

PHILOSOPHY AND TRUTH – 2007

WEEKS 1 & 2

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Various names for this philosophical enquiry

Philosophy and Truth – the central problem being that of the truth of our knowledge
Defensive Metaphysics – that part of Metaphysics in which it defends its own principles.

Critical Noetics – critical examination of the human intellect (Gk. nous)

Criteriaology – examination of the first principles of understanding (ultimate criteria)

Epistemology – study of knowledge (episteme = knowledge; logos = speech)

– in particular, study of intellectual knowledge (episteme = science)

Particular disciplines that lay claim to this study

Logic – as the study of the workings of the human mind (rational knowledge)

Psychology – as the study of human knowledge

Metaphysics – as the ultimate study of all things including knowledge.

Preliminary determination of the proper place for this question

Not Logic – because the principal object of Logic is reasoning; and though, as we shall see, the key act of knowledge with which the problem is concerned, namely Judgment, is studied in Logic it is studied there only as ordered to reasoning.

Nor Psychology – because Philosophical Psychology is a particular study which, like all particular studies, no matter how exalted, relies for the defence of its principles upon the most general and universal of studies, Metaphysics. No particular science is concerned to defend its own basic concepts and first principles; their truth is therefore taken as given.

But Metaphysics – because it is the highest or ultimate study of things. Though there is nothing prior to them to which it can appeal to to justify its basic notions and first principles, nonetheless it can defend them by showing that to deny them is self-contradictory. That is Aristotle's method (reductio ad impossibile) in the first part of his Metaphysics – hence called Defensive.

A glance at the history of the problem

In the beginning, whether or not what we know is of the real or whether or not what we know is true were not questions that were raised explicitly. It was taken for granted, as all do spontaneously, that our intellect is capable of knowing reality and/or of reaching the truth of things. Nor were truth and knowledge regarded as

separate issues. These are not issues that occur to us at first. People with eyes wide open do not stop to wonder whether what they are seeing is truly there. Sceptical thoughts in this regard are more likely to occur to someone musing at night or in a smoke-filled room, as apparently was Descartes. It takes a certain mental atmosphere to dispose us to scepticism. Once the question is raised, however, as with all questions for the philosopher, an answer needs to be given.

However, the problem of the reliability of our knowledge is not a modern one, if it is one that is felt more acutely in our times. Relatively early in the history of philosophy doubts were sown into the minds of even the most acute thinkers. What seems to happen is that when we begin to give explanations regarding the natures and causes of things there are soon disagreements, and fundamental ones at that as to the inner constitution of things and their hidden causes.

Thus early in the piece we have the ancient Greek thinkers, the first philosophers of nature, giving diverse explanations, “theories“, about what material things are ultimately made up of. Whatever they meant by their primitive notions of “water” “air” “fire” etc. they were obviously different explanations. Before too long subsequent thinkers, such as Parmenides (there is no change) and Heraclitus (there is nothing but change) took matters to extremes, so that their philosophical explanations about the nature of reality became diametrically opposed and frankly contradictory. Some, like Democritus, with his positing of atoms and the void, tried to find a compromise between these two extremes but others, like Gorgias, became dissatisfied with the efforts of the nations' great thinkers and declared that there was no truth, and even if there were we obviously could not find it.

So the pattern is set. The early effort at the explanation of things, especially in ultimate terms, to which the name philosophy is given, gives rise to dogmatism, with extreme positions being taken which are logically incompatible. For a time some may try to reconcile these opposite “philosophies”; they turn out to be, however, attempts only to defend the indefensible. The only honest recourse seems to be to a scepticism regarding the capacity of the human mind itself.

This, however, is not a state of mind in which we can remain for too long. Socrates Plato and Aristotle came to the rescue of Greek intellectual culture and provided the elements of a rational view of things. But even their sane and balanced philosophy, which has proved to be the most generally accepted, so that it has acquired in later times the name of “the perennial philosophy”, was not foolproof and so was also affected by later waves of scepticism.

In the Christian era the prevailing pagan scepticism was early countered with the aid of the best of Greek philosophy, as is evident in the thinking of St. Augustine, who made particular use of Plato. The subsequent history of philosophy in the Christian world became absorbed into that of sacred theology. Accordingly, there was no scope for a long time for any sort of distinct philosophical scepticism to develop. That does

not mean that the sceptical tendency of the human mind was absent but it tended to be transferred to our ability to know God rather than reality itself.

The intellectual climate in the Christian world began to change, however, with the arrival of Aristotle's works, through contact with the highly sophisticated Arab civilization. For Aristotle, re-interpreted in many respects by his Arab commentators, seemed to present a threat to the truths of the Faith. He also provided an alternative "philosophy" to that which had previously served well the Christian mind. The seeds of doubt were now sown anew. This threat was quickly recognised by the Church and, providentially, saints Albert and Thomas came to the rescue, not just of the Faith, but of the integrity and value of human reason also. For then, as now, it was seen that one way to undermine the Faith was to attack the basic certainties of our very reason.

Thomas succeeded in showing that the threat was not a real one and that in fact Aristotle's philosophy, in so far as it was a true natural wisdom, could serve the Church and its theology as well as, if not better than, Plato's. However, not even St. Thomas's majestic exposition of philosophy and theology was able to stem the waves of scepticism that had been set in motion.

For all sorts of reasons, no doubt principally moral, the Christian world was entering an era of crisis. From the intellectual point of view, however, this upheaval was in a certain fashion contributed to by the very change of focus that Aristotle's philosophy brought with it. Plato's "heavenwards looking" philosophy slotted in nicely with the Christian's focus on the next world rather than this one, though there was in it always the danger of slipping into a kind of manichaenism.

The introduction of Aristotle's more "down to earth" philosophy was favourable to a greater interest in the natural and experimental sciences. Paradoxically, however, whatever part this change may have contributed to the burst of geographic exploration and scientific experimentation that followed, it led to the destruction of the reputation of Aristotle in natural science. For the new discoveries dismantled much of the ancient Greek science and astronomy.

But, more relevantly to our purpose, the reputation of Aristotle's general philosophy (Metaphysics) also suffered. Already, his philosophy was coming into contempt from the misuse of his logic by the nominalists. Inevitably almost, the whole scholastic intellectual enterprise, along with aristotelian science, fell into disrepute, dragging St. Thomas down with it. Apart from the certainties engendered by the success of the new science it seemed that human knowledge must endure a new era of scepticism, which was being promoted by the likes of Charron and Montaigne.

However, pretty soon, a new philosopher/mathematician, Descartes, comes along with a seemingly satisfactory explanation of things, drawing upon elements of the philosophies that have gone before him. But he posits an extreme position, let us call it innatism (more commonly known as rationalism), and is criticised by subsequent

thinkers. One of these, Locke, tends to go to the opposite extreme, let us call it sensism (empiricism), which is also held as “dogma”. Before we know it we have landed, with Hume, again in scepticism. Then along comes Kant with a proposal for reconciliation of the two extremes (which are in fact irreconcilable) and so a new round of philosophical “speculation” is embarked upon, with the predictable result of another era of more sophisticated scepticism.

Many modern thinkers, especially those trained in science, are still somewhat under the spell of Kant whose philosophy, we may say, is the defining characteristic of “modernism”. Philosophy subsequent to Kant, however, where it tries to correct Kant (and for some all philosophy from Plato onwards), has attracted the term “post-modernism”. Very quickly, however, its “de-constructionist” methodology (traceable to Martin Heidegger) has ushered in a new more destructive scepticism. The other post-kantian school of philosophy, inspired by the second thoughts of Ludwig Wittgenstein, has however resulted in a typically English, more restrained scepticism.

And there, entrenched in a new crop of most sophisticated scepticisms, apart from a revival of sorts of Thomas (going beyond Catholics) is where we seem to be. We have the ironic intellectual situation, then, of the Church of faith being practically the only one in the present intellectual culture prepared to champion the cause of reason.

An intellect, and an age, such as ours, can become over-heated, as it were, by the feverish mental activity engendered by the accumulation over time of such a profusion and confusion of ideas and “philosophies”. The study of philosophy then tends to be left to the academics where it is thought at least by people in English speaking countries, like Australia, not to do much good, but then again not much harm. The ancient honourable name of academician or academic (from Plato's Academy) once again becomes identified with the sceptic.

A cursory look at the reason for this loss of intellectual “nerve”.

What is forgotten in all this is that all philosophy and science, as Aristotle said, begins in wonder. This does not suppose total ignorance or lack of all knowledge, as he was careful to point out. Wonder is a mixture of knowledge and ignorance; knowledge of some particular fact or pattern of facts but ignorance of the cause. We know that something is so and we wonder why. Why do eclipses, for instance, occur when they do? Would we bother enquiring if we did not know that eclipses took place?

The philosopher, and the scientist too, are not really concerned with establishing or proving particular facts as such but with discovering laws, or general “facts”. If one did not know about water there would be no point in proving (by induction) that it boils according to a certain general law. If one did not experience one man killing another would we wonder whether it is right or not, i.e. whether there is a law against it?

However, when we come to the ultimate explanation of what we already know, in the most universal terms, there is a temptation to extrapolate the extent of our ignorance and to deny the obvious. This latter is in the first place the visible and tangible evidence of our senses when properly functioning in the full light of day, but also, in the second place, as we shall elaborate on later, the plain evidence of our higher powers of insight into the invisible and intangible, i.e. of our intellect or understanding in its grasp immediately of first principles.

Both these orders of the obvious can be called “facts” in the broad sense or “data” for they are given in our first knowledge of things and ourselves. Our (initial) ignorance lies in the order of (philosophic or scientific) explanations, not in the order of our sense knowledge as such nor in the more complete order of the facts of our experience which extends to the whole complex of our initial awareness of things, including our primitive intellectual insights (hence sometimes also called analogously a sense of the real).

Once we have doubts about our ability to explain what we know we begin to question the value and certainty first of our intellectual knowledge and then of our knowledge as a whole. We tend to forget that knowledge, especially human knowledge, is a complex whole. This complexity does not consist only in the fact that it is made up of two parts, or two stages, as we have seen above. More fundamentally, human knowledge has two levels upon which it operates, sense and intellect, sight and insight. Each of these levels has its own complexity.

At the sense level the most relevant consideration here is the difference between the external senses and the internal, between seeing and imagining. An important thing to notice about human imagination, however, is that it has two aspects, one merely representative of what has previously been experienced, as in other animals, and another, “creative”, as in the artist. If we confuse these two we may end up disconnecting ourselves from the real world. Another complication with knowledge is the fact that it is not only direct but also, in varying degrees, reflex, so that at the level of sense we have sensations bearing upon external things (such as white snow) but also sense consciousness, which is a knowledge of our knowledge (sensations).

It may be appreciated that a proper understanding of consciousness is vital to dealing with the sort of problems we will be discussing. Sense consciousness is basically a reflecting on our elementary sense knowledge, both external (e.g. sight and hearing) and internal (e.g. memory and imagination). In sleep, as Aristotle explains it, it is our sense consciousness that is temporarily, but not necessarily completely, suspended, not the operations of our internal or external senses themselves, as is evident with regard to the imagination in dreams. But dreams are not to be thought of as merely creations of our imaginations. They, like the images themselves, are basically representations of direct sense knowledge, if disordered because of the suspension of the unifying influence of consciousness. Far from disproving our connection with the

external world, dreams presuppose it.

At the intellectual level we have analogous distinctions to be made. It is with such that we will be principally concerned in this course. But overall the most important thing to keep in mind is that human knowledge, even though distinguishable into these many parts or aspects, is an integral whole, in which there is order not only of one part to another but also of all parts to the whole.

No one with healthy eyesight, having seen snow, would wonder whether it is white. There is much sense, nonetheless, in wondering why or how it is so. Generalizing this, no one in his right mind wonders whether something exists. But there is every reason to wonder why anything exists and how we know about things. So it may appear that the certitude of intellectual knowledge (concerned as it is with explanations) is the only one that deserves examination. Indeed, the best of the ancients and mediaevals were little interested in the possibility we might be dreaming. Aristotle says, for instance, that if one does not know that snow is white what one wants is not proof but sense (sight).

The division of our knowledge into that of facts and laws has to be properly understood. For it is not only merely empirical facts known from sense observation that are not an object of wonder but also primitive “facts” at the intellectual level. Of these too, as will be made clearer in the course, no one is really ignorant or in doubt. These are the first principles or fundamental laws of our minds. In the practical order too there are things about which we do not or should not doubt. Hence, Aristotle also says that people who do not know that they should honour their parents want not instruction but punishment.

