look beautiful in time of peace and quiet : see how it will work when times are troubled, and the fight-

ing begins. Place women on a footing of perfect equality with men: let them hold property, and establish complete freedom of divorce<sup>h</sup>; you will injure them far more than you benefit them, as time will show: for among other things, marriage becomes an absurdity. It binds, ties; it is *slavery*: your free man and woman will have none of it. What is the corollary?

Liberals think, by reason of their profound ignorance of the nature of things, to make homogeneous the essentially unhomogeneous members of the State, to identify parts that are complementary, polar opposites, and confound distinctions rooted in the nature of things. They might just as well try to make a horse walk with his mouth and eat with his hoof. But they persevere; they are actuated by the best intentions, the noblest aims: they will divide all, wealth, enjoyment, work, duties, functions, equally and indiscriminately among all, men, women, nay, even children (who work now as they never worked before, and the joy has gone out of their life); property, education, liberty, shall be the same for all; the Universities shall be the hothouses, in which

<sup>h</sup> 'A specious theory is confuted by this free and perfect experiment, which demonstrates that the liberty of divorce does not 'contribute to happiness and virtue.' Gibbon's *Decline and Fall*, c. 44.

young men and maidens shall be educated together, and why not the Public Schools? *Il faut avant tout que les femmes soient hommes; après, qui vivra verra.* The time cannot be far distant when we shall love like cattle, and think like chimpanzees: when all our men are knaves or slaves, and all our women prostitutes. For all these things are only various forms of Chaos: whose essence, so to say, lies in the confusion of distinctions and the absence of definition.

§ 9. AUTHORITY, or Law.

AS a layman in Law, I will venture to doubt whether any one thing has been productive of more mischief in this century than the inability to distinguish between Morality and Law; to discern, in what lies the essence of Law.

The essence of Law is *authority*. A law may be moral as it may be immoral, conformable to notions of equity or opposed to them; but it is neither the morality nor the immorality of the law which makes it a law. What makes every law, Law, is that *something different* from its content which must always accompany it, if it is to be a law; *i.e.* the *authority* which it carries with it.

Now, this authority may have more sources than one. It may be derived from superior force, the direct and positive command of a superior who has the power to reward or punish the obedience or disobedience of the law. Or it may be derived from belief, custom, religion, superstition. The narrow rationalism<sup>1</sup> of Austin, following Hobbes, could see no source of authority but the State: but this view would exclude half the Law in history from the category of Law.

Any law may be defined as, a general rule of conduct, to do or forbear, imposed by a real or imaginary superior power, which will, or which it is believed will, inflict a punishment on the breaker of the rule. Observe, that if you leave out the imaginary element in this definition, you will arrive at the absurd result that the laws even of a State are sometimes not laws: because it may very well happen, and often has happened, that the supreme authority in a State has in fact not the power to enforce its laws or punish their breach: yet the belief that it has such power might continue to preserve the State and the laws long before its real impotence was discovered. And this is so true that in fact even in 'positive' laws the imagi-

<sup>1</sup> Austin does not understand that the potentiality of Law is deeper than its actuality.

nary power is far more important than the real, and a brand new set of such laws would not be so efficacious as when time had accustomed people to them, *i.e.* begotten the authority of custom for them; so much does authority, and therefore law, rest upon custom as its basis. What people believe to be is in one way more important and stronger than what actually is. And even the dissolution of the State would produce less chaos than the cessation of old beliefs, for the loss of authority in the first case would be less than its loss in the second: as is amply demonstrated by such periods in history as the English Rebellion or the French Revolution.

A mere precept of morality, as such, is not a law and has no authority. It becomes a law, when, and exactly in so far as, it acquires authority: either by being laid down by a superior power, actual and able to punish its breach, or by becoming recognised in the common practice and belief of men as binding, from reason of custom, superstition, or religion. To commit murder is everywhere to violate morality, in nearly every country to break law, but it was not so among the Thugs in India; it was just the other way; to commit murder was the law among the Thugs: a law supported by an authority greater than all

the authority behind the laws of England: the authority of absolute and implicit belief in the command of an imaginary superior<sup>k</sup>, obeyed with an obedience punctual and unquestioning. Here you certainly had law; equally certainly you had not morality. And the truth is that there are as many species of the genus Law as there are different sources of authority. The Laws of the Church were equal Laws with the Laws of the State; canon and civil Law was equally Law, before the Reformation. Hobbes' view of Law, like his abuse of Aristotle, was dictated largely by bias and sinister intention: he hated the Church.

And the truth that the essence of Law is authority, is admirably brought out and exemplified in what is known as International Law. *In abstracto*, International Law is not Law at all, for it lacks that which is just the essence of Law—authority. But it becomes truly Law exactly in so far as it becomes associated with and is supported by authority. The various States of ancient Greece in the times of which Herodotus writes, had an International Law in their common religious beliefs and ties of kinship<sup>l</sup>. In the time of Thucydides

<sup>k</sup> See the extraordinary record in Sleeman's *Ramaseena*, a book that is unique in human history.

See especially Herodotus, Book viii. c. 144. The same sort



we see this disappearing, not because the morality was any the less theoretically binding than before, but because the authority enforcing it—the belief—was decaying. Under the Roman Empire the various independent States of the ancient world were all subjected to the Imperial system, and International Law merged or disappeared, as it were, into the Law of one colossal State: just as, economically, the world had then a free trade<sup>m</sup>. In later times the double system of Emperor and Pope, the conception of a two-headed Christendom, preserved a sort of International Law, which the Church, rather than the State, represented and embodied. But the Reformation destroyed it. Instead of a common Christendom arose the modern system of independent rival States.

And one of the first things revealed after the Reformation had been in progress for some time was the crying need of some International Law. In truth it was the logical corollary of the Reformation. There are very few books in history which have laid their finger on the point, recognised

of thing probably existed among the Hindoo Rajas of the Gangetic Age.

<sup>m</sup> It is greatly to be regretted that Gibbon's immortal classic, owing to his inexplicable over-valuation of Tacitus, represents the Empire in colours often darker than the truth. The Empire was in many ways, not the slavery, but the freedom of the world.

the inner need and necessity of their age, so accurately as the great work of Grotius. He pointed emphatically to a great want—an International Authority. And since his time there has gradually grown up a body of rules regulating national conduct, recognised by the various nations as forming a system of Law, and operating by diplomacy and treaties. To say that this is occasionally set at nought by this or that Power in periods of chaos is only to say, what is obvious, that the system is delicate and comparatively unstable, yet it is Law for all that, in so far as it is recognised as authoritative, and renders admirable services to Europe. It is beautiful to see how the maniacs who made the French Revolution, in their crusade to establish International Morality, only succeeded in destroying *pro tempore* International Law. The same thing in principle is done by those Liberals at present who ridicule and make light of the European Concert. That Concert is a historically developed organisation which has become a kind of institution: and though, as an eminent statesman recently and humorously observed, among its many virtues speed is not one, it is nevertheless the nearest approach to the substitution of diplomacy and arbitration for war that Europe has yet seen.

As the Infinite is the potentiality of the finite, so is International Morality the possibility of International Law: being realised and becoming actual in such measure as it can be embodied, however imperfectly, in institutions that command obedience and authority; authority, the soul and essence of Law, which disappears, when authority is withdrawn, *ipso facto*, as night comes of itself when daylight dies.

§ 10. CHARACTER, *or Ethics.*

THERE exists, in the whole compass of literature, one scientific treatise, and one only, on this subject; and it is the *Ethics* of Aristotle. The greatness of that book can be properly appreciated only by one who has ransacked history to find anything *simile aut secundum*—in vain. Of preachers, of moralists, the name is legion. But one man only could analyse and define virtue, mistaking no halves for the whole, and laying his finger, with unerring accuracy, on the point where virtue touches happiness, ‘turning to scorn, with lips divine, the falsehood of extremes,’ and steering clear alike of the mystical abuses of God or beast by seizing the moral nature of man. Ethical Science begins and ends with Aristotle.

