

Mind Over Matter

Before we engage in a discussion regarding things and their relations, it is helpful to define, to the best of our abilities, the concepts to which we are making reference if we are intent upon sharing our basic understanding of the subjects under consideration.

The essential feature of a "trick" is that it engenders deceit. A trick, when disclosed, has the surprise characteristic of changing one's opinion with respect to original assumptions. Diagnosing the relations between topics under consideration may be "tricky", meaning challenging, but that is distinctly different from engaging in deliberate deception for ulterior purposes.

From the perspective of the lofty precincts of education looms sophistry, education's antithesis by default. Failure to search diligently for, and rely upon, rational bases for causes and effects, causes fraud and defects in accounting for experience. Education is grounded in the assumption of virtuous intentions. While no dishonor attaches to defective reasoning, the same cannot be shown to apply to fraud.

Education and communication seek to articulate information as matters of fact. As a matter of fact, they do not. All hues of verity are somewhere between the extremities of black and white, neither patently false nor evidently true when measured on the absolute scale of infinite yet uncertain circumstantial possibilities.

On the stage of life we are all actors. The extent to which we portray to others character traits that are authentic representations of our true selves is in large measure a function of our intentions. The professional actor presumes to convey character impressions other than his own. The more authentic his representation, the more convinced is his audience that he is not who he really is. He temporarily takes leave of his personality in order to represent the qualities of others for the purpose of revealing the diverse complexity of human nature, or simply to entertain. We would likely agree that this behaviour is innocuous enough.

Where an actor's representations are clearly so far removed from the reasonable expectations of his audience as to elicit disbelief, shock, admiration or laughter in those that witness the event, all is in the cause and spirit of entertainment! In real life, however, we are confronted by the need to differentiate between personal acts that induce shock and warrant an appropriate counteraction, and those that inspire respect or merit laughter. The distinction between the two, and the kind of counteraction appropriate, hinges upon whether there are negative effects upon persons and property and whether the actor's intentions are honorable.

Subscription to behaviour that wantonly negates truth for the purpose of gaining unscrupulous advantage undermines the minds of others.

There is widespread confusion as to what constitutes "truth". 0 and 1 are assumed (i.e. axiomatic) mathematical "facts"; however, their infinite variety in combination can never be known. Thus it can be inferred, but not proven, that the absolute truth is absolutely inaccessible. We may take comfort that it is also absolutely unnecessary. We live in a relative world, a "fact" that makes fiction out of one of our most hallowed institutional axioms, the promise "to tell the truth, the whole truth, and nothing but the truth".

The path to truth had its formal roots in *Euclid's Elements*. Euclid, and Aristotle after him, commenced from the premise that certain truths were not open to question, from whence the deductive process proceeded. This system of inherent or inherited truth is still held in piously religious circles, not because their presumptions are necessarily correct but because they are often inaccessible to reason. Aristotle's influence was sustained through the Middle Ages largely through the work of a thin line of adherents: Saint Augustine fused the traditional philosophies of ancient Greece to emerging Christianity in the fourth and fifth centuries. Saint Anselm, the first scholastic philosopher, embraced reason in the eleventh century. In the twelfth century the Arab academe Averroes (Ibn Rushd) stridently defended Platonic and Aristotelian reason-based philosophies in his work *Tahafut al-Tahafut* (Incoherence of the Incoherence).

Finally, Saint Thomas Aquinas, in the thirteenth century, introduced discipline to the activities of scholarship and reconciled Christianity with the teachings of Aristotle in the interests of articulating and communicating truth.

We owe Copernicus the credit for sealing the fate of truth in the sixteenth century by suggesting that the authority of God vested in the Bible and its adherents was eclipsed by the authority of God's greater creation, Nature, to which we have looked subsequently for our verities.

Everything of which we are aware is governed by the principles embodied in nature. It was exposure to *Euclid's Elements* at the late age of forty that fortified Thomas Hobbes to apply the deductive method to science around 1630, though he was to erroneously retain the axiom as the point of departure for his investigations.

Truth has two countenances. Truth as traditionally viewed from the East is that which is held by authority, in good faith, as self-evident and beyond question. This is the truth of changeless times, the truth upon which social stability was built. The other side of truth is that viewed from the West from the sixteenth century, where and when truth became open to question. Questions led to enquiry and a truth based on facts.