When we come to attempt to explain things in ultimate terms, however, it is not easy to keep the two kinds of knowledge (of facts and laws) separate. For some attempted explanations of things, such as that of Descartes, undermine all knowledge, whether of “fact” or “theory”. Hence, it becomes necessary to defend our knowledge of the empirical facts as well as intellectual “facts” (first principles or criteria). This defence will consist in showing that the arguments against the certainty of our knowledge in both regards are false and indeed that the positions argued for are radically absurd.

Our knowledge of evident facts will be put in question, but only hypothetically, and that on what we know is an impossible hypothesis. Such hypotheses, nonetheless, have their uses. It is doubtful if there is to be found anyone who seriously subscribes to universal scepticism. Nonetheless, that does not mean that we cannot profit from considering the question it raises. It only means that we need not pretend, as did Descartes, that we really doubt fundamentally the evidence of our senses and our sense consciousness. The fact that there is such a time as twilight does not undermine our certainty about the difference between daylight and dark.

There are, therefore, two distinct but related questions to be addressed in this course:

whether or not we can know a real world outside us; and how do we know the world of reality.

OR, as they are formulated in Dr. Woodbury's text:

Whether or not being is in the human mind by intellectual knowledge. CRITICAL NOETICS

How being is in the human mind by intellectual knowledge. CRITERIOLOGY

This first question is sometimes put in the form of whether or not we can know a reality external to us. For Descartes' doubt left our internal world of consciousness hanging on to certitude, if only by a thread. He could not bring himself to denying the fact that he was thinking (*cogito ergo sum*), even if it initially meant only that he was doubting. He thus turned his very doubt into an argument for certitude, from which he quite arbitrarily reconstructed the world. Ever since, however, the fundamental philosophical task was thought to be to build somehow a "bridge of knowledge" to reality. But it has proved to be an impossible task.

This partially sceptical position admitting "subjective" certitude only leads logically, as it did historically, away from Realism to Idealism, and indeed most logically to Solipsism. For the only object of knowledge that the subject has is itself, its own thinking (its own knowledge). Kant's was another subjectively based "half-escape" from scepticism, which led directly to the full blown Idealism of Hegel.

It will become clear that the problem of knowledge cannot be dealt with until we realise that human knowledge involves three things; firstly, a subject, secondly, something opposed to the subject, i.e an object presented through the senses, and thirdly, the union of the two. Without any one of these no act of knowledge can take place. These considerations are at the level of primitive facts of which no one is ignorant. The problem is in providing an intelligible explanation of these facts.

To deny the objectivity of things known destroys the integrity of knowledge and lands us in an unreal world of our own making. In the process it destroys the union that constitutes the heart of knowledge. That in fact is where the truth of knowledge is to be found. So it eliminates the very notion of truth and looks around for another meaning to be given to the word, such as inner "consistency" of something with itself.

This union of subject/person and object/thing, which will be identified as a certain unity of form or conformity, is a genuine matter for investigation in regard to the problem of knowledge. What is truth and how is it related to knowledge in all its forms? Without arbitrarily denying any of the elementary facts of knowledge we can thus examine knowledge in all its integrity. When we focus on this union of subject and object, or of the knowing thing and the thing known, we have precisely the question of truth. This is the central question dealt with here in CRITERIOLOGY.

We have adverted to the fact that knowledge is both direct and reflex. This arises from the fact that both the object and the subject are necessarily united or made one in every act of knowledge. Hence, in knowing the other the knower in a certain fashion also knows itself. At the lower levels of knowledge (sense) the reflex knowledge is evidently only peripheral, or merely concomitant. It takes a separate faculty (called sense consciousness) to know one's acts of sense as distinct from the direct objects of sense.

At the intellectual level we find, however, that reflection is of such a superior kind that it approaches the perfection of direct knowledge. In knowing things other than ourselves we also know our own knowing, and thereby ourselves. This complicates the resolution of the problem of knowledge and truth. What is in fact a reflex knowledge becomes for some hard to distinguish from direct. If we are not careful we can slip into solipsism (*L. solus ipse* = oneself only).

The answer to the question, then, how do we know that we know something is so, is that we do so by the reflex knowledge that immediately accompanies our direct knowledge of it, not by a separate act of direct knowledge. This twofold character of the act of knowledge gets confused with what happens when we consciously attend to things as they exist in the mind, i.e. treat this reflex knowledge "directly". Our naturally immediate reflex knowledges are treated, then, as if they were second thoughts about some proposition, the truth of which is directly known (e.g. snow is white).

I have no trouble with saying that I know that snow is white, which means that I certainly know it, but the question is asked: how do I know that I know? By a subtle equivocation our original and certain knowledges become treated as if they referred to what is in the mind only, like matters of opinion. This confusion constitutes a large part of the difficulty of arguing against SCEPTICISM.

WEEK 3

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Scepticism as a philosophical issue – an analysis of the meaning of the word

The word “sceptic” bears a good sense, deriving from a Greek word, meaning thoughtful or reflective. It also carries the idea of looking carefully at something or generally looking about. Indeed, this is a state of mind which should characterise a seeker after truth, or a philosopher, for it is equivalent to the attitude of wonder.

To question or doubt can also be used in the same positive sense. It is not a matter, then, of denying here the appropriateness of being in doubt in regard to some matters. For in philosophy it is precisely doubt or ignorance about the causes of things that we wish to remove. The whole progress of science presupposes the same initial sceptical state of mind. This makes it difficult sometimes to argue against sceptics. For they can seem to be taking the more reasonable approach to the consideration of what we can know.

This rhetorical advantage, however, depends upon a logical sophism; that of equivocation or ambiguity in the use of words. For, as a philosophical position, scepticism is taken to an extreme that can be seen, even without much reflection, not to be reasonable. It is taken in a universal or fundamental sense. It seeks to maintain that in regard to what we can know the sceptical attitude is the only one possible. Put another way it argues that certitude, which is opposed to doubt, is an impossible state of mind.

The opposition posed is made into a false antithesis, as happens in many extreme philosophical positions or ideologies. For doubt and certitude can live together in the same mind, though not in respect of the same things. The contradiction appears only if we assume that the one attitude applies to all things. Scepticism likes to think of its opposite as dogmatism, taken as claiming certain knowledge about everything. But that philosophical position is also an extreme that no sensible person would hold, even if some philosophers have.

In fact in regard to things to be known by it the human mind can be in a state

that ranges from ignorance to certitude with intermediate states between these two, which state resembles the function of eyesight in the dark of night and in the full light of day and in between. In the range of mental states doubt is closer to ignorance and a reasonable opinion is closer to certitude. We might compare doubt to looking about in the late twilight, or looking carefully across a smoke filled room.

What is overlooked is that our knowledge begins in a general and confused notion of things and the work of reason is to render this confused knowledge clear and distinct. Progress in intellectual knowledge is not from pure ignorance to a perfectly defined knowledge, but from confusion to distinction. Clarity and distinction are not, as Descartes thought, marks of certain knowledge as such, but a state of knowledge arrived at by definition and proof. This clarity and distinction gives us certitude regarding the precise object as defined and distinguished. But the previous state of confused knowledge has its own certainty. Our original ideas may be general and without the distinctions to be made within them; but we are in no doubt about them being a true knowledge of the things of which they are ideas.

By taking things to extremes the sceptic creates the impression that the denial of certainty in knowledge in some respect amounts to the denial of the existence of knowledge altogether. That would be equivalent to saying that not being able to see something clearly means not being able to see it at all. I may be uncertain about whether what I see in the distance is a man or a kangaroo but I am not uncertain about what I do see. Scepticism relies on a subtle shift of meaning in the word from uncertainty in some respect to uncertainty in all respects.

Even in the twilight something is seen if not recognised for what it is specifically or distinctly. Similarly a person in doubt about something is not totally ignorant; he is simply not able to make a particular judgment about it. There are two kinds of doubt, one negative, from a lack of sufficient evidence to make the judgment sought; the other, positive, from having equal evidence for and against making the judgment. Hence doubt supposes some knowledge. It is not to be equated with ignorance as such.

Thus from an analysis of the meaning of the word philosophical scepticism can be seen to result from a mistaken understanding of the processes of knowledge. Truth and certitude belong to all kinds of knowledge, in so far as something is known; just as they belong to all seeing in so far as something is seen. But they may be lacking so far as the specific features of the object are concerned so that one cannot certainly say what it is or that it is such and such. Here certainty is attached to a specific knowledge of something. But the lack of certainty in this case does not invalidate the certainty of the more general or confused knowledge about it.

There is then a hidden ambiguity in the way the notion of certainty or certitude is used. Fundamentally, all knowledge is certain, whether or not the knowledge one has leaves one's mind in a state of doubt, suspicion or opinion about something else

(which is the precise object of enquiry). Only when these states of mind (imperfect as regards full clarity and distinction) are transcended does one move to certitude regarding the precise object enquired about. But one would not bother to enquire if one did not already know something about the object.

WEEK 4 PHILOSOPHY AND TRUTH D. Boland LLB PhD ©

The Modern Sceptical Problem

Universal scepticism, as Aristotle notes, refutes itself as soon as it makes any statement. For to be able to say that nothing is certain requires certitude at least regarding the meaning of “is” (being). However, ignoring this critical problem with itself scepticism seeks to unsettle our certitudes at their most basic level by drawing attention to the existence of doubt about many things we seek to know.

Human knowledge is characterised by the fact that it has two levels, sense and intellect. Not only is there complexity at each of these levels, as noted before, but the connection or interplay between the two levels is itself quite complex. The result is, however, that we have two “origins” or sources of knowledge, corresponding to the activity of the (external) senses and the (more noble) activity of the intellect.* Only by these two activities working together are we able to have truly human knowledge.

They co-operate to produce the one knowledge of something. Such co-operation is not of two on the same level, but rather of a kind whereby the higher activity “uses” the lower.

This is not to be thought of in a material or mechanical way. The activity of intellect has been compared to the production of an illuminated image by shining light through a suitably prepared material (film). Both act together to “make” the image but in quite different ways. The example, as does all, limps, for the film is purely passive in the joint process. But the idea of subordination of one activity to another to produce the one effect is what the comparison does show.

It is important to avoid treating human knowledge as originating purely in the senses or only in the intellect. This leads to the two errors (extremes) in regard to human knowledge of sensism (reducing the human to the mere animal) and intellectualism (exalting the human to the angelic). In early modern times these appeared under the names of Empiricism and Rationalism, and in later modern times under the names of Positivism and Idealism.

It is true that all knowledge in humans has its beginning in sense; but it is equally true that all properly human knowledge has its beginning in the human intellect. How that is so bears some examination. But for our purposes it means that we have two sets of certitudes, the original evidence present to the (external) senses impressing immediately and concretely upon the sense organs and the same original evidence of the essences of things but now made present to the intellect by medium of the imagination and intellectual abstraction, from which the first principles of our understanding are formed.

Scepticism directs its attack at both these kinds of certitudes. There have been various arguments put up to refute scepticism, as in ancient times by Plato and Aristotle and in modern times by Descartes and Kant. In his arguments Descartes conceded to the sceptics more than Aristotle would have. So the ancient and modern problems have different connotations. Aristotle allowed as a position needing to be defended, if not a true object of wonder, the fundamental value of our intellectual knowledge, but not the fundamental value of our sense knowledge.

Descartes reversed this, without immediately realising that he thereby undermined intellectual and rational knowledge as well. For human knowledge, as explained above, involves both senses and intellect working together. Fundamental doubt, therefore, regarding either undermines both. So either approach has the same result, the denial of the objective value of our internal certitudes.

The modern sceptical problem, a legacy of Descartes' formulation of the question, is the more familiar today and is dealt with first here. Because it cuts us off from access to the world outside (for unless something is sensed first it is not known at all) it raises the question of whether we know reality at all.

Hence, the way the question is formulated: Whether being (reality) is in the human mind by our properly human or intellectual knowledge? The answer to this question takes up Book One of Defensive Metaphysics called here CRITICAL NOETICS.

Descartes

The principal issues in this regard are first raised by Descartes' method of doubt. They are fully worked out, however, by the philosophers who followed Descartes. We should, therefore, make some preliminary observations about how Descartes saw the problem.

What Descartes' motives were are not essentially relevant to the discussion of his philosophy, as motives are not directly relevant to the examination of what anyone says. We should focus on what is said, not on who said it or even why it was said – though nowadays the main preoccupation seems to be with these accidental considerations. As a concession to this proclivity, however, we will make one or two observations.

Descartes was all his life a committed Catholic, a deeply religious man of faith. At the same time, however, he was a man of science, and indeed firmly committed to the superiority of the new scientific revolution taking place over the old. This was, as we know, a mixture of mathematics and empirical science, exemplified mostly at first in Astronomy. Descartes was principally a mathematician (of original genius) but he had ambitions of being also a “natural philosopher”. In his time the distinction between science and philosophy, especially in regard to natural science and natural philosophy, was not as clear-cut as today.