Virtue is grounded on the nature of man, and its

fundamental postulate is that life is good: for life is itself the end. Deny this, with the pessimist, the ascetic, or the hyperphysical idealist who frames his ethic not in accordance with the nature of man, and all is lost: virtue as well as life becomes absurd, and the logical corollary is Nirvana, suicide, the denial of life, mystical extravagance and abomination of all kinds: for where the heights are, there also is the abyss. Life is itself a good: rather, *the* good, the end. Thus also, the acts, the means that conduce to the end. Observe, now, that the nature of man, on which virtue is grounded, is not that abstract humanity of which so much is heard nowadays (which leads into isolation, quietism, monachism, self-absorption, withdrawal from the world, laziness, and the death of the nation), but real humanity, real men; not men in the abstract but men in the concrete, living and working in the social nexus. Of these men, each one is a unit, a manifestation of *character*, of virtuous or vicious disposition or habit (*ἦξις*). The commentary on Aristotle's *Ethics* is universal history; every biography is an instance in point.

Those actions are good which tend to the welfare of the whole of which the individual character or single man forms a part. This whole is *not* *humanity*, but his community, state, or nation, out of which

no welfare is attainable. But now, good conduct alone does not constitute virtue, nor indicate character. A bad man may act virtuously; bad men do indeed continuously and throughout life act more or less in accordance with virtue for ends of their own. This is the hypocrisy of society. The miser gives alms: the avaricious man subscribes: the cruel man shows mercy; the coward performs a courageous action; the lascivious man abstains *par calcul*, &c. All this does not constitute virtue. For that depends not on the outside but the inside; not the act, but the *spirit* or *intention* of the doer. This is the essence of virtue, the essence of character. It is conduct indeed, but not conduct, *as such*; it is conduct plus that *something different* which accompanies it, which here, as always, is the soul of the matter and makes virtue what it is. Not only what is done, but *how* it is done.

No greater blow was ever inflicted upon Ethics than by the *Provincial Letters* of Pascal. Sir Henry Maine has said <sup>n</sup>, that since the publication of those 'celebrated papers,' ethical speculation has ceased to be conducted on the lines of the casuists. He does not say, for he did not see, that this meant the ruin of all sound ethics, which in losing Aristotle lost its tradition, its truth and its method. Pascal's

<sup>n</sup> *Ancient Law.*

*Provincial Letters* are the greatest libel that has ever been written: a literary masterpiece of the first order, written by a man of genius to serve, not the truth, but a party. As D'Alembert says, nobody can have known better than Pascal, when, to serve the Jansenists, he composed those wonderful specimens of dramatic irony, that what he attributed to the Jesuits *alone* was common to the casuists of all the orders; and that he was misrepresenting theoretic and speculative subtlety common to all, and holding it up as if it were systematically contrived by the Order of Jesus to corrupt the world in the interests of their society. He imputed to a theoretic practice a sinister intention, and charged it on one out of a number. Was this commendable procedure on his part? Is it for the uneducated vulgar to judge about such questions as these? Pascal proved too much: if he was right, the Jesuits were not men but devils. No order of men could ever have formed such a design as he imputed to them.

Notwithstanding the disastrous result of confounding the use with the abuse, out of which Pascal made his point, the truth which he caricatured is the truth *par excellence* in Ethics. It is not the act, but the spirit of the act, which makes it good. And no man can perform the act in the proper spirit, unless he be the *right sort* of man;

unless, that is, his *character* be definitely of the right kind. Now, character does not depend upon knowledge: it is formed by education. Hence the close connection of virtue with education: the true end of all education being, not to impart knowledge, but to form character. Hence the invaluable worth of good educational institutions. The link between ethics and politics is supplied by the analytical philosophy of Aristotle, who in this as in other cases combines profundity with common sense and the practice of the world, sublimity with sanity, health, invigoration: the *mens sana in corpore sano*. There is a place in his *Ethics* not only for the hero, the magnanimous man, but also for the honest, straightforward, open English schoolboy. The *tone* of Aristotle's *Ethics* is the same as that of the plays of Shakspeare or the novels of Scott, the two greatest dramatic authors, not only because of their power, but because of their tone. Literature, now, is not a tonic but a poison: for it has lost Aristotle and its thought is diseased: it is based not on virtue but on vice, and its characteristic is *ἀκρασία*, *ἀκολασία*, the absence of self-control, moral impotence, and eroticism.

§ II. INSIGHT °, or *Intellect*.

INSIGHT is of all things the rarest and most valuable. It is totally different from either learning or reason; the most learned man or the most powerful reasoner may possess no insight at all; and yet without insight both learning and reason are often worse than useless.

And what then, exactly, is insight? This can best be understood by taking an instance, wherein we may see insight typified, from the royal game, the king of games, the game of Chess.

The *elements* of Chess are the chequered board and various pieces, of different powers and capacities, each with its peculiar move. But what, now, is Chess? Rousseau, if I remember rightly, says somewhere, that he studied Chess in books upon the game for months, and was then beaten easily by a tyro the first time he endeavoured really to play. 'The books' tell you, for example, that in such and such an opening, such and such a move is good. But the truth is that no move is, by itself, good. It is of no use to know theoretically the opening 'good' moves, if you cannot proceed. The analytical treatise carries any particular opening out

° Aristotle has two terms with this meaning, *φρόνησις* and *νοῦς*; the former relating to the practical, the latter to the theoretical sphere.



for some fifteen or twenty moves, and then dismisses the game with the statement, 'Black wins.' But let White be Morphy, and Black, Rousseau, and Black will not win.

*Quorsum hæc tam putida?* This, that the art of Chess is not to be learned from books, and does not lie in theoretically good moves or learning. It lies in *combination*; *i.e.* he can best play Chess who understands the powers of the pieces in combination<sup>p</sup>, and given any particular situation, can discern the point of it in regard to strength or weakness, and consequently, the next thing to be done. The same situation—all the pieces and the whole board—lie open before the bad as before the good player; but one can see and the other not. The advance of some unregarded Pawn, the sacrifice of some important Piece, something not apparent, something altogether futile, or even fatal, except to the player who has real understanding of the whole *nexus* and correlation of the situation: this is Chess, this is Skill.

Now, this imaginative power of penetrating a

<sup>p</sup> So the technical expression, 'winning the exchange' involves a fallacy. The Rook is not necessarily more valuable than Knight or Bishop: nay even a Pawn may be more valuable than a Queen: everything depends upon the circumstances. Every chess player will remember the celebrated game in which Zukertort beat Blackburne by offering his Queen for nothing.

whole and discerning the point, is *insight*, a word which paints admirably exactly what is involved in the thing. Transfer all this from Chess to Life, to Politics, to War, to Philosophy, and you have the explanation of a thing which in this age beyond all others the world wholly misunderstands, *videlicet*, that to know is not to understand. A man may be an exhaustive specialist in his own department, and yet misunderstand it altogether; he may spend his whole life in research, and have before his eyes the complete details of the situation—historic, economic, scientific, military, political; and yet may altogether mistake and mismanage his material, because he has not insight. It is not the accumulation of facts, it is their interpretation, on which all depends; and this world is so curiously arranged that it is precisely the man who has to decide who is least likely to possess insight. Why is modern history, with all its superabundance of detail, in so many ways the exact reverse of the truth? because not one in a hundred historians has any *insight*. Why is 'Political Economy' a mass of rubbish? because its founders had no *insight*. Why is modern philosophy throughout sophistical? because its exponents have no *insight*. When Napoleon came to Toulon, the siege was over; why? *insight*. When Clive marched to Arcot, Trichinopoly fell: *insight*. When Julius

Cæsar crossed the Rubicon, he had managed to put the Senate diplomatically in the wrong: *insight*. Why was there a Mutiny in India in 1857? absence of *insight*.