It is the nature of enquiry to search for the light of truth in dark places. Complexity stimulates improper thoughts. The challenge is to distinguish them from proper, or rather useful, ones.

The popular presumption that answers to questions fall into one of two categories, thus denying other alternatives, is itself highly questionable.

Facts serve to connect experience with existence and so found truth in reason. Human knowledge is comprised of concepts, none of which are absolute or eternal but rather are subject to repeated testing and revision to reconcile them with logic and experience. This being so it follows that truth, like knowledge, is elusive and ephemeral. The desire for truth is the motivation behind the pursuit of knowledge; knowledge being evidence in support of a theory of truth.

The truth is fickle as the mind
Interpreting experience blind
Imagining a thing is known
Until the contrary is shown.

The test of truth was to become whether a concept was repeatedly confirmed by experience to be so, while always remaining open to further clarification. The first look at our solar system through a telescope, by Galileo, brought just such a clarification. Subsequent "looks" served as the requisite tests of truth. The furtherance of civilization based upon rational accountability of experience depends upon the cultivation and nurturing of the pursuit of truth as a habit.

Therein lies a paradox, for habit is the antithesis of enquiry. Truth was the simple "straw" that Western civilization grasped in the sixteenth century, upon which it built dependencies in all it was to accomplish: science, justice and human relations as a culture.

The Renaissance heralded the establishment of fact as the standard by which truth was to be measured. Questions led to enquiry and to truth based on facts. Fact served to connect experience with existence and so found truth in reason.

What, one might ask, are the principles upon which truth is predicated? Truth is that resonance that rings the clearer that relations between cause, event and effect are held unassailably evident. The extent that experience is corroborated by reason, or vice versa, establishes the degree to which concepts are validated as true. While science searches for truth, there is a contradiction in that truth demands that the search be continued for successive truths, attested by the fact that almost no scientific theories of the mid-eighteenth century are still held to be correct today.

Arguments can be no better than their premises allow. The presumption that truth may be found through thought has led to a form of science wherein the "correct" scientific thought "is" the truth until a more correct, more fitting substitute is postulated and confirmed. In this regard truth becomes a value, the more valuable by reason of it being unattainable in the absolute sense.

Truth is imprecise because the building blocks of which it is made, facts, are themselves elusive. Even the atom, that ultimate building block for so long – hypothesized, idealized, recognized and realized – was revealed to be not what it was presumed to be, hard evidence of a matter of fact, but, to the extent that we know it today, an ephemeral dance of energy in a field. The act of validation passes truth into the domain of belief, a state of temporary holding pending receipt of better information.

The problem with the concept "truth" seems to turn around its definition. While one person may use the term in the sense that it is factually supportable, another will use it in the context of intuitive belief. Suffice to say, "facts" may be pertinent or irrelevant, and "beliefs" may be true or false.

Truth is a subjective statement of today's understandings, not necessarily corresponding to yesterday's or tomorrow's, or to the understandings of others. In this way knowledge, truth and belief are always subject to reasonable doubt. Such truth is the product of a mental disposition, and the property of individuals.

Observable truth is not a vision from a single point but rather a composite of visions, reconciled by the minds and intellects of individuals that define reality. The more visions, the greater the potential for a higher, more definitive resolution of the subject as a whole made of parts. Even the vision of a single individual is so as a composite of the visions of more than one eye.

Truth is manufactured. It comprises constructs of available information that we search to match with similar patterns within our experience. If there are none, we describe novel events in terms of our limited experience through language, notably the metaphor and simile, always subject to the limitations of our vocabulary and imaginations. In this way truth is always contingent upon our abilities to describe it, and those abilities never fully satisfy our quest for certainty, and so serve to corroborate the uncertainty principle. So how can we tell the absolute truth? We cannot. At best we can tell the truth from our very limited points of view.