After the decay of Scholasticism into Nominalism, which is a form of scepticism, Faith and Reason tended to become separated. Some theologians, though initially not prepared to question the truths of the faith, were not unhappy with the downgrading of reason and allowed a sceptical attitude to enter into the consideration of the truths of reason that came within the purview of faith. This was in fact seen by some as a service to faith, for it seemed to exalt faith at the expense of reason.

Thus, for instance, they were prepared to abandon the proofs from reason for the existence of God and say that it is impossible for human reason to be sure of God's existence, so that faith was necessary to know anything about our Creator, even that God exists. Such a position is known as fideism and is even widespread today (though clearly condemned in the last two Ecumenical Councils). Note also what is said in the encyclical “Faith and Reason” (1998): “There are also signs of a resurgence of *fideism*, which fails to recognize the importance of rational knowledge and philosophical discourse for the understanding of faith, indeed for the very possibility of belief in God.” (n. 55)

Descartes' effort to restore reason to its rightful place in our minds was probably inspired by a desire to come to the rescue of science, especially in its new brilliant beginning. But to some extent he seems to have wanted to come also to the aid of religion, i.e. the Catholic faith and theology, by showing, for instance, that reason, now purified of ancient errors, was able to prove God's existence etc.

Coming now to what he did, therefore, in his attempt to provide a basis in certainty for our intellectual knowledge or science, Descartes, disastrously as we can now appreciate, was prepared to make major concessions to the scepticism of the age. **Not only was he prepared to sacrifice the certitudes of the clearest intellectual knowledge of all in mathematics, he was even prepared to discard the evidence of his external senses. That last concession was fatal to any attempt to refute universal scepticism.**

Being a mathematician he (inconsistently) retained the value of his imagination. For, being an internal sense, it evidently only reproduces what it has received from the external senses. That is its primary sensory role. Descartes was deceived somewhat from the additional function the imagination has in humans of “creating” combinations of primary images into fantastic shapes etc. This put him on the track of imagining an “evil genius” and reducing all our imaginings to a dream state.

Aware to some extent of the inconsistency of admitting any certitude in his imagination, Descartes was driven back deeper into the recesses of his “mind”. From this derives his subsequent distortion of the relation between mind and body; the mind being then identified with spirit, thus further confusing the difference between the spiritual and the corporeal. **For, “mind”, conceived as including any knowledge “internal” to us does not distinguish what we know from the higher internal senses (e.g. this imagined triangle, triangle in the concrete) from what we know by our purely intellectual powers (e.g. triangle as such, triangle in the abstract).**

“Mind” for Descartes, indeed, is equated with any knowledge we have as human beings. Thus, first of all, he confused intellect and imagination, or the concept and the image, a confusion that carries through even to today in modern philosophy. But then making consciousness and self-knowledge primary in the order of knowledge, all knowledge became equated with what bears upon the internal; there remained no role for the external senses

To make things worse, Descartes could think of activity only in terms of mental or spiritual activity. Body then comes to be seen essentially in passive and mechanical terms, as inert. He famously equated body with pure quantitative extension. This truncated concept of body had some utility where the mathematical aspects were at the forefront in the study of nature – making his mathematics a defining influence in modern science.

His sharp delineation of mind and body, however, meant that anything outside the human spiritual world operated like a machine. This is how Descartes saw even animals below man. These are all particular idiosyncracies of Descartes philosophy. Nonetheless, such was his prestige as the “father” of modern philosophy, some of these peculiar aspects of his thinking have continued to have some influence. The modern day discussion of the Body-Mind problem, for instance, still bears the hallmarks of the relationship as conceived by Descartes, rather like a pure spirit or angel pushing a corporeal cart around, neatly put in the expression “the ghost in the machine”.

The major philosophical influence, however, remains in the epistemological department of philosophy. Indeed, modern philosophy has hardly been able to progress beyond this area of discussion. One begins to suspect that the error involved is one of principle. As Aristotle long ago remarked, “A small error in the beginning is a big one in the end”.

Having abandoned the certitude derived from our external senses, Descartes appeals to the certitude that is from the intellect itself, little realising that without the information provided by his senses his intellect had nothing to think on. Even one's knowledge of oneself, or self-knowledge, is a function of what one knows already of other things. Without such a source of information it is as if our intellect were a light shining upon a completely featureless and transparent universe. The “mind” would be, as it is at the beginning, a complete blank.

His argument, then, “I think, therefore I am”, supposes he has something to think about, apart from his act of thinking. Surreptitiously he makes his act of thinking into a primary object of thought. But, as an act of consciousness, this is only a reflex knowledge, presupposing some initial direct knowledge by the intellect. The word itself, con-sciousness (knowing with), tells us this. So Descartes became sucked into something like the imaginary black hole of modern science, a nice symbol for the universal scepticism that he tried to escape from.

This has all to be worked out logically by subsequent thinkers. Descartes' himself was not the most consistent of thinkers. Having discovered, as he thought, a fixed point of reference in the fact of his own thinking, even when doubting universally, he boldly asserts that he cannot doubt it because it is his clearest and most distinct idea. Thus, the clear and distinct idea becomes the test of all his certitudes. But, so far as clarity and distinctness go, it is mathematical ideas that enjoy those mental qualities pre-eminently – and he had already rejected such ideas as a test of certitude.

His development of a new philosophy of reality and the world from his archimedian principle, however, enjoyed little success. What lasted, nonetheless, was his shift of focus from the world outside to the world within, or, to put it in

aristotelian terms, **after Descartes all philosophical discussion was to take as its starting point not things but thinking, not being but knowing.** This fundamental shift to subjectivity was noted by the late Pope John Paul II in his encyclical “Faith and Reason”: “Abandoning the investigation of being, modern philosophical research has concentrated instead upon human knowing. Rather than make use of the human capacity to know the truth, modern philosophy has preferred to accentuate the ways in which this capacity is limited and conditioned.” (n. 5)

The significance of this shift can hardly be exaggerated. What should only be investigated after we have acquired some knowledge of the real world becomes the first object of study in philosophy, and proves to be virtually the only one. It is not that self-knowledge is not a worthy object of study but it only progresses as we progress in our knowledge of reality and the world.

“... the more human beings know reality and the world, the more they know themselves in their uniqueness ... all that is the object of our knowledge becomes a part of our life.”(FR n. 1) **To cut us off from knowing the external world, as Descartes did, is therefore also to cut us off from knowing ourselves.**

The history of philosophy since Descartes, then, has been the invention by admittedly brilliant but solitary thinkers of ever more sophisticated mental constructs rather than the co-operative discovery by lovers of wisdom of the truth of things. **The paradoxical result is that by concentrating all our attention upon our subjectivity (the human ego) we have failed even to understand ourselves. Having lost touch with reality we have lost touch with our own identity:** hence the modern mental torment.

This crisis of identity is not something that affects individuals only. It forces whole societies into the exercise of radically re-inventing themselves in the hope of finding themselves (temporal happiness). But it is a hopeless task. For the secret of life does not lie within ourselves. However, these observations lie somewhat outside our immediate subject. They are only relevant in so far as we need to understand the pervasiveness of the Cartesian presupposit. Despite valiant attempts in more recent times to escape from it, contemporary philosophy is still much affected by it.

After Descartes

Returning to the development of philosophy after Descartes we should first note the period of Rationalism. This is also known as Cartesianism. For it simply involves attempts to do the same thing that Descartes did: construct an intelligible world from within starting with what were thought to be first notions and principles of human understanding. These attempts, such as those by Spinoza (“Ethica More Geometrico”) and by Leibniz (another original mind in Mathematics), tended to have a mathematical modality and developed in quite opposite directions (Monism and Pluralism). Any resemblance to reality, however, was in all cases quite co-incidental.

This artificiality caused a reaction in the British mind, noteworthy for its common sense approach to things. So we got the quite opposite philosophy of Empiricism – or so it seemed. For, even those who appear to have reacted most strongly against Descartes, such as the British empiricists, are arguing within his context of subjectivism. This complicates the interpretation of their thought.

Empiricism

Empiricism, in its original sense, may be equated with what we called above Sensism. It reduces all human knowledge to that of sense, making man no more than a (highly developed) animal. It does not question or doubt the certitude of such knowledge, nor the fact that it gives us access to a world outside ourselves. It simply asserts that the senses are the source of knowledge, taking that to mean that there is no value in human intellectual knowledge considered as something distinct from sense. Both Aristotle and St. Thomas subscribed to the same dictum: *nihil est in intellectu quod non prius fuerit in sensu*, but the sensist or the empiricist refuses to

allow that the intellect sees more in things than the senses.

This denial does indeed lead to a contradiction; for sense knowledge, being of the accidental and apparent only, cannot support an intelligent grasp of reality. All is appearance; things are “really” only what they seem to be; “man [meaning our knowledge] is the measure of things”, as the ancient sophist Protagoras put it. What seems right and true to you is right and true; even if I believe something contradictory; we can be, indeed, we are, both right; Relativism has become the only Absolute. Ultimately, everything is a matter of opinion.

The scepticism that results from the denial of the value of intellectual knowledge, of the frank denial of the principle of non-contradiction, is what Aristotle contended with. He showed the absurdity of reducing all human knowledge to the level of sense only; that you cannot hold the position that the only knowledge available to us is sense experience, even though we cannot do without it. But it is to be noted that for the ancient empiricism whatever knowledge we had came from things outside us. In that sense it was a “realism”.

But, when we come to Locke and his followers, we find that their reputed Empiricism contains a more glaring contradiction than that which belongs to Ancient Empiricism. They opposed Descartes by reducing the content of human knowledge to the level of sense knowledge, on the ground that our knowledge is not “innate”, i.e. it is not from within us; yet at the same time they adopted Descartes' contention that the first things we know are our own ideas. That is to say, the mind's ideas are not derived originally from some experience of things outside us.

Locke's argument with Descartes is with his “spiritualism” or angelism. Professedly he rejects Descartes' “innatism”, and substitutes “experience”, as the source of our knowledge. From a common sense point of view he has the better of the argument. But his initial focus is on the contents of our mind. i.e. our ideas, not on their origin outside the mind.

Ideas, for Locke, are not something distinct from what we perceive by sensation and “reflection” on our acts of knowledge (consciousness). These are the elements of our mental make-up. Anything more is but a complex of these elements formed in the mind. Locke thus virtually reduces simple ideas to elementary images and complex ideas become an effect of the associative function of the imagination. He also takes over, it seems, Descartes' confused notion of “mind”, not properly distinguishing the idea (concept) from the image, the universal from the particular. The implications of this are not immediately evident to him, so that his philosophy is an empiricism mixed with doses of common sense.

His arguments are framed in a way that is basically realist common sense; they derive their persuasiveness from their evident truth regarding the origin of our knowledge. But the superficiality of our sense knowledge, which is limited to the

accidental features of things, and these known only according to their particular changeable manifestations, lends support to them being grounded in our mental world rather than in a world outside.

It is worth noting here that this subjectivist or psychological interpretation of the objects of the senses (eg. sound and colour) seemed to receive confirmation from the new scientific explanations of these “phenomena”. But we must be careful to realise what is happening here. The new scientific approach was only interested in reducing physical reality to its minutest parts in order to see how things were made up, with a view to controlling their function.

It was as if one were to take a clock apart and then declare triumphantly that there was no such thing as a clock, for it was no more than a random collection of parts. This very method of examination is alien to discerning the unities or forms of things. There is nothing wrong with this scientific method – indeed it proves to be highly productive for the purpose it serves – but it gives only a partial knowledge of the real world, and that the lesser part. The real world is one of beautiful sounds and colours.

The issue, then, that Locke takes with Descartes is with regard to the nature of the mind's content (his Essay is “Concerning Human Understanding”), not with regard to the external senses (“sensations”) feeding, as it were, the mind from a world outside it. Locke saw himself as refuting Descartes' “innate ideas”, and putting “experience” as the source of our “understanding”. But it amounted only to substituting innate sense data for innate ideas.

That is to say, Locke, as stated above, adopted Descartes starting point which put in doubt the existence of anything outside the mind and made the internal workings of the mind the first object of knowledge. Put in scholastic terminology, that meant that the idea of something, say a horse, and not the thing, the horse itself, was the first and direct object of our knowing. What we were first aware of were our own ideas.

This was plain contrary to our experience. For our ideas of things are only known on reflection. But Descartes stood on his head and declared the world was upside down. All who followed him did the same. The only difference Locke introduced was to reduce our ideas to simple sense objects (“ideas” like this colour, that shape, etc.) and our consciousness of our psychic acts, from both of which “sources” (“external” and internal) we built up complex objects or “ideas”.