*Ita vita est hominum quasi si ludas tesseris.* That, which is manifested in the 'mimic battle' in the games of a Morphy or a Labourdonnais; which breathes in every page of Aristotle or Bolingbroke, De Retz or Disraeli, and is never found in a Mill or Macaulay, a Ricardo or Descartes; which guides and inspires a Themistocles, or Bismarck, Jane Austen or Dostoyeffsky, is insight: the power of grasping the whole as a whole, and consequently discerning the related influence of every part; the power of intuitively apprehending and appreciating the importance of what is apparently trivial, the real triviality of what is apparently of colossal dimensions; the power of seeing through the mask and the pretext, influencing the event by little strokes and insignificant master-touches:—this power is nothing whatever but the essence of Aristotle in a subtle and intangible form, reflected in the mirror of mind. The chess-board is before us all; but it is not a knowledge of the *elements* that makes the player: it is the intellectual apprehension of that *something different* from the elements which is in them, but invisible to all eyes

save those that can see: something that cannot be proved<sup>9</sup>, and cannot be communicated, for reason cannot reach it; that is there, for one or two, and entirely absent, for all the others; who consequently deny it, and prove, satisfactorily to themselves and others, that it does not exist and is not there.

§ 12. REALITY, *or Metaphysics.*

ἐστὶν ἐπιστήμη τις, says Aristotle, ἣ θεωρεῖ τὸ ὄν ἢ ὄν: there is a science which investigates not, as physics does, the genesis of things, how they come to be, but their essence, what are they, when they are: *i.e.*, which asks, what is the meaning of the verb, to be, and in what consists the fact of being. Things<sup>r</sup> that are, differ infinitely, but they all agree in this respect, that they *are*. What is this common property? What is the being of a thing? What is it, to be real? What constitutes reality?

Metaphysics may well complain, like Liberty, that many crimes are committed in her name.

<sup>9</sup> νοῦς ἀν εἴη τῶν ἀρχῶν . . . ἄλλη γνώσις καὶ οὐκ ἀποδείξις.

<sup>r</sup> Except Matter, Space, and Time, which are not things, but the universal possibilities of things, never actually anything. Space is the possibility of figure and co-existence; Time, the possibility of change and succession; Matter, the possibility of force. The definition of *force*, which puzzles modern scientific men who will not consult Aristotle is, *the actuality of material power.*

Under the influence of the Cartesian philosophy, of which we may truly say, *nihil quod tetigit non fœdavit*, it has come to this, that Metaphysics, whose object is as real and whose necessity is as indispensable as Physics to the world, Metaphysics, which deals with the most real of realities, is identified with and degraded to thin, visionary, abstract speculation about supra-sensuous hyper-physical realms, attenuated problematical theorising about the incognisable, essentially associated with a disbelief in the testimony of the senses. And as a consequence, Science, which needs a sound Metaphysic as a fish needs water, and cannot exist without it, has turned its back on 'Metaphysics' and employs the epithet *metaphysical* as an awful brand wherewith to damn anything not agreeable to it, while all the time it is wallowing in a 'metaphysic' of its own that sets all logic at defiance, and would have made the old Schoolmen blush. In modern scientific speculation, Mathematics has replaced Metaphysics, calculation has usurped the place of thought; the inevitable consequence being the confusion of abstractions with realities, the endeavour to explain concrete realities by hypothetic mathematic figments, *e.g.* 'mass,' 'atoms,' 'forces,' regarded as mere points or 'centres' of agency without material vehicle, and so on: in a word,

the explanation of the continuous by the discrete, which is absurd, and the same error precisely as the 'metaphysics' which Science so much despises. Modern speculative Science and modern speculative Philosophy are different variations on the same theme—the endeavour to account for the concrete reality by the abstract *ens rationis*. The spirit of Descartes informs them both.

Metaphysics is not the degraded futile thing to which modern Philosophy has reduced it, and which it appears in the eyes of modern Science. Its sphere and province is to point out that One in the Many, which we have seen to be the core of every special Science; to track the identity through all its special transformations and metamorphoses; and thus to show Science, as it were, her own face in the glass, and reveal to her what she is, which is just what at present she does not know. We might call Metaphysics with perfect truth, the self-knowledge of Science, the recognition by Science of her own inner nature, that is, the intellectual recognition of Nature of which Science is herself the mirror. The specialist in any particular Science, who does not know the metaphysical unity of all Science, does not even properly understand his own: for *juncta juvant*<sup>s</sup>.

<sup>s</sup> Cp. Jevons, *Principles of Science*, p. 599.

By the constant (chemical) analysis of things into their constituent elements, or by the constant (logical) reference of any particular thing to a higher *genus* of which it is a special case, most philosophies, such as, *e.g.*, those of Plato, Spinoza, Descartes, the Eleatics, Schopenhauer, the Atomists, modern Physical Science, the old Hindoos, &c., come to place reality either in ultimate elements, or ultimate abstract *genera*, both of which are however not more but less real than the things which they seek to explain. Hence we find these schools offering us as the true reality, *Atoms*, universal imponderable *Ethers*, *Ideas*, *Matters*, *Wills*, *Selves*, *Brahms*, *Ones*, and so on. All such philosophies are philosophies of *Identity*: they place reality, that is to say, in underlying fundamental *Unity*, to which we penetrate by neglecting what is *different*.

But now, it is obvious that this method, however valuable as contributing to complete knowledge, leads us nevertheless not towards, but further and further away from reality, seeing that even assuming this or that fundamental identity, the difficulty and the problem does not lie in the *identity*, but in the *differences* of things. How did the identity ever become difference? We must travel back again from identity to difference. In other words, all these

philosophies miss the point, viz., that a thing IS, not only its elements, but something more, that is, its peculiar composition; not only its generic notion, but something more, that is, its peculiar differences (springing from time, place, and relation, the conditions of reality which all these philosophies leave out by *abstraction*). The essence of reality does not lie in the underlying unconditioned identity of things, whatever that may be, but in something in each particular thing peculiar to itself; the essence of anything is no secret, hidden, mysterious, incognisable  $x$ , lying 'behind' its phenomenal manifestation (a materialistic or idealistic notion, the diametrical antipodes of the truth); but on the contrary it is naively and openly written in large characters on everything. So far from being unknown and unknowable, it is on the contrary precisely the essence<sup>†</sup> of anything which we can perfectly and exhaustively know. It is not *atoms*, *ethers*, &c., that give its reality to my watch, my horse, my dog, my wife, or my child, my coat or hat. What, when you come to talk of reality, is a *res*<sup>‡</sup>?

<sup>†</sup> Nine out of ten modern philosophers confound the *essence* of a thing with its material *substratum*, owing to the unfortunate word substance. Matter, as Aristotle said, ages ago, is ἀγνωστὸς καθ' αὐτὴν.

<sup>‡</sup> Aristotle's philosophy is the only one in the world which is not contradicted by language: the reason is that languages, in the



Aristotle solves the problem. He does not, like modern Science and some philosophical schools, overlook and neglect the synthesis by attending exclusively to its material constituent elements; nor again does he, like Plato and others, overlook and make light of differences by attending exclusively to *ideal*, *i.e.* generic agreement: but on the contrary he holds realities to be, and reality to consist in the actual, differentiated, conglomerated, definitely thus or thus constituted structures. The essence of reality, for him, is not identity but difference: his real is the *τοδὲ τι*, the 'this' thing: not the ultimate elements yielded by chemical analysis—*εἰς ὃ ἀναλύεται ἔσχατον*, nor, again, the ultimate residuum of ascending logical abstraction, under which the thing is classed, but the incarnate *οὐσία*, the molecule, so to say, in flesh and blood, which contains within it both the elements and the logical kind or class or notion, but which is also more than either, because inclusive of both, *and just in this union lies the reality: i.e.*, it differs from both precisely in the fact that it is real and they are not, being each of them only factors in the real. And the much misunderstood business of definition is to reproduce and state *both*

process of formation, recognise, what he does, that the essence of reality is not *identity*, but *difference*.

sides of the compound ; neither by itself being adequate to the reality.