Like belief, truth may be shared by agreement in the form of homogenized truth that mixes the common denominators of each individual experience into a social potion more powerful but less specific than personal truth. But, unlike belief, truth requires a modicum of verifiability; it must be demonstrably so. If it fails this test it reverts to the less credulous status of belief. Homogenized truth is like the shadows of the forest canopy; the leaves, twigs, branches and trunks lose their common boundaries and often their identities, further conditioned by the character of the uneven floor upon which they are projected to become one. Public knowledge as fact is a composite of individual perspectives pieced together to reveal the collective experience, the proximate truth.

One problem that we have with the concept of truth is that we confuse it with "meaning". If we substitute the word "meaning" wherever we use the word truth, it is not difficult to recognize that meaning is subjective, and that shared meaning is a compromise between two or more subjective meanings. From this we understand that meaning is not absolute while we continue to associate the concept of truth with immutability. Truth in our minds is singular, "the" truth. We confuse and deceive, i.e. trick ourselves by insisting that what the collective seeks is by inference the same truth.

Thus, 'social' truth would appear to be the opposite concept to that generally held, by which is meant that truth is rendered the more succinct through the combination of multiple viewpoints at multiple times. Truth as a social utility is a compromise between two or more concepts and is so agreed solely for the purpose of moving beyond individual understandings and semantics to action in support of social order or advancement.

Whereas science, the steadfast pursuit of knowledge of all things natural, has all but shed its presumptive assertions to claims of certainty – and insofar as religion (specifically a preoccupation with the supernatural) has failed to reveal evidence to corroborate its claims to bear the unequivocal truth – we are left in a state of doubt with respect to where and how to look for the absolute truth.

This condition is absolutely unnecessary insofar as there is no necessity to secure the absolute truth. We can draw conclusions from science and religion that point in the general direction of our interests: relative truth that is invaluable as a template for defining our most rewarding paths into an otherwise uncertain future.

The pursuit of truth in knowledge or knowledge of truth is in error if the findings are believed to be absolute and immutable. Absolutism as a common assumption of incontrovertibility is the securest of states and therefore the most naturally attractive. This flawed thinking is attributable to a misunderstanding as to what truth and knowledge do. They are not absolutely secure handles upon which one can rely for support at all times, but rather they are best supporting actors, mental aids available to sustain one in particular situations at particular places and times. In the literal or absolute sense, fact is fiction, fiction fact and unwavering absolutism absolutely absurd.

The search for truth requires a certain independence of outlook without reference to the observations and conclusions of others. Only after we have interpreted our own observations should we then look for correspondence or disparities between our conclusions and those of others. This is the confirmatory process by which we sharpen our definitions of truth. The same is so with thoughts. We must start from a position of absence of influence, think in the abstract and then turn to the work of others to find parallel or tangential lines of thought with which we might elect to make comparisons. Without such innocent and fresh beginnings we are led by others to accept the axioms, theorems and proofs of past situations without entering the quest for truth.

Originality is the hallmark of independence and properly diagnosed as dissent from mainstream thinking. Dissidents are society's tentacles feeling their way into an uncertain future, victors or victims as history assesses their contributions. Independence is to originality as dissent is to freedom. Independence, originality, dissent and freedom are cornerstones in support of the pillar of truth.

There are multiple impressions of reality and therefore of truth. Truth is not simply evident or elusive and awaiting discovery. Absolute truth eludes discovery because it simply does not exist. Having denied the existence of absolute truth, we must consider the effect of the absence of truth in absolute terms. The imagination will quickly conjure up unlimited paths to mental despair in the absence of common threads to relations. Therefore, we are led to prefer truth as a concept rather than the absence of truth. Absolute truth thereby becomes a worthy goal and relative truth the means of progressing towards it. As in the pursuit of absolute happiness, we act in our best judgement to secure the absolute truth in the understanding that the goal is always beyond our reach.

Having placed the pursuit of truth on such a high pedestal, and conceded that it is unattainable in absolute terms, why, we may ask, should we place such faith in it? Is truth the Holy Grail? Just as quickly as we formulate this question, the answer presents itself: no. For in truth we still have a long way to go. While of great value to us as the clearest confirmation that we are travelling in our intended direction in the pursuit of knowledge, truth and knowledge are neutral with respect to values. If truth is a path to knowledge, we must now ask to what is knowledge a path to? Again the answer is immediately at hand: to our goals. Goals may be high-minded, heinous, or anywhere in between; so in order that we may attach a high value to truth, as a signpost pointing to benefits, we must define such benefits.