He spoke of a twofold experience, external and internal, but they were both dealt with, mixed up with a lot of common sense observations, as components of the mind. Thus, he ended up in a half way house, talking about primary (colour etc) and secondary qualities (shapes, size etc) with the latter only “outside the mind”.

The new empiricism, therefore, adopted an assumption coming from Descartes' method of procedure which would have enormous implications for future philosophy. For, despite his evident desire to resurrect our mind's contact with the external world, to restore external sense experience as the source of all our knowledge, Locke begins, as Descartes felt he was forced to do, with our internal world of knowledge, or consciousness.

Locke thus addresses the question of how these ideas may be related to reality outside the mind. Taking the same starting point as Descartes, his common sense approach clashes with his cartesian presupposition. His faith in the senses as the source of our ideas is not sufficient for him to obtain a firm grasp of reality. The idea of substance, the basis of all intelligibility belonging to any existent thing, becomes something that is out there but somehow unknowable. Primary qualities, such as colour and sound, are subjective only. Only the quantitative aspects of bodies, size, shape etc., are admitted as "real" (compare Descartes).

But the connection with an external sensible world cannot be made, as Berkeley and Hume proceed to show. Berkeley tries to maintain a mid-way position but it is demolished by Hume. So British Empiricism having started as an attempt to assert a common sense objectivism against an intellectualist subjectivism, i.e. to bring Descartes back to reality, ends as a phenomenalism, a subjectivism deprived of any intelligibility whether objective or subjective, i.e. a subjectivism of illusion. Hume's prestige as a modern philosopher stems in great measure from the dramatic defeat for philosophy he seemed to accomplish working purely from the seemingly self-evident principles supplied by Descartes and Locke. Kant will try to escape from this most extreme form of anti-philosophy and anti-science. But again he will not change essentially the starting point, which involves the mistake of giving primacy to knowledge over being.

Kant

With Kant the explicit subjectivism of Descartes re-asserts itself. Philosophy from thereon becomes preoccupied with investigating the supposed limits and conditions of human knowing. As the late pope put it so aptly: "Abandoning the investigation of being, modern philosophical research has concentrated instead upon human knowing. Rather than make use of the human capacity to know the truth, modern philosophy has preferred to accentuate the ways in which this capacity is limited and conditioned." (n. 5)

But, since the consideration of Kant's philosophy belongs to the treatment of the explicit denial of an objective cause of certitude we will postpone our main comments on kantianism to then, only dealing with it in so far as it necessary to explain the development of Positivism .

Positivism

After Kant, Rationalism takes the form of Idealism and Empiricism takes the form of Positivism. Idealism will be dealt below. But such had become the prestige of modern science that philosophers were reluctant to go all the way with empiricism. For this meant giving no meaningful value at all to scientific laws. Kant's philosophy was an attempt to transcend empiricism in this regard. But he made such laws “a priori” and beyond “experience”, the objects studied in physics and mathematics inhabiting a strange world between the subjective and the objective.

It attracted many followers, being especially attractive to scientists. But others sought ways to accommodate the apparent objectivity of the laws of the physical sciences within the world of sense experience and the experimental method of science. This, generally speaking, gave rise to Positivism (i.e. positivism as a theory of scientific knowledge; not positivism as a moral or legal theory). One approach was to make such laws ones of probability only. Simple mathematical laws proved to be a problem in this regard; for here the positions taken were decidedly counter-intuitive. J.S. Mill, however, the most consistent of the positivists, was prepared to say that mathematical laws were not certain but probable only: $2 + 2$ was only probably equal to 4. The universal laws of Logic he reduced to tautologies.

All in all, however, scientific laws proved difficult to explain within “experience”. By the twentieth century, therefore, pure positivism gave way to more refined versions such as Logical Positivism. The understanding of this refinement, however, requires some acquaintance with the development of modern symbolic or propositional logic, which developed along with the new mathematics. Suffice for us here is to be aware that it is part of the same mental effort to avoid admitting a subjective cause of certitude in the sense used here. i.e. a distinct (spiritual) activity on the part of the human intellect in forming the object of human knowledge over and above its origin in the senses.

Positivism is still a strong force in modern thinking, as is kantianism. Strangely enough, both these are generally presented as the two rival theories, in science and morals, even though they have a common root (traceable to Descartes). Their influence is especially strong where Science and Technology retain their dominance in the intellectual life and general education within a society. More and more, however, an anti-science mood is developing, because the benefits brought by modern science and technology seem to be being overtaken by the costs.

A yearning for a return to the ethical and even metaphysical dimensions of life is becoming more and more evident. We will also leave the treatment of these trends in philosophy till later. It might be said here, though, that despite valiant attempts to escape from the prison of the mind, contemporary philosophy is still haunted by the ghost of Descartes.

First Term Summary

We have looked at Scepticism in general and Ancient Scepticism before paying particular attention to Modern Scepticism as influenced by Descartes' "method of doubt". Generally, scepticism develops out of the existence of opposing systems of philosophy, i.e. the different kinds of theories proposed to explain reality as we know it. Philosophers try to give a complete explanation of things. But the different systems they come up with cannot be reconciled. Indeed, they are often clearly contradictory.

There is a temptation, then, "to throw in the towel". Life is too short to spend much time and effort in pursuing the ins and outs of these profound thinkers' minds to see how they arrived at their final positions. That is generally the motive for scepticism. The fall back philosophical position of scepticism is often prompted by practical reasons.

However, the issues are so fundamental, and the personal and social implications can be, as we know from bitter experience, so devastating, that we cannot afford not to attempt to resolve them as best we can, if not by oneself then with the help of our "friends" (not forgetting faith). Marxism, which no one would say was "only a philosophy", can be traced back to roots that are ancient and modern. It was an exotic mix of modern Positivism and Idealism with ancient Materialism. Similarly, other more current systems of philosophy have had and are having an enormous influence upon personal, social and religious life. They all end up in some sort of scepticism and this is generally traceable to earlier systems of philosophy which we consider in this course.

Nothing is more corrosive of good morals, and manners, than a philosophy of scepticism, i.e. one that denies our capacity to know the truth. Apart from considerations of the love of truth itself (philosophy means "love of wisdom"), therefore, there are eminently practical reasons for defending Such is the importance of studying this part of philosophy.

The obvious explanation for the conflict of views, that the sceptic is not prepared to allow, is that one, or both, has made some mistake at the beginning of, or early in, his or her thinking, and hence has gone right off the track. As Aristotle noted: "a small error in the beginning is a big one in the end". Generally, as can even be seen from what has so far been dealt with, the mistake amounts to an oversimplification regarding the nature and causes of human knowledge.

We can mistake the significance or range of the various states of mind which we may be in with regard to some subject matter, be it ignorance, doubt, suspicion, opinion or certitude. We can arbitrarily limit the causes of certitude to the objective only (as in sensism) or to the subjective only (as in intellectualism). We have seen how these extreme dogmatisms produce by way of reaction a scepticism; in regard to an exaggerated spiritualism in knowledge witness what followed platonism in ancient times and cartesianism in modern.

With Plato, however, the downgrading of sense knowledge did not result in a disconnect with reality. For Plato's vision was simply transferred from the material to the spiritual aspects of reality, which, as a shift of attention of the mind, was not unfavourable to religion and faith. With Descartes, on the other hand, there entered into the history of philosophy a profound disconnection of the mind from reality, a shift not from the material to the spiritual but from the real to the mental. He reversed the natural relation between things and ideas in our knowledge, thereby creating an insoluble problem for those who followed him without “realising” (pardon the pun) what he had done.

Let us, therefore, follow the tortuous course of philosophy as it was taken up again by Kant after the theoretical scepticism of Hume.

HUME'S "SOLUTION"

Empiricism (and Positivism), being prepared to allow to humans only sense knowledge, accordingly denies the existence in us of any properly intellectual knowledge. Prior to Descartes this signified only this: that we are no more than animals whose knowledge is limited to what we receive of the particular and transient aspects of things.

There is as yet in this empiricism no denial of the objective value of knowledge or the reality of the objects of knowledge. As such, this philosophical position may simply be called SENSISM. It says that whatever we know is no more than "the appearances of things", for which the modern term since Kant is phenomena. This position in its original form, therefore, does not explicitly deny the certitude of our knowledge or the objectivity of that certitude.

However, even in ancient times, it soon became clear that there are irresolvable difficulties in holding this position. Heraclitus took it to its extreme yet logical conclusion. Relying on the evidence of our senses only, he argued that everything that exists is in a process of change (becoming). But if everything is only coming to exist it cannot yet exist. If all is become, then nothing, strictly speaking, is. Parmenides turned this argument around to arrive at the conclusion that nothing changes. For, upon the principle that being and becoming are mutually exclusive, and the existence of things is evident, therefore nothing becomes. Change is an illusion. Plato was much influenced by Parmenides.

Moreover, as we have seen, the position of sensism leads inevitably to scepticism and the pure relativism of human knowledge. For, as the sophist Protagoras argued: what appears to one appears differently to another; but if each is thus the measure of (the supposed truth of) things, then, truth is relative to the observer. All is subjectively determined; nothing is objectively certain.

So it can be seen that empiricism or sensism implicitly denies even an objective cause of certitude. Without the support of intelligibility, sensibility itself dissolves into unreality; the reality of the sensible or animal world ultimately depends on the reality of the intelligible or spiritual world.

But these philosophical or logical consequences were not adverted to, and, accordingly, this allowed the original empiricists to put themselves forward as realists who were in no doubt about the reality of the world they lived in. They took their philosophical conclusions no further and concentrated their attentions on practical matters; we should be mainly concerned, they argued, with getting on with life. This attitude is reflected in modern PRAGMATISM.

After Descartes, however, as we have also seen, Empiricism takes a more direct route to scepticism about reality itself. It adopts the same position that all

human knowledge is that perceived by the senses only, thus reducing the object of what we know to the particular and transient aspects of things. In this its defining position, in agreement with empiricism as such, is a denial of the existence in us of any properly intellectual knowledge.

But, Descartes, in trying to refute scepticism, had admitted a basic scepticism regarding our contact with the external world through our senses. In following Descartes' lead of starting from our ideas of things rather than from the things from which our ideas come, modern empiricism had already adopted, as a fundamental assumption - initially, in Locke, without realising its implications - an explicit denial of the objectivity of our knowledge.

That is to say all modern philosophy since Descartes moves from a position that explicitly denies an objective cause of certitude. This means that the only avenue for a refutation of scepticism is by recourse to a subjective cause of certitude. Modern empiricism, then, is only a (phenomenalist) variant of IDEALISM. The empiricist experiment to provide a way out of scepticism, begun in Locke's effort to refute Descartes' innate ideas, quickly failed and quite logically ended in the purest form of scepticism. the theoretical PHENOMENALISM OF HUME.

KANT'S PROJECT

This, however, was a most unsatisfactory intellectual position in the context of the spectacular rise of modern science. For Kant, as for Descartes, both being expert practitioners in the new physico-mathematical sciences, the certitudes of the sciences were beyond question. The problem, then, became a matter of finding a way to explain our scientific (including mathematical) certitudes in a mind subject to fundamental doubt regarding reality, i.e. lacking metaphysical certitudes.

The project was really self-contradictory. If one is fundamentally sceptical one is sceptical about everything, including the truths of mathematical and physical science. Nonetheless, Kant eventually came up with an ingenious theory of his own after initially accepting the rationalistic philosophy that followed quickly upon Descartes' revolutionary method. Earlier Kant had followed the cartesian line of thinking advanced particularly through LEIBNIZ, but reading Hume awoke him from his "dogmatic slumber".

The dogmatism to which he was referring was that of RATIONALISM, which made the unwarranted assumption that its quasi-mathematical mental constructions were somehow derived from reality. Kant was satisfied that Hume had shown that nothing from the world outside our minds could found any necessity or certainty in our scientific knowledge. For all that the senses provided was a chaos of impressions or "sense data" which were at best only the material out of which we constructed the sciences.

The pity of it is that Kant started off on the right track to providing the right solution to the problem. For the problem he set out to solve was analogous to the old problem of universals. As Aristotle insisted, “science is of universals”. The problem of intellectual or scientific knowledge, then, is how to reconcile the particularity of the real things known with the universality of their objectivity in the mind, or putting it in Hume's and Kant's terms, how to reconcile the necessity of scientific laws with the evident contingency of the things with which science is concerned.

This apparent existence of opposite conditions in the object of things known can only be resolved if there is some way we can explain what causes this universality in the processes of human knowledge. The key to its solution goes back to Aristotle's distinction between act and potency and form and matter. The early Greek philosophers (culminating in the positions of Heraclitus and Parmenides), working without the benefit of those distinctions, were logically driven to extreme and opposite philosophies of reality – alternative theories, as it were, of pure potency (flux) and pure act (unchangeable Being).