The Platonic Realities, the Realities of modern Science, the Spinozan, the Schopenhauerian Reality, the Buddhist, Comtian, or Kantian Reality, the Hindoo *Brahma* and all similar ultimates, are all of them not the real realities, but elements and abstractions from the true realities, arrived at by hypostatising, dissolving, dissecting, refining, discarding and neglecting differences from those realities, abstracting from the conditions of reality, time, place, and relation. What all these philosophies overlook is that their various reals, their unities, exist only *in* the particular realities<sup>\*</sup>: that those alone exist *per se*, all the other things in them. The real reality, the *ens realissimum*, is the particular differentiated thing, the *σύνολον ἐξ ὕλης καὶ εἶδους* in its peculiar and necessary time, place, and relations.

Is not this just our real world, the world not of philosophical abstraction, but of perception, of seas and sunsets, trees and flowers, men and women, riches and poverty, cities and villages, kings and popes and members of parliament ; the real world

<sup>\*</sup> There cannot be a more admirable illustration of this than Sanskrit *roots*: which have only an ideal existence, *i.e.* exist only *in* the words 'derived' from them. The philological consideration of the Sanskrit language is one of the most beautiful verifications of Aristotle's philosophy.

of history and natural history, politics, literature, and life? Here, then, we emerge, like Dante from the *Inferno*, to find the profoundest of all metaphysical analyses, the analysis of Aristotle, in exact harmony with the popular instinct, the uncritical judgment of the vulgar. But this is very old? aye, so it is, as old as the hills; yet old as it is, the world cannot learn it, will not have it, obstinately and incorrigibly persists in substituting for the realities its own abstract fancies, theories, and notions; nay, nowadays its practical error is canonised and elevated into a philosophic dogma. We are gravely told by 'philosophers' to-day, that *all is thought*, that *the real is the rational*, that the *notion* constitutes reality; logical thought usurps the place of perceptible reality, and the world congratulates itself on its insight when by means of verbal juggling and critical imbecility it rivets its congenial error—the confusion of abstractions with realities—to itself with clamps of iron, seeing profound wisdom in the stupid confusion of being with thought, ignoring the dynamical potentialities of Nature, taking shadow for substance, mistaking for the real its subsequent logical reflection in consciousness, and endeavouring to generate the Universe out of empty discrete abstractions by dialectical quibbling and metaphorical abuse of language. ἐκ δὲ τῶν νοητῶν οὐδὲν γίνεται

μέγεθος. Thought does not contain the living potentiality and continuity of Nature<sup>γ</sup>.

Idealisms pass: but the philosophy of Aristotle, the philosophy of analysis and definition, of evolutionary continuity and biological realism, endures: it is confirmed and verified by all modern experimental Science, that is, by Nature herself, whose creatures conform to her laws because the penalty of disobedience is death and annihilation, and are thus all but so many living arguments, incarnations of metaphysic, metaphysic embodied in matter, reality *in concreto*. Nature rediscovers in the reason of Aristotle, her *chef d'œuvre*, that creative method of which all her creatures are but specimens and exemplifications, and logic turns out to be but the mirror of fact. The works of Nature and the thoughts of Aristotle are akin: the characteristic of both is a certain unanalysable, indefinable, unattainable union of the simple and the profound.

<sup>γ</sup> Aristotle says profoundly that the mathematical point has no *weight*: this is an aphorism which contains in germ the whole of philosophy.

γ. TELEOLCGY: THE LAW OF  
EVOLUTION.

*ἡ φύσις ἢ λεγομένη ὡς γένεσις δὸς ἔστιν εἰς φύσιν.*

## AXIOMS.

ἡ φύσις τέλος ἐστίν· οἷον γὰρ ἕκαστόν ἐστι τῆς γενέσεως  
τελεσθείσης ταύτην φασὲν τὴν φύσιν εἶναι ἑκάστου.

ἡ τοῦ δυνάμει ὄντος ἐντελέχεια, ἣ τοιοῦτον, κίνησις ἐστι . . .  
χαλεπὴ μὲν ἰδεῖν, ἐνδεχομένη δὲ εἶναι.

## γ. TELEOLOGY: THE LAW OF EVOLUTION.

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EVOLUTION, in the proper sense of the word, is the discovery and the soul of Aristotle. At the same time, he is no Darwinian. The precursors of Darwin are, not Aristotle, but Anaximandros, and still more Empedocles.

The meaning of Evolution is a point on which much confusion and misconception prevails. It is of the very first importance to understand clearly the distinctions appropriate to the subject.

The term 'evolution,' employed nowadays by anybody with indiscriminate and unintelligent recklessness, has several altogether distinct and different meanings.

I. It is employed to designate the theory, common to Lamarck, Darwin, and all modern evolutionists, of the transmutation of species, the passage and gradual change in time of one specific form into another. This view is derived from and essentially dependent on modern Geology: the changes of 'rocks,' and the discovery of unknown and ancient organic remains, having inevitably suggested the continuous modification of species. In this sense

of the word, evolution is entirely unknown to Aristotle. Observe, however, that this evolution stands in a very sympathetic relation to his own philosophy. It supplements and enlarges his own biological scheme.

II. Evolution again is employed, most improperly, to designate the theory, peculiarly Darwinian, of Natural Selection, which is a special theory as to *how* the evolution in the first sense came about. According to this theory, species have arisen by the survival of the fittest in the struggle for existence, the selection of favourable variations arising fortuitously<sup>a</sup>, and their addition, *seriatim*, till they constitute a new positive form.

Acquaintance with this theory presupposes acquaintance with the first, for the one is an endeavour to explain the *how* of the other. As Aristotle knew nothing of the first, so neither was he acquainted with this one. But a sort of faint germ or foreshadow of this view is to be seen in a theory of Empedocles quoted and rejected by Aristotle. Darwin's attention was drawn to it by a friend, and he notices it in the Preface to the *Origin of Species*, but the translation which was supplied to him is not good; he seems to suppose that Aristotle favoured the

<sup>a</sup> I have *proved* in another work that this theory is not only not true but intrinsically absurd and impossible. See Appendix.



idea, but the reverse is the case. Aristotle says<sup>b</sup>:

‘There is this difficulty: why explain the formation of organised beings on a teleological principle? why not otherwise? *e.g.* as rain falls, not to ripen the corn, but by necessity, and when this happens, the corn also happens to ripen, and similarly, as, when rain rots the corn in the floor, it did not fall with that object, but the thing was an accident; so, why should not the parts of an organic being<sup>c</sup> be explained in the same way? why should not the teeth grow (as the rain fell) of necessity, the front teeth sharp, suited for biting, and the back teeth flat, suited for grinding, the food: not intended for those functions, but happening to suit them? and so with all other parts that seem designed for an end—all those parts which chanced to come about exactly as they would have done if they had been designed for an end being preserved, having spontaneously

<sup>b</sup> *Physics*, ii. 8.

<sup>c</sup> Note, that the almost universal misconception prevailing as to Aristotle’s teleology arises from the fact that *we* mean by ‘Nature’ the universe—τὸ πᾶν—whereas his ‘nature’ means *the constitutive law of any organic being*. When he says *Nature* acts teleologically, he does not mean what we should mean, if we said the same thing he is only stating a fact, *viz.*, that in the formation of organic beings, the end determines the whole process. Explain it how you please, the fact is there.

‘happened to fit their circumstances; all those, on  
‘the contrary, that did not so come about, perishing  
‘and still continuing to perish, like the early monsters  
‘of Empedocles.’