The distinction between truth and belief may be made in this way: that truth is the objective of knowledge while belief is a status report of progress in that direction at a particular point in time. Our intellectual interest in the pursuit of truth is a natural evolutionary outgrowth of what our eyes do automatically. The pursuit of the ideal of truth is not merely commendable but essential to progress towards a higher, worthier purpose: understanding that the nature of truth *is* the reality of nature.

Failure to seek the truth on a rational basis simply facilitates the substitution of alternative ideas drawn from the imagination in support of prejudice.

Neither the system of blind belief in providence nor that of cerebral reasoning could close their lines of argument in their own favour in the absence of vigorous independent verification. Neither could say with authority "this is so". Under such circumstances the pre-scientific mind was devoid of prescience, the human faculty of quality of being able to anticipate the occurrence or nature of future events. Reason and irrationality as normal conditions of life were destined to remain at variance and a cause of mental torment in the common man into the twenty-first century.

Science is dependent upon evidence for its veracity. When something becomes "known" by scientific standards it passes from the realm of speculation to the realm of greater security in tentative truth. The findings of science are not inventoried facts but rather the products of ongoing observations of our environment.

The science of physics investigates the properties of physical entities. It is concerned with distinguishing the qualities inherent in things, and with their inter-relations.

Inter-relations are very important to recognize as mathematical connections because a change in the number of constituent parts in a given combination of entities often modifies its capacity to function, justifying the accordance of a discrete new name applicable to the molecular combination or compound so formed. This is clearly illustrated when we add one atom of hydrogen to a single molecule of water (H_2O) to form hydronium (H_3O). Relativity, i.e. proportionality of constituent parts, is critical to what something is or is not, and can or cannot do.

Science has made a profession of enquiry. All scientific questions start with an induction, an exposure to thoughts of an idea that has not attained the status of knowledge for the questioner. All answers, disregarding deceit, embrace an act of deduction that casts out all ideas that misfit the circumscription of the question. What remain are those propositions that, for practical purposes, can be reasonably demonstrated to be so. Science constitutes the rational path to knowledge, and physics, a discipline within that discipline, relies upon that rationale; hence the connection between physics and mathematics.

Physics describes the respective qualities of things, both tangible and theoretical, while mathematics accounts for their quantities.

Pythagoras and the early Greek geometers had commanded an absolute standard of accountability in the use of numbers that they conceded were elementary to the operation of nature. Disregarding their reliance upon axioms, which were legacies of unresolved thought, the geometers had demanded incontrovertible "proof" as a necessary precondition for the acceptance of new mathematical propositions.

What we call and use in the name of number are applied numbers, a distinction that can be seen between pure and applied science.

Numbers are symbols representing quantified entities or ideas. Being so, they can be reversed, or used to transpose ideas from one form to another. Thus, mathematics becomes the intermediary form through which conversion may be made, not merely by analogy, which is the province of words, but by analysis, which is a function of numbers.

In order to survive in the everyday physical world, and to come to terms with appearances of paranormal mentality, we need to dispense with numbers and revert back to thinking about the things that they represent at the most fundamental levels. Numbers are not what we often think they are. They are merely patterns, patterns of 'nesses' (onenesses, twonesses, etc.). To say that ants have the quality of abundance makes no sense. Only numbers, representing quantity, indicate abundance. Those qualities that we equate with power, and therefore tendency, are functions of number not of the subjects to which the qualities refer.

It is not mathematical prowess that you need to understand numbers, it is the imagination to perceive concepts and patterns of relations, and to attach significance to them. Numbers are like ghostly companions that accompany all things at all times. Mathematics has assumed the function of uniting otherwise irreconcilable ideas through their reduction to numbers. Through digital reduction patterns of relations between the abstract and the physical can be compared in fields as disparate as music, the visual arts, architecture, science, indeed almost any subjects that would otherwise bear little or no bases for comparison. By such means our inventories of relations expand exponentially with corresponding opportunities to attach value and meaning to them. Numbers thus assume a utility function second only to spoken and written language as the medium of choice by which we aspire to communicate and share our life experiences.