Kant made use of Aristotle's distinction between form and matter to overcome the impasse involved in the opposition between empiricism and rationalism. But he made two serious errors in its application. It is the combination of these two errors that provide the key to the understanding of Kant's philosophy. The first was to tie form to matter so that any true knowledge needs to have both. Without form, knowledge, as Kant put it, is blind; without matter, it is empty. Here Kant is arbitrarily limiting the content of human knowledge to material objects. Intellect (or Reason) and sense are bound together. Acting independently they do not qualify as knowledge.

Kant does not explore the significance of this forced union in the case of the functioning of sense knowledge by itself – for he simply dismisses it as blind, which means it is no knowledge. It is more to his purpose to use this arbitrary amalgam of knowledge to “prove” that purely intellectual knowledge is subjective, i.e. without an object, and therefore on that score also not true knowledge. This is where the second error comes in: making form subjective only.

Kant then embarks on an elaborate demonstration of how knowledge so narrowly and arbitrarily defined by him means that the only valid knowledge is Mathematics and Physics (i.e. the natural sciences), these having the necessary imaginative or sensitive content. Metaphysics is dismissed as empty speculation; lacking content it is objectless. Curiously enough, he manages to talk about its formal side as if it were an object of knowledge. He gets around this, however, by calling such an “objectless” consideration “transcendental”.

The solution of the problem of knowledge does lie in distinguishing between the formal and material aspects of things known. Philosophies which do not make use of this sort of distinction, both in regard to the nature of reality and knowledge, end

up in extreme positions, like Heraclitus and Parmenides in regard to the nature of reality; or like pure empiricists or rationalists in regard to the nature of knowledge.

There is a particle of truth in saying, then, as Kant does, that sense data provide the matter of knowledge and the mind provides its formal character. But Kant, unfortunately, was not able to transcend the physical limits of this distinction, thus equating content with material content, when we are talking about the object of knowledge. In order to understand knowledge we have to bring in a metaphysical consideration of the division of reality into act and potency as well. We will go into this more fully when we come to the last sections of Woodbury's *Defensive Metaphysics* Book I (Sections 4, 5 & 6).

Kant also failed to see was that, despite providing as it were the material for intellectual or scientific knowledge, the particular things reported on by the senses do exercise some sort of activity in the knowing process. They are not, as Kant mistakenly took them to be, purely passive. The notion of “matter”, then, had to be taken analogously or relatively, not univocally or absolutely. Kant imputed to things in themselves the condition of unknowability that applies to pure potency or primary matter. This itself vitiates the whole of his philosophy of knowledge and consequently the whole of his philosophy.

For precisely what external things provide are the forms that make up the content or “material” (in the sense of subject matter) of knowledge. Knowledge as we shall see is the having of forms in a higher fashion than physically. It is through the activity (basically physical) of external things that their forms are received into the different faculties of knowledge. This activity, however, is subsumed under a higher (vital) activity where the activity of knowing properly takes place.

If the things were perfectly passive there would be no way their forms could act upon us, and so there would be no knowledge taking place. The faculty of sight does not reach out, as Plato thought, to gather in the colours of things. As Aristotle taught, the sense faculties have to be passive in some way to explain sensation.

Kant, therefore, misunderstood the distinction he used and, like Plato and Descartes, reduced external reality to an insubstantial world of total inactivity (the inert). When compared with the enlightened world of science to be found in the mind such a world disappeared into the shadows of unreality.

Nonetheless, unlike the pure Idealists who took his philosophy to its logical conclusion, Kant used this external “matter” in his philosophy of knowledge, giving him his distinction between the “noumenon” (thing-in-itself) unknowable but, as it were, the remote matter of knowledge, and the “phenomenon”, what is in fact the precise object of knowledge, a composite of “a priori forms” and “matter” in the empirical content derived in some inexplicable way from things.

It is clear, then, that by this amalgam Kant tied forms to matter in all knowledge, thereby by definition, “a priori”, excluding Metaphysics. This physicalist, and anti-metaphysical, notion of knowledge as such has repercussions even today in Theology. For highly respected theologians, such as Karl Rahner, have had difficulty in understanding our intellectual knowledge as purely spiritual, being prepared to say that “even the most spiritual act of man always has a material element” (in “The Intermediate State”, Theological Investigations. Vol. 17, “Jesus, Man and the Church” trans. M. Kohl, New York, Crossroads, 1981, 114-24).

Thus, Kant was able to keep his foot (inconsistently) in both camps, Positivism and Idealism, which no doubt explains the broadness of his appeal to modern philosophers and scientists. Each could take (selectively) from him what they wanted. But let us look now at Kant's philosophy itself.

WEEK 7

PHILOSOPHY AND TRUTH

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KANT'S PHILOSOPHY

Taking his starting point, in good cartesian fashion, by reflecting first upon the problem of certitude regarding the state of human knowledge in his times, and noting

that whilst there was no great disagreement amongst scientists (including mathematicians) concerning the findings of their sciences, there was hardly any agreement amongst “Metaphysicians” (meaning Rationalists) despite their dogmatism about the fundamental nature of reality.

Descartes had solved this problem by his test of “clear and distinct” ideas, which in fact are a quality that applies especially to mathematical ideas. He imported this test into his “Metaphysics” and the result was an overly mathematicised rationalism, as is evident in the philosophical constructions of Spinoza and Leibniz.

The fascination with the certitude attaching to our mathematical ideas was continued in Kant. Indeed, it would seem that it was from Mathematics that he found the clue to his “solution”. For the objects of Mathematics appear to have a certain “a priori” character in Kant's sense. Their abstraction from physical or “sensible” conditions makes them appear independent of “experience”, so that it is sometimes difficult to decide if they are (abstract) representations of the quantitative aspects only of physical things or purely mental constructions.

On top of that is the fact that all sciences (except the rational arts themselves) use logical “constructions” to arrive at conclusions that are nonetheless truths applying to the reality studied. Kant's solution misconceives the relation between the reality of the subject studied and the intellectualized state of the object of the study, which necessarily involves a degree of abstraction from the particularity and contingency that belongs naturally to the subject matter.

There is a misunderstanding too of what is involved in intellectual abstraction, which made it impossible for him to see how the universal and the necessary can come from the particular and the contingent. Abstraction does not alter or change in any way the material things under consideration. Initially, it is not an extraction of some part only of some thing, but an abstraction of the whole or essence (now able to be considered without the limiting conditions necessarily applying to the individuals). The abstract concept of man remains true of all individual men even though individually each cannot realise all the potentiality represented by the concept. Indeed, as considered in this abstract way, “man” does not and cannot exist. But that does not make the concept false or fictitious, only abstract. The same applies to all the universal concepts and necessary laws of science.

Kant, following Hume, could not understand how this could be so. Hume had denied the universality and necessity to be found in the sciences, even in Mathematics. Agreeing with Hume that these features of our scientific concepts and laws could not be drawn “out of” (abstracted from) the external things, Kant found a way to account for them totally from within the mind. For him, they became mere “a priori forms”, of sensibility and understanding, principles of organization only of the empirical content of our knowledge, not drawn in any way from things in themselves (noumena).

Kant manages to retain a token realism in his philosophy, but it is more properly classified as subjectivist. For, the focus of Kant's thinking was on thinking itself rather than on things. His attention was turned to the conditions of knowledge away from the examination of the natures of things.

By calling his philosophy “Critical Philosophy” (see discussion below) he meant to signify his agreement with Hume's basic scepticism, that we must resist our spontaneous certitudes about, and indeed reject the evidence of our senses for, the existence of an external world (though inconsistently he accepted the existence of the unknowable “things-in-themselves”). By naming it “Transcendental Philosophy” he signalled his agreement with Descartes that we must look into ourselves only to found and find the basis of the certitudes of our sciences. This “revolution” in philosophy, however, turned out to be only a half-way house to Idealism.

The details of Kant's philosophy are set out in Woodbury. Here we are only concerned to understand its fundamental features. After Descartes, Kant is the single most important and influential philosopher of the modern era. He is a strange mixture of dedicated scientist in the modern sceptical mode and a devout religious in the protestant pietist mode; anti-metaphysical in speculative philosophy, anti-intellectual in practical philosophy.

KANT'S TERMINOLOGY

His was an ingenious attempt to preserve the truths of mathematics and the physical sciences together with the truths of morality and religion, in the modern state of mind caused by Descartes's disconnection from reality. To carry this project out he had to invent a whole new terminology to express what he regarded as a revolution in philosophy analogous to the Copernican revolution in astronomy.

He fundamentally changed the meanings of traditional terms, such as “a priori”, and “a posteriori”, “analytic” and “synthetic”, “transcendent” and “transcendental”, “form” and “matter”, “cause” and “condition”. He invented new words such as “noumenon”, gave new meanings to words such as “phenomenon”. In fact, he is the first major example of what has become a characteristic of the modern philosophers who followed in his wake.

Each successive major philosopher has produced a system of thought that is so novel or “original” it demands a whole new language in which to articulate it. The latest and most extreme example of this is Martin Heidegger. It is not surprising that only the most dedicated of thinkers take on the tedious task of having to learn a new language in order simply to understand what a person is saying.

In most cases, the main difficulty consists in the obscurity of the language, not in the profundity of the thought. What on earth, for instance, can Heidegger mean by

calling man *Dasein* (German for “Being there”)? Translators of his works from the German do not bother trying to find an English equivalent. For at best it is a poetic expression, not a philosophical one. The cat on the mat is as much a “being there” as a man. This proneness for “inventive thinking” is much the same with Kant, though not quite as bad.

However, such is the pervasive influence of kantian thinking in our modern education, especially at the highest level, in his case many of the new words and meanings have been absorbed into our general culture (e.g. “a priori”). It is more important in his case than in most, then, that we familiarize ourselves with his terminology so as to detect in what way and to what extent our community's thinking has been affected.

CRITICAL PHILOSOPHY

To give but a few of the more important examples, let us take first the meaning of the leading kantian term “critical”. The word is derived from a Greek word meaning “to judge”. A “critical” thinker, then, simply means one who judges well. After Kant, to be respected as a philosopher one is expected to be of a “critical” mind. What does that mean? It means one who does not assume anything about reality, without “proof” or “justification”. Basically, then, it means one should be of the same mind as Kant, who accepts the presupposition of Descartes, that we should begin, as the sceptic does, by doubting everything.

In effect, then, to be critical means not to judge, but to suspend judgment. Its meaning is converted to its opposite, as a concession to Hume's phenomenalism. Kant, like Descartes before him, promises to lead us out of this universal scepticism back to reality. Unfortunately, the promise is not fulfilled, nor can it be whilst ever we remain in this “critical” state of mind. So far as advancement in mental health is concerned, the term has taken on the meaning of its medical equivalent.

This underlying aversion to certitude has affected the whole of modern thinking. Every attempt to build a bridge from reason to reality fails because of this confusion of tongues, rather like the attempt of old to build a tower of Babel.

FORM AND MATTER

This sceptical basis of his thinking is the key to understanding the changes in meaning of the other more important words in his vocabulary. The first and foremost of these are “form” and “matter”. In fact, the distinction these two words stand for is the key distinction discovered by Aristotle which led him to resolve the contradictory positions taken by the philosophers of physical nature who preceded him.

They are, however, but an application within the physical or material world of

the more fundamental “metaphysical” distinction of being into its actual and potential aspects (“act” and “potency”). For the moment, however, we will confine ourselves to the consideration of “form” and “matter” as it is precisely in regard to them that Kant misread the nature of knowledge.

For Aristotle, and most philosophy since, “form” and “matter” are two intrinsic principles of material things, i.e. of reality as we first know it through our senses. Things change and yet remain the same. The reasons in things for this cannot be the same, for they are opposite characteristics. “Form” stands for the reason in things (such as horses) why they remain the same despite the changes occurring. The name “matter” has been given to the reason within why the changes occur. “Formally”, i.e. as having an equine form, they are always the same, horses, but “materially”, they are always in a process of change, without ceasing to be horses (until they die, when their matter loses its form).

The important thing to note is the application of these notions to things without reference yet to knowledge. Aristotle explains knowledge using this distinction in things. To know is to have in some mysterious way, not just one's own form, but the form of another thing. This having, however, is different from the way matter has form, which we call “physically”. It is had in a way that something, which already has its own form, takes on another form; so that this new form does not become one's own form (additionally) but is had whilst retaining its “otherness” (we might call this manner of having forms “psychical”).

Thus, when we know a horse, we acquire the form of horse, but we do not become physically a horse; just as when we know something red we do not become red, although the form of redness is somehow now ours. We need not go any further into the philosophy of knowledge (as we will we come to it later). Suffice is to note that in the traditional theory of knowledge, as is our common experience, to know something is to be in-formed by it. This is what Kant failed lamentably to understand.