He states this theory, and proceeds to reject it, because, he says, were it so; were the parts of animals and plants formed merely by chance, we should see them arising now in one way, now in another: whereas, as it is, they always come about in the same way: *i.e.* not chance, but a definite and determined law presides over their formation. And this is undeniable. Observe, that he is thinking only of each individual form, and not of any geological succession of forms. The rabbit does not get his ears, nor the swan his web foot, by *chance*, but by the inner necessity of his own nature (*φύσις*) which determines his whole form *a priori* in the germ. This is what Aristotle means here, and he is quite right. The genesis of the animal is no accident. The further question raised by modern geology, as to the transmutation of species by continuous change, is not in his mind: it is quite another point of view which never occurred to him, as far as we can judge by his works.

III. Finally, evolution is used to denote the theory, associated in modern times principally with Von Baer and Herbert Spencer, of biological differ-

entiation, of development, of organic change, the gradual growth and unfolding of the simple and potential into the complex and actual. This is the true and proper meaning of the term evolution, and this is the sense in which Aristotle is not only the discoverer of evolution but its greatest master: the first and the greatest of all evolutionists, the most universal and the most profound. And to explain exactly what he meant by his teleology and his *γένεσις*, I shall take an example—language.

The essence of language is the expression, *i.e.* the communication of thought. Now, if we imagine a people in its infancy just beginning (we know not how<sup>d</sup>) to use language, to lisp and stammer as it were, it is easy to see that the *lowest possible form*, the germ of language (ὁ ἐλάχιστος λόγος, ἐντελέχεια ἢ πρώτη), would be the expression of a single thought, the rudimentary sentence or proposition. Words are only the elements of speech, and speech lies not in the elements, as such, but in the significant synthesis of the elements. Therefore it is impossible that language should have commenced with isolated words: the beginning of speech must necessarily be the sentence<sup>e</sup>. (Not of course a sentence, definite,

<sup>d</sup> In Aristotelean language—it is the *efficient* cause of the origin of language that we do not know.

<sup>e</sup> It is much to be regretted that Professor Sayce, who claims

logical and clear, such as we find in the works of an Aristotle, but one confused, hazy, muddy, indistinct, yet still a sentence.) From this rudimentary sentence, up to the complete formation of a rich, subtle, and flexible language, the adequate organ of the perfect expression of thought, the language of an Aristotle or a Panini, there is of course an immense distance. Now, this process of formation is the *γένεσις* of language, or, in modern terminology, its evolution.

And it is obvious that there are two limits to this evolutionary process or *γένεσις*: one accidental, the peculiar mental endowment of the people in question—for this or that savage nation will never originate such a language as *e.g.* Greek or Sanskrit or Russian—the other (even given the highest possible mental qualities), necessary and essential, beyond which further progress is impossible; that is, the relations, actual or possible, of reality. For thought is the mirror of fact, and therefore language cannot progress beyond the point at which it is able fully and adequately to express everything expressible. It is clear that no language has ever attained this ideal, that most languages fall infinitely short of it, and

this discovery as his own, can never mention Aristotle without a sneer: seeing that the discovery is not his, but Aristotle's. (The writer of the dialogue *Sophistes* in Plato was indebted to Aristotle.)

that different languages exhibit different powers, stages, degrees, grades of this capacity of expression. But suppose that any language should have succeeded in reaching this perfect power: then this would be its term, its goal, its end (*ὄρος, τέλος, ἄγαθον*), the final terminus of the evolution of language. The *γένεσις* is the progress to the *τέλος*<sup>1</sup>. And the progress, the motion, itself, as such, is a special case of the *realisation of the possible*.

The only difference between Aristotle and modern evolution, in the third and proper sense of the word, is that he accentuates its logical, rather than its historical aspect. His is the logical and metaphysical discovery of the law: modern science enriches and illustrates it in all directions by giving it historical meanings of which he never knew. We may call Aristotle the spirit of evolution, its potentiality: modern scientific discovery is the actual realisation and effecting of that spirit.

And it is obvious that what holds of the evolution of language holds equally, *mutatis mutandis*, of everything else, laws, religions, states, systems, instruments, machines, organic structures of any kind. Their development is, as it were, preordained: lies

<sup>1</sup> The point of departure, considered with reference to the coming *τέλος* not yet existing, is what Aristotle calls *στέρησις*, i.e. *negation privation, absence* of the end.

*fatally* within the principle or starting-point (*ἀρχή*) originally laid down. And in this consists the secret of prediction. He only can predict who understands principles, for then he can see in the germ the coming end. This power belongs only to one man in a million, and therefore any such man is destined to be a voice crying in the wilderness in his own day; his wisdom not being appreciated till time has rendered obvious to all, by its explicit realisation, that possibility which he understood beforehand. Of this two of the finest examples in history are Lord Bolingbroke and Lord Beaconsfield: both of whom are exactly described by Aristotle, when he says τὸ ἐν ἀρχῇ γινόμενον κακὸν οὐ τοῦ τύχουτος γινῶναι ἀλλὰ πολιτικοῦ ἀνδρός. But neither of those consummate politicians has ever yet been properly appreciated.

APPENDICES.





## APPENDICES.

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### a. ON THE RELATION OF ARISTOTLE TO PLATO.

IS Aristotle Plato's complement, or his antipodes? A word on this *vexata questio* is necessary to justify and explain some expressions in the text.

When we look closely into Plato, we perceive that there are in fact two Platos. There is the true Plato, the Plato always indicated by the world when it refers to Platonism, the Plato of the *Protagoras* and the *Gorgias*, the *Phædo* and the *Euthydemus*, the *Phædrus* and the *Symposium*, the *Republic* and the *Timæus*: the Plato of dream, myth, mysticism, idealism, dramatic irony and comedy, literary grace and classic beauty: the Plato of pæderasty and poetic insight, childish puerility and logical imbecility<sup>a</sup>: and there is another Plato, the anti-Plato of the *Sophist* and *Theætetus*, the *Philebus* and *Parmenides*, &c., who has lost all these graces and qualities, dropped down to earth, ceased to soar, and become sober, methodical, realistic and critical. The first Plato opposes Aristotle: the second closely resembles him. The difference between these two Platos is indeed so striking that some critics are led to deny the authenticity of some

<sup>a</sup> The apology for this is always that Plato lived in an age before logic (Jowett). But Aristotle did not *invent* logic, he only analysed and methodised it. *Vixere fortes ante Agamemnona*: there were good reasoners before Aristotle.

of these dialogues in the later manner. But the difficulty of this solution is to draw the line between what is genuine and what not.

My own solution of this mystery I give here for what it is worth: it seems to me to carry its truth on its face.

Aristotle was twenty years with Plato, and the champions of Plato never tire of laying emphasis on his debt to his master. And certainly he owed him much, but less than is commonly supposed. For did Plato owe nothing to Aristotle? Are not action and reaction equal and opposite? Can we imagine any one associating for twenty years with such a mind as Aristotle and gaining nothing by it? Look at the reciprocal influence of the post-Kantian transcendental philosophers in Germany. These dialogues, full of the spirit of Aristotle, were doubtless written by Plato after Aristotle's criticism had taught him to modify his own views. They are not prior, but posterior to Aristotle himself, even though they may be prior to Aristotle's works.

What makes this hypothesis almost more than an hypothesis is the very singular fact, that we find in these dialogues Aristotelean turns of expression, little fragments of insight, terminology, and thought, detached, yet systematic; at home in Aristotle's system, but appearing in Plato exactly like organic fossils in a rationalistic inorganic deposit incapable of producing them itself. In Aristotle they are parts of an organic whole; we see how he got at them: in Plato, on the contrary, they are like fish out of water or flies in amber: we cannot understand how they got there; they are inserted, in some unintelligible manner, from outside. They presuppose and argue a

biological and evolutionary scheme, to which Plato had not the key. (Consider, for example, the λόγος and διαφορά in *Theætetus*<sup>b</sup> (at the end), the ἡ πρώτη συμπλοκή in *Sophist* (262. C), the γένεσις and οὐσία in *Philebus* (53. E. 54), the criticisms of the ideal theory in *Parmenides*, all brought in so strangely in the lump as if taken from some extraneous source.)

The only possible explanation of these curiosities is the influence of Aristotle, whether Plato wrote these dialogues or not. Observe, too, that this theory is the only one which accounts for the remarkable silence of Aristotle as to these dialogues. The silence of Aristotle does not indeed prove that Plato did not write them. But it is impossible to understand why in certain cases Aristotle should not have referred to them, *except on this hypothesis*; and on this hypothesis it is easy to see why. He would and commonly does refer to Plato for Plato's own views. But he would naturally not refer to Plato for views which were not Plato's, but only reflections of his own. If, for example, the criticisms on the ideal theory were Plato's own, we cannot understand how it is that Aristotle never makes the faintest allusion to them in the corresponding passage in his *Metaphysics*, where he presents arguments almost identical beyond all doubt as if they were his own. And so in fact they are: they spring from the core of his philosophy and are instinct with his own spirit. No one capable of understanding that will ever doubt who origin-

<sup>b</sup> In a note on *Theætetus*, 156 A, Zeller says 'the preterite (ἦν) 'is used here as in the Aristotelean expression τί ἦν εἶναι.' And in point of fact the *Sophist* and *Theætetus* are full of Aristotelean reminiscences, as it were, which cannot be explained by *anticipation*.

ated them. We never get a hint of them in any Platonic dialogue, till they leap, fully armed, into existence in the *Parmenides*. Had Plato been capable of originating them, some germs, at least, of them would have crossed his mind before. But in fact, the point of view implied in the criticisms is diametrically opposed to that of Plato: it is a change of the philosophical centre of gravity, and the outcome of a mind totally different from his own.

For the truth is that the real Plato, the original Platonising Plato, is the opposite pole, the antipodes of Aristotle: their spirits are different in kind. Aristotle is biology, evolution, analysis, experience, dissection of the concrete; he is, in his own language, a *φυσικός*: whereas Plato is a *λογικός*, rationalistic; his philosophy is the hypostasis of abstractions; and his method of arriving at truth is the futile endeavour to strike it, by dialectical quibbling with vague and empty abstractions, from the collision of heads that do not contain it. Two negatives, except in mathematics, will never make an affirmative: empty disputation can never end in any positive acquisition, nor will you ever succeed in deriving the real from the rational, the concrete from the abstract, the incarnate individual thing from its logical husk.

But the difference and the contrast between the two philosophers has a deeper root still. Aristotle really was a philosopher. But Plato was a philosopher *malgré lui*: at heart he was a politician. This is why he never can leave the politicians alone. They turn up constantly under his pen, in or out of season; he cannot keep away from them; the public life, the society of the city, is ever before his eyes: a perpetual unrest, a hankering after the

sphere of politics, whose actors he is always denouncing, haunts the pages of Plato: his very denunciations are only a twisted proof of the fact that he was really born for politics and had missed his vocation, and felt it. His sensitive pride shrank from the dirty work involved in all politics (especially then), yet he could not bring himself to shake off the spell, and while he turned away from public life, his soul remained in spite of him hovering round it, half regretfully, like the moth round the candle. Political yearning, dissatisfaction with pure contemplation, a longing to interfere practically, tinged with melancholy, runs through every page of Plato. This is that which gives them that faint aroma, that subtle flavour of sourness and misanthropy.

But in Aristotle there is none of this. His attitude is always *θεωρίας ἕνεκα*; calm, pure, critical, dispassionate; his style is that of a man thinking to himself, solely for the eliciting of the truth, without a vestige of literary appeal: he has no preference for any one part of the stupendous whole more than another; all comes alike to him. He examines, with equal absorbed scientific curiosity, the parts of the lobster or the revolutions of states, the saltness of the sea or the nature of the syllogism, the sponges at the bottom or the magnanimous man at the top. There is no disturbing, disquieting passion here; it is the cold, pure, dry light that makes the wisest soul.

## b. THE IMPOSSIBILITY OF 'NATURAL SELECTION.'

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THE theory of Natural Selection made Darwin's fortune; it gained him the reputation of a great original thinker, and he was credited, on the strength of it, with having 'placed evolution on a scientific basis.' Really, it is a little ridiculous. How could Darwin, how could all those enemies who were so anxious to disprove his theory, fail to perceive, what stares us in the face, that that theory is *impossible*? For consider. Is it *possible* for Nature to select those variations which are selected by man? Certainly not. And why? Because they are so slight as to be all but imperceptible, and consequently of no value whatever to the organism. Still less possible is their accumulation in any one direction, seeing that intercrossing would instantly destroy them.

Over and over again, in volume after volume, Darwin never wearies of insisting 1. That the variations actually selected by man are so slight as to be almost imperceptible even to a trained eye<sup>a</sup>. 2. That Nature can select only beneficial variations. 3. That free intercrossing will instantly obliterate all. And yet, with a blindness altogether extraordinary, and a little irritating, he never sees,—it never crosses his mind,—that *exactly for these reasons* his Natural Selection is *impossible*. But how can anything be plainer? And how can we attribute great

<sup>a</sup> When we consider the innumerable myriads of individuals that constitute many a species, as *e.g.* the common cod, herring, migratory locust, or the 'white ant,' the utter impotence and futility of a single almost imperceptible variation in *one* individual will appear in all its absurdity.

powers of thought to the man who could spend his whole life in meditating on the point without detecting so obvious a fallacy?

But Darwin possessed an unrivalled knowledge of the facts of Nature? Precisely: and the wonderful thing is, that his *facts annihilate his theory*, though he never sees it. Innumerable facts adduced by himself, and others, show that, somehow or other, by some organic chemistry mysterious to us, organic beings possess the power of originating abrupt and considerable modifications in their own structure. And geology harmonises with this<sup>b</sup>. Now this formative organic power is exactly what Aristotle means by *φύσις*. And though by reason of his limited experience Aristotle believed this power to be more fixed and invariable than perhaps it is, he is none the less perfectly right in the main. Darwin's theory is an attempt to overlook and ignore this power, though no man's writings prove it more irrefutably than his own. And his works will owe their permanent value not to the theory which they contain, but to the rich mine of facts, which he accumulated to support it, though they do, in reality, destroy it altogether. His thesaurus of facts testifies to the *organic* power of Nature; his theory strives impotently to reduce her to *mechanics*, a kind of blasphemy congenial to the present age, which does not understand the old wisdom of Aristotle—*οὐκ ἔστιν ἐξ ἄλλου γένους μεταβάνα δεῖξαι*.

<sup>b</sup> Geology shows us no such infinitesimally graduated continuity as Darwin's theory requires: it gives us no dissolving views: it shows us indeed continuity of a kind, but it is the discontinuous continuity of a *ladder*, not that of a *slope*. *Natura facit saltus*; she goes by degrees, but still she leaps.

## c. ON THE HINDOO 'SYLLOGISM.'

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IT is often asserted, and commonly believed, that the Hindoos discovered the syllogism independently of Aristotle: and it has even been recently insinuated by some that he derived it from them.

Now, Aristotle certainly never derived his syllogism from Hindoo philosophy, for the simplest of all reasons,—it is not there. The error on this head is due to three causes: first, the desire in some quarters to over-value Hindoo philosophy: secondly, the necessities of translation, scholars being in a manner compelled to employ such terms as *syllogism*, *middle term*, &c., as equivalents for Sanskrit words<sup>a</sup>: thirdly and principally, to ignorance of what syllogism really means.