For Aristotle the difference between sense knowledge and intellectual knowledge is explained by the degree to which we are able to receive the forms of things purified at least in some degree of their material element. At the level of sense we receive in our faculties of knowledge the forms of things but only in a superficial way and as they are affected still by their material conditions. The form of horse that we see by the sense faculty of sight is limited to its surface only (its coloured shape) and this with all its material or individual limitations.

With intellectual knowledge, however, we are able (by abstraction) to penetrate into the essential forms of things and, at the highest, most spiritual, level of understanding, know them purified of all their material conditions (if only according to their most general characteristics). Human knowledge, however, is complex; these two examples are taken from the two extremes. There are higher sense knowledges and lower intellectual knowledges between these two. But the two, the objects of the

sense of sight and the deepest intellectual insight, illustrate how knowledge consists in receiving the forms of things somehow more and more freed from the influence of the material principle in things.

Kant, looking at horses through the lens of Descartes, did not even see their figures or shapes, as Descartes, and even Locke, thought they saw, as modes of extension for the first and primary qualities for the second. Hume had persuaded him that all impressions of the forms of things, qualitative and quantitative, were an illusion. As for the horses themselves, their substantial forms, all were agreed that there were not any in reality. What an absurd idea – real horses running around a race track!

A PRIORI FORMS

So Kant reasoned that the “forms”, or the formal principles we associated with things in our knowledge, had to come from our own minds, to be connected somehow with the mental world of our ideas. To think that the principle of stability, signified by ‘form’, really belonged in the things themselves, as thought by all ordinary men and women, was something quite naïve and “uncritical”. However, this mysterious principle of fixity in the objects of our minds was no ordinary idea. It was not to be equated with what we normally call our ideas, such as that of “horse”, which, as we shall see, was more properly to be called a “phenomenon”.

Kant called them “a priori forms” and divided them into two kinds, “a priori forms of sensibility”, by which he explained the certitudes of Mathematics, and “a priori forms of understanding”, by which he explained the necessity of the laws of the sciences of nature. He did not need another set of “a priori forms” to account for Metaphysics for, being a sceptic with regard to the fundamental aspects of things (the general forms of being, such as unity, truth, goodness, beauty etc.), there were not any such stable characteristics of things according to his thinking.

This was not his final position with regard to such sublime forms of reality. They might be out of reach intellectually, but our faculties of will and affectivity generally would be brought into play (independently of any rational support) to rescue for us goodness and beauty at least. Upon this basis Kant would build his Moral Philosophy (“Critique of Practical Reason”) and his Philosophy of Aesthetics (“Critique of Judgment”). It is here that his fervent practical Pietism overcomes his basic (metaphysical) theoretical Scepticism.

So, what do these “a priori forms” do? How do they operate in the mind? They are the principles of organization that give unity and intelligibility (truth) to our understandings, not of things, but of our ideas. They do not operate except in the appropriate “material” of our ideas, which is their empirical content provided by the senses. Kant does not explain how we get this empirical content. He assumes it comes somehow from “thing in themselves” (noumena).

Things in themselves, however, are said to be unknowable. They are outside the order of knowledge. However they are related, the things in themselves and the empirical content provided by the senses have no active role in knowledge. They are purely passive, like putty in our hands, mere material for the reception of forms.

We can see then how Kant sees the relation of form and matter in knowledge. The form is not taken from things in such a way that the material principle or its influence is left behind. Knowledge is not a process of “information” received from the forms in things impressing their likenesses upon us. Truth is not a question of the conformity between the forms we have received in knowing things and the forms in the things themselves. For Kant we receive nothing from things that informs us; if anything, they “provide” (remembering their role is purely passive) something by way of “matter”.

All activity is on the side of the knower and its “a priori forms”. However, we are only aware of the existence of these forms in their effects, the ideas we have produced by the application of these forms to their appropriate matter, the empirical content that necessarily belongs to all our ideas. The forms and their influence cannot be known except as they operate upon (fashion or “mould”) this material.

This reasoning parallels that of Aristotle in his explanation of the relation between form and matter in bodily things. It is the composite thing that is first known. Both the formal principle and the material principle are not at first known as distinct from the composite thing and from one another. In Kant's analysis the composite known by us is the idea or “phenomenon”; the ultimate formal principle of which is the “a priori form” and the material principle is the empirical content.

TRANSCENDENTAL PHILOSOPHY

Hence, the knowledge of the principles (which Aristotle called intrinsic causes) of material things is secondary, and gained by intellectual “reflection” upon the facts of composition (as well as multiplicity and changeability) with regard to bodies. Translated into the kantian world of subjectivity, reflection upon our ideas (“phenomena”) for which he invents or rather appropriates the term “transcendental”, reveals the formal principles of them, the “a priori forms”, hidden from the best minds from antiquity to Kant's time.

This wonderful revelation, which is no more than a distorted application of Aristotle's resolution of bodies into their formal and material principles, for Kant revolutionized all philosophy. But all it did was entrench Descartes' existing regime of thinking that the objects of our knowledge are our own ideas only. The necessary revolution that is yet to be accomplished is to re-instate reality as the rightful ruler of the territory of the human mind.

Kant's philosophy certainly achieved a kind of predominance in modern philosophy which, as already noted, influenced greatly the language of subsequent philosophy. There are many other examples than the ones already mentioned. A more subtle, but nonetheless highly significant, example is the way he uses the word "condition" in such related expressions as "conditioned" and "unconditioned", "conditional", "unconditional" etc. in the context of knowledge.

For Aristotle, this sort of expression generally signified the influence or not of a material cause or potential principle. "Unconditioned" and "unconditional" would therefore signify the absence of any limitations, primarily from any matter, but ultimately from any potency, in regard to what is spoken of, whether as a thing or as a cause. Thus God is totally "unconditioned"; and any first principle of things is "unconditional". This meant, for Aristotle, the acme of intelligibility, for form (and actuality) are the very reasons for knowability. It is matter (and potentiality) that is the reason for obscurity in regard to the knowledge of things in principle (though higher things may be relatively unknown to us because of the weakness of our powers of understanding) .

But, in Kant's theory, matter becomes a necessary condition of knowledge. It therefore dictates whether something can be knowable or not. To be classified as "unconditioned" and "unconditional" then is to be put beyond the range of knowledge. Kant thus effectively limits our knowledge to the mathematical and physical sciences, for it is they only which retain within their objects something of matter. As can be appreciated, this is but a consequence of his misuse of the distinction between form and matter in its application to the theory of knowledge.

Interim Summary of**ACTIVITY AND PASSIVITY IN HUMAN KNOWLEDGE****Philosophy of the Causes of Human Knowledge**

Knowledge itself is a form of vital or immanent activity. This is presupposed in all this discussion. This aspect of knowledge is fully explained elsewhere. The notions of activity and passivity here considered are kinds of transitive or productive activity meant to explain not what knowledge is but how it arises in us – to defend the truth in this regard against false theories.

There are in truth two productive causes of human knowledge; one we call the “objective cause”, the other the “subjective cause”. These names are not all that satisfactory given the ambiguity attaching to the words “objective” and “subjective” from their change in meaning from their use in traditional philosophy to their use in modern philosophy. Here they are taken more in their modern sense because it is more familiar. By “objective cause” we mean to signify the activity of things as a cause of all our knowledge; by “subjective cause” we mean to signify the activity of the human spirit as an influence in the production of our intellectual knowledge.

Those who deny an objective cause, as here signified, deny the causal action of things and consequently deny that we know anything of external reality. Those who deny a subjective cause, as here understood, deny the causal action of the human spirit (intellect or “mind”) and consequently deny that we have any intellectual or spiritual knowledge, i.e. any knowledge other than sense knowledge of material things.

We can doubt or deny the value of all knowledge, and, accordingly, deny both causes of knowledge, asserting that we cannot know or have certitude about either material or spiritual things. This is called UNIVERSAL SCEPTICISM. However, we can doubt or deny the value of our intellectual knowledge or our knowledge of

spiritual realities, whilst retaining the value of our knowledge of the external material world. Then we limit all our knowledge to that of the senses and consequently deny any subjective causality. This is a form of partial scepticism called SENSISM or EMPIRICISM. It is a form of MATERIALISM.

On the other hand, we can doubt or deny the value of our knowledge of an external world of material things, whilst admitting certitude about what seems to be wholly from within. Then we limit our knowledge to that of the intellect and consequently deny any objective causality. This is another form of partial scepticism, as applying to human knowledge, we can call it (extreme) INTELLECTUALISM, or RATIONALISM. It is a form of SPIRITUALISM.

As will be clear from what has been said before, these partial scepticisms cannot be held consistently; for if the integrity of human knowledge depends upon both causalities to deny one is to destroy both. The denial of one inevitably leads, logically and historically, to universal scepticism. If one denies the existence or knowledge of external material reality, there is nothing for the senses to carry, through the imagination, to the intellect. There is nothing for the productive activity of the human spirit to work upon, to abstract from.

On the other hand, if there is no spiritual power of abstraction, no intelligible (abstract) object is produced. Specifically human knowledge disappears and one human's speech has no more significance to another than the grunts or squeals of pigs. One can forget about doing Mathematics or Science, let alone Metaphysics or Philosophy.

Aristotle's Philosophy of the Causes of Human Knowledge

In ancient Greek thought there can be found Universal Scepticism, and partial scepticisms of both kinds. Aristotle's philosophy (because it is based upon common sense) is perhaps the only one that successfully avoids scepticism of any kind. We should have a close look at how he retains both an objective cause and a subjective cause of human knowledge. But first let us take a quick look at the others.

Generally speaking, before the sophists, the Greeks did not directly doubt or deny an objective cause. The earliest (natural philosophers) were analysing reality as they knew it; Parmenides was talking about an objective reality, so was Heraclitus – theirs were problems regarding the metaphysical interpretation of reality. Plato did effectively deny the (objective) causality of external material things in his theory of knowledge. But he in fact substituted the objective causality of an external world of spiritual realities (Ideas), to which we have (or had) direct or intuitive intellectual access. His philosophy is not noted for any recourse to an internal subjective cause for the certainty of our knowledge, as is much of modern philosophy, but for a reliance on an objective (spiritual) cause only. Hence, it is called Exaggerated Realism. Plato's philosophy is in the peculiar position of denying a subjective cause

of human knowledge, not thereby to exclude the intelligibility of human knowledge, but because such a cause is not necessary to explain such intelligibility, already directly constituted by the objective causality of purely spiritual reality. If the world we know is not material there is first of all no need for sense knowledge and secondly no need for us to be able to abstract the intelligible content of things made known to us through our senses.

Aristotle showed how this theory was true neither to the way things are nor to how we know things. What was his solution to this problem of human knowledge? First of all, acknowledging the obvious, he accepts reality as we know it, made up of a multiplicity of changing and changeable individuals. That is to say, we inhabit a world that exists as reported to us by our senses, a material world, spatial and temporal, made up of physical bodies. We ourselves are living bodies with sense faculties of knowledge, knowing by responding to the action of material things upon our “external” senses.

There is no question, then, about the objective causality of things in relation to our knowing them. However, how do they do this? Aristotle explains that they do this in much the same way that one thing acts upon another, by causing a likeness of itself in the thing upon which it acts. Fire makes water hot, by giving it the same form of heat that it has; hot water makes the spoon hot, by transferring its borrowed form of heat to the spoon. They all have the “same” heat; yet the heat of the spoon is not the heat of the fire. This is explained by the fact that the same heat, as a form of being (quality), is received in different matters. Underlying Aristotle's theory of activity is his philosophy of form and matter.

When it comes to knowledge, then, Aristotle explains that the hot spoon “transfers” its heat to the hand, which certainly becomes physically hot, but this kind of reception of the form of heat is not what knowledge of the spoon's heat is. Together with this physical action the spoon's heat causes a “psychical” or cognitive response in the appropriate organ of sense knowledge. More significantly, the hand not only becomes hot, it also knows that it is touching a hot object (spoon), a sensation that transcends the physical effect. At the level of touch it may not be easy to distinguish the two, but at the higher sense level of sight it becomes clear that the reception in the organ of sight of the physical effects of light and colour is ordered only to know that light and colour.

Aristotle, therefore, explains knowledge as the having of forms. But passivity at the physical level, as with the heat received in the spoon, is also a case of the having of forms. The difference is that outside of knowledge this reception changes the forms so that the heat (of the spoon) no longer “belongs” to the water. It has been appropriated by the spoon to become decidedly now the spoon's heat, conditioned by all the characteristics of that kind of matter. This kind of having, we therefore call the having of forms “materially”. In knowledge, however, although the heat of the spoon is received into my sense of touch, and its colour into my eyesight, they remain the

heat and colour of the spoon. My hand, in this precise regard, does not become hot, nor do my eyes become red. In fact, any physical effects of this nature get in the way of knowledge. They have to effect no physical change or at least minimal change upon the sense organ.