It is true that the European, educated in Aristotelean logic, on contemplating the Hindoo five-membered form of inference, seems to recognise, in the last three members, the syllogism. But observe, that he sees only what he brings. *He* sees the syllogism: the Hindoos did not. To the notion of syllogism,—the combination of *two* premisses containing *three* terms, so as to generate something entirely *different*, the conclusion—they never attained. And why? Precisely because they lacked the previous conception that

<sup>a</sup> See e.g. Gough's *Vaiseshika Aphorisms* of Kanāda, or Monier Williams' Dictionary, *s.v.*, नाम हेतु यान्ति &c. A *middle term* obviously implies other *two*, and the conception of syllogism, *as such*. The Hindoo conception is quite different, not syllogism, but a sort of *train*, such as that indicated by Locke.



made the discovery *possible*. Aristotle discovered syllogism, the logical aspect of essence, because he was familiar with essence in general and elsewhere. But such a notion is wholly foreign to Hindoo philosophy. Hindoo philosophy knows nothing of essence in this analytical and Aristotelean sense<sup>b</sup>. What the Hindoos mean by *essence* is a mysterious, mystical, transcendental identity: a hidden, underlying, abstract, incognisable, pantheistic or materialistic Unity, the exact antipodes of Aristotle's *οὐσία*.

To confound Aristotle's syllogism with the Hindoo process is an error reposing on a misunderstanding both of Aristotle's syllogism and the whole spirit of Hindoo philosophy<sup>c</sup>. Their inference from a *mark* indicative of *universal pervasion*, though acute and partially adequate, will not bear a moment's comparison with Aristotle's perfect analysis. No glimpse of syllogism, of that logical chemistry whereby a conclusion emerges of necessity from the combination of elements wholly different from it, ever came to them. Nor can anything show us what we owe to Aristotle better than a consideration of how little the

<sup>b</sup> Modern thought has paid a heavy penalty for rejecting the term *quiddity*, which has a strange unfamiliar sound. And yet *quantity* and *quality* are excellent and indispensable terms. When we speak of *humanity*, *mortality*, *fluidity*, &c., we do but give special instances of that, whose general expression is *quiddity*. The Schoolmen were wiser than their enemies: they did not make philosophy contradict grammar by eliminating the *nouns*.

<sup>c</sup> No two things could be more opposed to each other than Aristotelean and Hindoo philosophy. The Hindoos are the victims of *abstraction*: it is the root alike of their religion, their ethics, their theory and practice: abstraction from the world, abstraction from others, abstraction from *self*: it is their ideal, their core, and their curse.

Hindoos, with all their metaphysical subtlety<sup>d</sup>, could achieve without him. Had Aristotle never existed, it is doubtful whether thought would ever have been adequately analysed at all. Certainly no modern philosopher could have done it. It takes an Aristotle to discover syllogism, just as it takes a Mill to discover that it is wrong.

<sup>d</sup> The really interesting thing that the old Hindoos have given us is not what their language contains, but that language itself: and I take this opportunity of entering a protest against the barbarous, ridiculous, and utterly abominable custom of printing it, in Europe, in Roman characters, by which its beauty is wholly destroyed. What should we think of Homer or Plato so printed? It is like putting a tall hat on Pericles, or dressing Julius Cæsar in a suit of 'dittoes.'

#### d. ARISTOTLE AS A GEOLOGIST.

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FEW people would credit Aristotle with any geological insight, still less associate him with that doctrine of *continuous geological change* which Lyell and others have made so familiar to us. Therefore I feel sure that the reader will be obliged to me for recalling his attention to the following remarkable passage in his *Meteorologica* (cap. 14) :—

‘The same places in the earth are not always water, or  
‘dry land, but they change, according as rivers come into  
‘being, or run dry and disappear. Therefore continent  
‘and sea change places, nor does the former remain ever  
‘land, nor sea sea, but sea arises where there was land,  
‘and where now there is sea will again be land. This  
‘however we must suppose to take place with a certain  
‘periodical regularity. Its original cause and starting-  
‘point lies in this, that the interior of the earth, like that  
‘of plants and animals, has its season of maturity and  
‘old age. Only that in the case of the animals and plants,  
‘the whole necessarily flourishes and decays together ;  
‘whereas with the earth it comes about in bits at a time,  
‘through the action of cold and heat. These increase  
‘and diminish under the influence of the sun and the  
‘cosmical revolution<sup>a</sup>. Hence parts of the earth acquire  
‘different potentialities, and the capacity of remaining  
‘watery for a certain time, after which they dry up and  
‘grow old again : while other places revive and become

<sup>a</sup> This reminds us curiously of some modern theories as to the cause of an Ice Age.

‘ watery, by turns. Necessarily, then, as the places dry,  
‘ springs must disappear; and when this happens the rivers  
‘ must first diminish in size, and finally dry up altogether.  
‘ But the rivers changing their places, disappearing in one  
‘ place and appearing in another, the sea must change  
‘ also, making dry land in one place, where it recedes  
‘ being forced back by the rivers, and forming lagoons in  
‘ another, where river deposits had previously filled it up  
‘ and made dry land. *But because all the physical change*  
‘ *of the earth takes place by continuous increment and in*  
‘ *periods of immense length as compared with our own life,*  
‘ *it escapes our notice.* Just so in former ages have whole  
‘ races of men died out and disappeared without any  
‘ recollection of the whole change from start to finish.  
‘ Such destructions are occasioned on the largest scale  
‘ and most speedily by war: others are due to plagues,  
‘ or droughts, either very large and sudden, or little by  
‘ little. In this manner even the migrations of such races  
‘ escape notice, owing to the fact that some keep leaving  
‘ the old locality, while others remain, till at last the place  
‘ can no longer afford a subsistence for any considerable  
‘ number. From the date of the first emigration, then,  
‘ down to the last, long periods would elapse, so that  
‘ nobody would remember it: but length of time would  
‘ obliterate all memory of it, even while there was still  
‘ some remnant in the original home. Just in this manner  
‘ must we suppose it comes about that no one can re-  
‘ member when the various races first immigrated into  
‘ localities that were formerly swamps and lagoons, but  
‘ subsequently changed and became dry. For seeing  
‘ that this change took place by gradual addition in a

‘very long period of time, no one would be able to remember, who came first, or when, or what the places were like when they arrived. As, for example, has occurred in Egypt: a place which is obviously getting drier and drier, the whole district being plainly the accumulated deposit of the Nile. But owing to the fact that as the swampy parts gradually dried those who lived nearest them would keep coming in to inhabit them, length of time has destroyed all recollection of the beginning. However, the mouths are all, with the exception of the Canopic, obviously the work not of the river but of man. Moreover Egypt was formerly called Thebes. And Homer, so recent, as it were, in comparison with such changes, bears witness to the point: for he alludes to that country as though Memphis were not in his day, or at any rate not so large as it is now. Just as was to be expected. For the lower parts were colonised later than those higher up the river: since the districts nearest the point of deposit would necessarily remain swampy longest, owing to the lagoons being formed always at the lowest points<sup>b</sup>. As time goes on this changes, and the place becomes habitable: since such districts improve by drying. Those, on the other hand, that were formerly good grow too dry and so deteriorate. This has befallen Greece, particularly the territory of Argos and Mycenæ. In the time of the Trojan war, the territory of Argos could support but few inhabitants, owing to its swampy nature; while that

<sup>b</sup> ‘Near the sea, the Nile forms many great lagoons, enclosed by tongues of earth or sand, and communicating with the Mediterranean by breaches in the banks.’—Lenormant’s *Ancient History of the East*, p. 194.

‘of Mycenæ was good, and held, therefore, in more  
‘honour. Now, the parts are reversed, for the reason  
‘above stated: Mycenæ having become absolutely dry  
‘and arid, and Argos, its dry places having become moist,  
‘being now good land.