So it is that Aristotle defines knowledge more fully as the having of forms, not as matter has forms, but as one form (of a faculty of knowledge) receives another form; or the having of forms formally. The forms of other things are received in the knower as “informing” the knower certainly but in a way that they are still recognizable as the forms of those other things. Knowledge consists in another way in which the forms of things exist.

This is all we need so far to verify the objective causality of things in regard to our knowledge of them. If they did not act upon us in some way we would not know any thing. It is not the physical action, which is necessary, that explains our knowledge, but the nature of the “receiver”. The same physical actions (and forms), such as light and colours, received in a camera, do not result in knowledge. Nonetheless, our knowledge depends in the first instance on this physical action to carry forms from things to our senses.

Once produced in the knower in this way, the forms, of heat, colour, shape etc., pass into and are co-ordinated in the sense consciousness, so that we do not, even at this sense level, receive all these impressions as separate and unintegrated (*pace* Hume). From there, the same forms are received into the imagination. But the imagination is a sense organ which produces images of the forms received as a sort of reservoir, so that we can know them even when the things are no longer acting on the senses. This is a productive causality, but it merely reproduces the forms received. It produces no new kind of object.

It is at this point of the process of human knowledge, however, that a totally new kind of productive causality comes into play. Higher than the imagination in the process of human knowledge is the intellect. One would expect that the imagination could carry on the line of production, passing on the original activity of things to cause the forms received from things to arise in the understanding. But two things about the object understood in the intellect show that this cannot happen, unless something else intervenes.

Firstly, the object or form represented in the intellect has characteristics that are radically opposed to the object or form represented in the image. The image represents the object or form as concentered in all its particularity. Let us say it is a triangular shape. The particular object or image can be multiplied and varied in a thousand ways and more. This triangular shape is not the same as that, etc. It can be turned on its side, rotated fully and so on. Not so with the triangle as understood. It is one and invariable. It is not tied to any particular triangular shape. Indeed, we cannot draw or imagine it. For it is an abstract form. We can only refer to it by a

conventional name, by which all knowing the meaning of the name know exactly the same thing as we do, even though the images we use to support this same concept may be very different. Only thus can we all be taught trigonometry.

St. Thomas expresses this : “Sense knows colour [or triangular shape], but it pertains to intellect to know the very nature of colour [triangle]”. But, secondly, there is an even more radical difference between knowledge at sense level and at the level of intellect or understanding. The name “understanding” gives the clue here. By all the external senses, of which sight is the most knowing, we get to know only the surface level of things, which Aristotle called the accidents. It is the accidental forms of things, therefore, that are known by the senses right up to imagination.

The accidents of things, however, are not to be thought of as little things in themselves. Shape and colour, for instance, are only particular determinations of bodies, be they stones, trees, horses or humans. They cannot exist naturally by themselves. No one throws the hardness of stones, except by throwing stones. No one rides the shape of a horse, except by riding the horse. These substances (what *stand under* the accidents), however, cannot be seen by the eyes, for sight knows only colour. It is only by intellectual “insight” that we can know the nature of colour (and all accidents), and as well the substantial forms of things. Substances are only available to the understanding. The senses, then, are like carriers of gold, not knowing that the cargo is gold, only that it is very heavy. The forms known in the imagination cannot possibly cause the knowledge of the substances of things in the understanding.

Particularity and superficiality, then, are the features of human knowledge that are contradicted at the level of intellectual knowledge. This calls for a causality, a power, capable of penetrating below the surfaces of things and abstracting from their particularities, which renders the object contained in the image fit (by a kind of illumination) for understanding not only the substance of things but also the intelligible content of their accidents. This power has to operate through the forms of things brought in by the senses up to the level of imagination. Aristotle and St. Thomas explain in some detail how this spiritual power elevates and uses the image as a sort of instrument to impress upon the understanding intellect the forms of things now abstracted from their individuating conditions or particular limitations (ultimately derivable from their existence in matter).

We cannot go into the details here. It is sufficient for our purposes to show the need for this subjective causality in order to account for the nature of intellectual knowledge. St. Thomas adopts and defends Aristotle's analysis in this regard. Human knowledge is of things, but at the level of intellect this knowledge is of an abstract object, as represented in the concept. So it is that St. Thomas affirms the existence of both the objective and subjective causalities of human knowledge.

Universality

There is one other aspect of intellectual knowledge that it is necessary to highlight in order to properly understand what Kant was trying to do in his explanation of the subjective causality of human knowledge. It has to do with the universality of the concept formed by the intellect. Since the one abstract notion of triangle (or tree) represents to the mind the many and various particular triangular shapes (or trees), extending not only to those which may have been actually experienced but also to all possible individual cases, there is automatically produced in the intellect a logical relation or reference to the multitude of things signified in the one concept. This relation attaching to the concept is called “universality” (from the Latin, *unum versus alia*; “one towards others”).

This is a “form” (relation) belonging to the concept which we can say is entirely from the mind, a purely logical relation. No amount of scientific research will ever uncover it. It is to be clearly distinguished from the abstract content of the one concept (e.g. stone) which, though in the mind, is from the same form found in many things (individual stones of all kinds and of all shapes and sizes).

Kant's theory of knowledge is greatly dependent upon our internal certitude that the objects of understanding are characterized by universality (and necessity). From this he was led to think of his “a priori” forms, for which he assigned the role of unifying and putting intelligible order into our “experience”, conceived in Hume's fashion as the chaotic mass of uncoordinated sense impressions somehow coming into human mind from outside. Human knowledge is accounted for as the combination of these two after the manner of form and matter. We will examine Kant's position more closely below. Here we can simply note that he has basically combined the emptiest of intellectual “forms” (mere logical relations) with the most primitive elements of sense experience (more like the uncoordinated impressions had in dreams).

Modern Philosophies of the Causes of Human Knowledge

Starting from the beginning of modern philosophy of knowledge, though, we can say, speaking generally, that, since Descartes, it has become almost a philosophical pre-requirement that we begin by doubting, and effectively denying, the existence of an objective cause of human knowledge. The only path open, then, to avoiding universal scepticism, seemed to be by recourse to a subjective cause. As noted above, this avenue is a dead end; it is in fact fruitless task. Nonetheless, (philosophical) hope springs eternal ...

Descartes himself was the most radical in rejecting the objective causality of things. He rooted out any objectivity or content not only in our sense knowledge, including the imagination, but also in all intellectual knowledge. This left him, so he thought, simply with the fact of “thinking” itself. He failed to see that if there is nothing to think about (or doubt) there can be no thinking (or doubting). The activity

of thinking supposes an object of thought. In his very first subjective principle, then, he had contradicted his sceptical presupposition, which he saw as fundamental.

The British Empiricists, despite appearing to attack only the existence of an abstractive intellectual power, and therefore to be reverting to a position of partial scepticism (Empiricism), quickly realised the unintelligibility of the objects of merely sense knowledge (“experience”), especially as conceived by Hume, and fell back into a universal scepticism (Hume's Phenomenalism). But any attack on the subjective cause of certitude, following upon the cartesian pre-supposit, which explicitly denies any objective causality, would have immediately resulted in universal scepticism. It only confused the issue that Hume's theoretical scepticism was tempered by his practical realism – a typical British compromise to common sense; thereby limiting one's sceptical thoughts within the confines of the gentlemen's club.

Kant, having followed initially the rationalist school (especially Leibniz) that stemmed from Descartes, took on board Hume's theoretical scepticism and practical realism and thought he found a way to explain the theoretical certitudes of Science. It was one that flattered modern science and ridiculed the theoretical value of Metaphysics. Accordingly, it was generally admired as a philosophical tour de force. But it simply modified Hume's Phenomenalism by the application of “a priori forms” (empty of content) to the extreme empirical notion of “experience”. The notion of these “a priori forms” came from the logical universality (and necessity) produced in the mind, as explained above. He thus put upon the extreme features of both sense and intellectual knowledge the whole weight of explaining the nicely ordered yet complicated process of human knowledge. It is no wonder that it quickly fell apart.

The course of the history of philosophy after Kant, therefore, took two paths. Hume's extreme empiricism reasserted itself but borrowed something of Kant's logical structure to become a “scientific” Positivism. Later this stream would join up with the reduction of Mathematics to “formal” logic to produce Logical Positivism. But more immediately and dramatically the logical “a priori forms”, of universality and necessity, i.e. the mental order of formal logic, took on a life of their own. With Hegel, the order of logical relations was self-sufficient, its “dialectical” development could explain everything: “the rational is the real”. Reason ran riot. Logic, become Dialectic, was the sole directive principle, not only of the order of reason, but also of the processes of reality.

It is not necessary, indeed it is in many ways counter-productive, for us to go into the details of these modern philosophies. There is some intellectual insight in them upon particular matters of philosophy, both speculative and practical, but almost at every turn they offend common sense with a maze of contradictory and even absurd conclusions. They are, therefore, more to be admired for their ingenuity than for their truth.

Nonetheless, as Aristotle says, we owe a debt of gratitude even to those who

have fallen into error. We can, therefore, profit from a study of them, if only to know where they have gone wrong, and so avoid making the same mistakes ourselves. Let us try, then, to relate their theories of the causes of knowledge to those of Aristotle and St. Thomas. We will limit our examination in this regard to the leading ideas and theories of Hume and Kant. For they continue to be perhaps the most influential thinkers even today in regard to the questions here discussed. This examination is necessarily only a very short summary.

Hume

Let us take Hume first. His whole philosophy is determined by his notions of “experience” and “necessity”. By the first he means most fundamentally individual sense impressions, something much more radically disconnected than what is meant in ordinary language, and it differs as far as it possibly could from the notion of “experience” in Aristotle, even though they agree in attributing it to knowledge at the level of sense. By the second, he means logical necessity. But, unlike Aristotle again, Hume thinks of any kind of connection, including causal, in terms of logical necessity.

He has thus established the terms of the problem of human knowledge at its extremes of the very beginnings of sense knowledge and the very terminus of intellectual or rational knowledge. Human knowledge is a kaleidoscope of sense impressions which, if connected or integrated in some way, can only become so by “custom” or logical necessity.

How does this differ from Aristotle's analysis of human knowledge? First of all, and most destructively, Hume does not allow for the co-ordinating function of what Aristotle called the unitive sense, the sense consciousness, to which the separate external senses have been compared as fingers to the hand. The one composite thing sensed, say by sight and touch, is not sensed as two objects, but as one complex object, by the “common” sense. Moreover, these two sensations are known, in sense consciousness, as connected with each other and with the thing. The life of the animal would be impossible without the integration of its sense impressions in this way. Hume lamely accounts for this primary natural sense awareness of unity in complexity by reference to the (only secondarily “natural”) force of custom or habit in us.

Are these connections from logical necessity? No, because they can fail or be changed. But they have a certain physical necessity, whereby they have the stability and regularity necessary for the life of the animal (including the human). What is the difference in the necessities? Logical necessity attaches to forms abstracted from matter, and hence is absolute. Physical necessity applies to things which are a combination of forms in matter; by reason of their forms their relations are “necessary” or constant; by reason of their matter, however, the connections can at times fail. Orange trees produce oranges naturally, i.e. by physical necessity; but

sometimes they do not, not because of their forms but because of their matter, or, putting it another way, not because of their natures, but because of some accidental circumstance (e.g. drought or disease). The orange-grower can depend upon this physical necessity, even though he knows that the production of oranges is not “logically” necessary.

There are real “necessities” and causalities, then, that Hume, because of the way Descartes had put the problem, did not take into account. This is sufficient to show how mistaken Hume was. There is, moreover, a whole further complex of subtler physical connections, causalities and integrations at the higher levels of sense knowledge which Aristotle elaborated upon and Hume simply failed to take notice of. It is only at the end of this whole process of sense knowledge (including that to which the scholastics gave the name “unsensed intentions”, whereby higher animals were able to sum up their particular situation, to coordinate and order all their sense knowledge, in real judgments so perfect that we do not hesitate to use the word “intelligence” about their behaviour) that Aristotle applied to sense knowledge the term “experience”. Hardly the same notion of profound confusion of unrelated impressions that Hume proposed for the term!

Logical necessity applies to connections at the abstract level. There are two principal kinds; connections between concepts in propositions or judgments, and connections between propositions in reasonings or argumentations. Together with universality these are the three logical relations with which Formal Logic is concerned. They are produced by the mind and apply only within the mind. That is not to say, however, that they do not have a utility in enabling us to understand the truth of things. For it is the forms of things, considered abstractly, upon which they are exercised. Logical necessity nonetheless remains logical, not real, as in physical and metaphysical necessity. Nor are mathematical and moral necessity to be confused with logical necessity.