‘Exactly, then, as has happened in this small instance,  
‘so must we suppose things to come about on a large  
‘scale in the case of large areas of land. There are, how-  
‘ever, some persons of limited views who would find the  
‘cause of such phenomena as these in some universal  
‘catastrophe, some cosmical recreation of things. Hence,  
‘too, they assert that the sea is drying up and growing  
‘smaller, because there are obviously more places dry  
‘now than there used to be. And this is true: yet their  
‘inference is false. There are, in fact, many places now  
‘dry that were wet: but then, the converse holds also:  
‘for if they look they will find many places where the  
‘sea has gained upon the land. The cause of this, how-  
‘ever, we must not seek for in any universal catastrophe:  
‘it would, indeed, be absurd to turn the universe upside  
‘down in order to account for such trifling and insigni-  
‘ficant changes. For the earth is with all its bulk a mere  
‘nothing in comparison with the whole heaven. We  
‘should rather look for the cause of all these changes in  
‘some periodically returning and appointed flood of waters,  
‘analogous to what we see in a monsoon<sup>c</sup>, only on a  
‘colossal scale: such, too, as comes not always in the  
‘same places, but varies in locality, like the so-called  
‘Deucalionic deluge (which had to do especially with the

<sup>c</sup> This exactly conveys Aristotle’s meaning, although he was not familiar with monsoons.

‘region of Greece, and, in particular, its older part, that  
‘is, the district about Dodona and the Achelous; a river  
‘which has changed its bed in many places. There in  
‘former times dwelt the Selli, and those of old called  
‘Greeks, but now Hellens.) Whensoever, then, such a  
‘flood takes place we must suppose that its effects endure  
‘for a long period, and that the case is similar to that  
‘of rivers in the normal state of things. (Some persons  
‘think that the reason why some rivers are perennial,  
‘and others not, is the size of their subterranean re-  
‘servoirs: we hold, on the contrary, that it is the great  
‘size, density, and coldness of the high lands that supply  
‘them: since these can best receive, retain, and produce  
‘water: whereas those rivers fail in water soonest, which  
‘run under systems of hills small in bulk or porous, stoney,  
‘or argillaceous in substance.) Just so, in the case of  
‘the supposed flood, those places would best retain their  
‘moisture which resemble the high lands supplying ever-  
‘flowing rivers. In time, these evidently become drier,  
‘and at the same time the watery parts would grow smaller,  
‘till a new periodical inundation should return.

‘Since, now, it is necessary that if the whole is to abide  
‘it must suffer change of a kind, but not wholesale de-  
‘struction and recreation, then, as we say, it is impossible  
‘for the same parts to remain always land or water  
‘whether marine or fluvial. This is proved by the  
‘facts: for example, the land of the Egyptians, whom  
‘we call the most ancient of men, has obviously all come  
‘into being, and is the work of the river, as any one can  
‘see for himself by examining the place. The part ad-  
‘jacent to the Red Sea is a sufficient proof. One of their

‘Kings attempted to dig a canal here, as it would be  
‘of no small advantage to them if the place could be  
‘made navigable from sea to sea : and Sesostris is said  
‘to have been the first of the old kings to make the  
‘attempt : he found, however, that the land was below the  
‘sea-level. Therefore both he, and Darius after him,  
‘abandoned canal-cutting, lest the current of the river  
‘should be destroyed by mixing with the sea. It is,  
‘therefore, clear that there was formerly here one con-  
‘tinuous sea. And this is why the country about Am-  
‘monian Libya seems disproportionately lowly and  
‘hollow compared with the country seawards from it.  
‘Plainly there has been depositing here, and there must  
‘have been lagoons and spits of land. But as time went  
‘on the water, left behind in lagoons, dried up, and has  
‘long disappeared. Again, the rivers have added so  
‘much by accumulation to Lake Mæotis, that only ships  
‘drawing much less water than those of sixty years ago  
‘can now get in. From this it is easy to see that the  
‘bottom of this lake, like that of other lakes, is the work of  
‘the rivers, and must finally dry up altogether. Again,  
‘the Bosphorus is in continual flow, owing to the accu-  
‘mulation always going on, and any one may see with his  
‘own eyes how the thing takes place even now. As  
‘often as the stream made a beach on the Asian side,  
‘a lagoon would form behind it, originally of small size :  
‘this would subsequently dry up ; and afterwards, another  
‘beach, starting from the first, would form, and another  
‘lagoon ; and so on continuously. And this going on,  
‘as time proceeded a kind of river must have come about :  
‘finally this too would dry up.



*'It is plain, then, since time never fails, and the whole is eternal, that neither the Don nor the Nile flows for ever, but that there must have been a time when the land from which they flow was dry: since their work has its term, but time has none. And the like holds of all other rivers. Well then, if rivers arise and pass away, and the same parts of the earth are not always watery, the sea too must change. But the sea receding here and gaining there, then obviously no parts of the whole earth remain always either sea or land, but all change, in time, from sea to land, and land to sea.'*

Who could believe that this curious passage, which reads like a chapter of de la Bêche's *Geological Observer*, was written two thousand years ago? Observe that Aristotle is alive to a possibility too much ignored by modern extreme Uniformitarians; the possibility of agencies on a colossal scale still working regularly yet escaping our notice owing to the shortness of our life; just as the periodical strike of a clock would seem an irregular catastrophe to beings that lived and died every second.

## e. FORCE.

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WHAT is *Force*? Modern Science can *show* us, in a thousand ways, *modo hæreat in ipso experimento*, but whenever she tries to *tell* us what it is, she is quite unable to do it. Now, this is just where Aristotle can help her.

What is Aristotle's definition of Motion? *The realisation of the possible, as such*. And what does he mean by that? Let us see <sup>a</sup>.

Suspend a ball of lead by a string. This lead has in it a *power* of falling to the ground. Cut the string: it falls: there is the realisation of the possibility, one species of motion, *falling*. Any material body has the power of being elsewhere than it is; place it elsewhere: there you have the realisation of the possibility, *local motion*. Water has the power of becoming, under different conditions of heat, solid, liquid, or gaseous; submit it to those conditions, and you have, accordingly, ice, water, or steam; the possibility is realised by *freezing, melting, or vaporisation*. Drop a piece of potassium into water; you will get another realisation of a possibility, chemical *combination, combustion, or burning*. Throw a beam of light through Iceland Spar, you get the realisation of another power, *polarisation*. Bring one magnet near another: you get another instance, in *attraction or repulsion*. Is this rock sandstone or limestone? if the latter, a solution of acid will cause it to effervesce; apply it; the power is realised, *effervescence*.

<sup>a</sup> Illustrations only are possible here: but the reader who, with Aristotle's definition in his eye, would run over, e.g., Faraday's *Lectures on the Various Forces of Nature*, would still better appreciate the scientific beauty and value of Aristotle's wonderful definition.

Chloride of sodium has the power of crystallising in cubes: prepare it, and you have *crystallisation*. Any fertilised germ-cell has the power of becoming this or that plant or animal: here you have another species of the realisation of the possible—*growth*. And so on.

Now, what is it that is common to all these various manifestations of force? Aristotle alone can tell, he can define force: it is, the *realisation of the possible*. This is that which is common to mechanical motion, to chemical combination, to organic growth. The fundamental error of modern speculative physical science is the attempt to reduce the general to one of its species: to reduce all forms of motion to mechanical motion, which is *impossible*. They differ in kind.

Aristotle's definition exhibits the true relation of *force* to *matter*, about which so much nonsense is talked nowadays<sup>b</sup>. It is the *posse* which is continuous and eternal, not the *esse*: matter, not force. Force arises only when the conditions are suitable, as any man can see who has ever struck a match. The *power* lies quiet till the conditions are appropriate: then you get the force: the realised possibility.

'Show me a man who can define, and I will follow him  
'to the end of the world.'

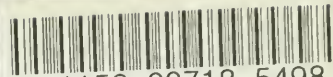
<sup>b</sup> Of all the pseudo-scientific theories of to-day, none is so absurd as the talk about '*immaterial centres of force*,' as if, forsooth! force could exist by itself. Force is an *act*. Similarly, the man of science who sneers at Aristotle tells you on the same page that *matter is indestructible*, although it is only in the Aristotelean sense of the word *matter* that this is true. Every particular form of matter is, as such, destructible: it is only matter, as such, the abstract and incognisable residual something, which cannot be destroyed.

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