The word “causality”, too has many diverse applications. There is more than one kind of causality – but all analogous to the principal notion to be found in *Metaphysics*. Causality may be considered in terms of “logical necessity”, but only in the context of logical reasoning. In the sciences of the real, the necessity applying is determined according to the conditions of the science concerned. The univocity of meaning in Hume's thinking on these matters is in the extreme.

Hume's thinking has come about because of Descartes' evacuation, on the one hand, of all connectedness from sense knowledge, to make it formless, and, on the other hand, the continuation of this sceptical emptying out of the intelligible solidity of our intellectual knowledge right up to that aspect of it that is purely of the mind's own making, that mental process of relating and connecting our concepts and judgments one with another which he thought was “thinking”. All content, in the sense of information received originally from things, being put in doubt is effectively denied, and one is left with a notion of form that is taken from purely logical

relations, as used in Formal Logic.

Hume restored, minimally, the role of experience in human knowledge. He then rightly rejected any abstraction of the “form” of logical necessity (in itself a totally emasculated notion of human understanding), from the “matter” of “experience” (an equally emasculated notion of sense knowledge). In any case he could see that such “necessity” was not to be found in the real world. So Hume felt he was left, by force of “reason”, with “experience” only. At that stage, as was his custom, he put on his hat and walked out of the club into the real world.

Kant

Kant, having rejected, as Hume did, the dogmatism of the Rationalists, took up the problem of human knowledge in the same terms as Hume. However, he was more committed than Hume to saving the universality and necessity of the laws of theoretical Science, which at that time had come to be virtually identified with Mathematics and the natural sciences. He was persuaded by Hume's arguments that no necessity could be derived from empirical experience. But, then, the revolutionary idea occurred to him that the universality and (logical) necessity applying to mathematical and physical laws were actually from the mind, not from experience.

He was suffering from the same confusion regarding “necessity” as Hume, as discussed above, namely, treating all necessity as logical. But whereas Hume thought that one had to find such logical necessity in things to justify the (physical) necessity of their connections and causalities, Kant realized (correctly) that the only relevant necessity being considered was a logical necessity, which is produced in the mind. He proposed, therefore, that it was this logical necessity that explained the necessity of scientific laws, being imposed by our mind on their subject matter. Looking around for what that subject matter might be, he reasoned that it could not be any sensible form (such as shape) or intelligible object (such as substance), for the matter of our knowledge was all contained in “experience”, which was simply a mass of impressions, as conceived by Hume.

Kant's solution, therefore, consisted in imposing upon our “experience” the logical forms of universality and necessity. These forms he named “a priori”, which he defined as “independent of experience”, a suitable enough description of logical relations, which the mind does not gather from its experience of things, but produces within itself. He then worked out an elaborate logical structure to fill up the huge gap there is between these “a priori” forms and empirical “experience”. In essence, though, his theory of human knowledge is but a forced union (to which he gives the name “phenomenon”) of the purely logical order with the most elementary of “first impressions”. Any relation to the complex richness of the sciences of nature is purely co-incidental.

The explanation of human knowledge (of phenomena) as the application of

(logical) “a priori” forms to (sense) “experience” automatically limits its scope to the world available to the senses. This excludes Metaphysics. But in truth it evacuates all intelligibility from Physics as well. For its object cannot escape the superficiality of the most elementary sense knowledge, subjected artificially to an unreal logical ordering. Kant's theoretical philosophy then is little more than Hume's phenomenalism covered over with a veneer of formal logic. His exclusion of any scientific knowledge of things-in-themselves (noumena) is proof of this.

Kant begins his “Critique of Pure Reason” with an examination of the science of Mathematics. This science is the one indeed that is most amenable to his philosophy. Because of its greater abstraction from sensible matter its principles seem to be independent of “experience”. Its *modus operandi* proceeds “a priori”, from principles to conclusions. Its general logical method is synthetic rather than analytic. It is no doubt from Mathematics that he first saw the possibility of associating “synthetic a priori” propositions with science generally.

Space and time do lend themselves to being “a priori forms of sensibility”, and possess features (extensive quantity and successive numbering) that underlie the sciences of Geometry and Arithmetic. There is the problem here, however, that they are evidently not ideas or “forms” without content, as they should be if they are to be pure “a priori forms”. This content is supposed to be provided by what Kant calls “intuition”, a sort of imaginative equivalent of sense “experience”, which only becomes known when such intuitions are subjected to the “a priori forms of sensibility”, thus giving rise to the “synthetic a priori” propositions that constitute the science of Mathematics.

Mathematics, therefore, in many respects seems to lend support to Kant's theory of knowledge. But it also shows up a grave inconsistency. For the “a priori forms of sensibility”, though evidently more abstract than what they are measures of, nonetheless are not totally “empty” or meaningless in themselves, as they ought to be in Kant's theory. The reason for this is that they are not purely logical “forms”, such as are logical universality and logical necessity, but have some quantitative and physical content in their notions. “Time”, for instance, as is explained by Aristotle, is “the numbering of motion according to before and after”. Accordingly, its concept is completed in the intellect numbering. But it is to be noted that its very concept includes things in motion. The act of numbering might be mistaken for something purely logical, but not the existence of movement or change.

Kant, then, as stated already, carried on the modern philosophical “tradition”, stemming from Descartes, of evacuating human knowledge of all forms of reality, or information derived originally from things, until one is left with only “thinking” without content. Quite gratuitously, Descartes produced some content for the mind out of this pure activity of “thinking”. Those that followed him in this regard, called Rationalists, imported their own kind of content, upon which they exercised their logical expertise to construct great systems of “philosophy”. It was the diversity and

even contradictoriness of these “Metaphysics” that persuaded Kant there was something wrong with this way of doing philosophy.

Hume, in opposing this rationalist approach, restored something of the content of knowledge, with his notion of “experience”. But it was the bare minimum, even from the point of view of the senses. Indeed, though it did consist in “forms” of things (impressions of colours, shapes etc) received by the senses, the content of such experience was conceived rather after the fashion of a formless matter. He retained the formal notion of logic or “reason”, and hence of the logical notions of “necessity” and “causality”. But their only use was to show the lack of any application of these notions to our “experience”. By the use of his reason, as he realized, Hume demolished human knowledge.

Kant, therefore, in developing his theory of human knowledge, had only these two elements of human knowledge to work with, “experience” and what he now called “a priori forms”, the former a formless mass of sense data, the latter a contentless form of thinking characterized by universality and (logical) necessity. This is all that remained of the rich process of formation that characterizes Aristotle's philosophy of human knowledge, as only outlined above. Kant tried to bring these two together and, though he failed, as was inevitable, it is still much the same task that contemporary philosophy is engaged upon. For it has lost Aristotle's notion of form as content, where knowledge is concerned.

Conclusion

The original content of human knowledge comes from the forms of things, received into human knowledge through the things' activities, according to such forms. Therein lies the objective causality of human knowledge. The abstract character of these objects of knowledge in the human understanding is explained by the spiritual intellectual power that by a process of abstraction penetrates into the essences of the concrete forms received into the human imagination. Therein lies the subjective causality of human knowledge.

Unfortunately, modern philosophy has lost all touch with reality and all concept of the intellect's power of abstraction. Even when appearing to be dealing with the objective and the subjective aspects of human knowledge (“experience” and “formal logic”) they are disconnected from the true ground of such objectivity (the forms of things) and the true source of such subjectivity (the intellectual abstractive power). For the most part it remains caught in the quicksands of scepticism.

There have been valiant efforts in recent times to escape to solid ground by restoring intelligible content to human knowledge, as in Husserl's Phenomenology. But, without at the same time a return to the balanced intellectual realism of Aristotle and St. Thomas there is not much prospect of success even along these promising lines. The essential realism of Phenomenology, for instance, in the hands of such as

produced in thinking. The things that we think about are therefore confined within the objects of thought.

Instead of such objects being also related to things outside us, their only relation is to the thinker. Since thing and object are thus identified, this creates the insuperable problems for Descartes and for all of modern philosophy not only of the “standing” of things outside of our thinking of them (i.e as “beyond” thought) but also of thinkers as somehow “behind” the objects of thought. These both are outside of the known (the objective) and therefore not only unknown but also in principle unknowable.

Objective becomes equated with knowable, subjective with what is supposed to be the “subject” in which the “object” exists, and from which it somehow emanates. This virtually reduces the objective to the subjective – for the objective is conceived as totally dependent on the subjective. All is relative. Once Hume reduces this objective order to sense impressions, and thus eliminates any necessary aspects of this “order” of things/objects, there is nothing much left but the crazy person's disconnected world of illusion, a kaleidoscope of “phenomena”.

Kant puts forward the “revolutionary” notion that the universal and necessary aspects that definitely belong to objects of science (including mathematics), are imposed upon the objects by the subject (thinker) and that the pure impressions of Hume are only the “matter” of the “phenomena” that are known. The forms which give unity and universality to the objects in our understanding are now called “a priori forms”. But they only relate to appropriate matter, namely, the empirical data as conceived by Hume. With Kant's “solution”, the intrinsic unknowability of both things-in-themselves and the “ego” remain. So does the essentially modern meanings of “subject” and “object”.

Now let us contrast this usage with the pre-modern coming from Aristotle (and common sense). Subjective comes from the Latin “iacens” meaning thrown or cast; and “sub” meaning under. Hence, it generally means something underlying something else. In this sense it can be applied to a real thing as it is the subject of all sorts of further forms or accidents. Colours, for instance, are subjected in bodily surfaces. So a surface is the subject of a form of colour. Below the surfaces of things however lie their substances (which are the ultimate actual physical subjects). By philosophical analysis we can however go further to a principle of potentiality in the substances of physical things called “matter”, which thus is the ultimate subject overall in regard to material things. “Subject” and “matter” therefore tend to be used interchangeably.

Objective has the same root word, with “ob” added instead of “sub”. “Ob” signifies the notion of one coming up against another, as in the word “obstacle”. Literally, object means something thrown or cast up against. Both subjective and objective are indicative of some relation to another but this is more obvious (note: ob- via means “in one's way”) in the case of object.

When we apply these terms in the context of knowledge, we can see how they may be applied in all sorts of ways, e.g. we may find the formal object of a science being referred to as its subject matter; this comes about through the different relateds involved. However, the principal usage relevant here is subject as it signifies the

substantial living knowing thing (e.g. an individual human being), which is the subject in which knowledge takes place; and object as primarily those things which are cast up against the knowing powers (organic or inorganic) of that knowing subject. In this context therefore things are absolute, objects are relative.

Thus in the case of our seeing something the human person is most fundamentally the real subject in which the seeing takes place (though the more proximate subject be the eye or organ of sight); the horse or whatever is seen is also the real subject of the visible forms or colours which are the cause of our seeing. But relative to our knowledge of them these colours are also objects. Before seeing the horse, its colours are merely something (accidental) belonging to a thing. They remain this after being seen but are then also objects of sight. The one thing (cow) can therefore be many objects (of sight, sound, understanding etc); and many things (white cows) can be the one object (as coloured, of sight).

On being seen, horses are also objects of knowledge. Does that cause any change in the horse or its accidents? Obviously not. The objectivity is relative to knowledge; the change is in the knower only. Does that mean that we cannot know what things are in themselves? Hardly, the very point of knowledge is to have within the same forms that belong to things. Not to know things as they are is not to know them at all.

So we may understand how from a classical and common sense point of view subjective equates with what is real, whether things or persons; and how objective can be opposed to real, and therefore in itself does not equate with thing, yet it basically signifies or represents something real. We can say that the modern usage equates objective with real, or rather substitutes the one for the other; and limits subjective to what pertains to the knower or thinker, relative to its knowledge, though not quite sure of what this means. For, in as much as it disconnects knowledge from the real it can only think of knowledge as subjective. The objective becomes equated with the subjective. Quite a recipe for confusion!

The major difference between the old and the new in the context of knowledge is in the usage regarding subjective. It has disappeared from things and become exclusively related to mysterious persons (egos). That is precisely the difference between realism and idealism, sometimes called objectivism and subjectivism. Thus we are inclined to talk about your world and my world, rather than the real world, God's world. Protagoras the sophist would be proud of us.

Notice that in this course we refer to the subjective and objective causes of human knowledge, using these terms in the modern sense, because it is the more familiar. By objective cause we mean simply that on the side of things (real stones, trees, horses, humans); by subjective cause we also mean to refer to something real, the knowing subject or person (according to its spiritual nature). The intention of the usage is clear enough for our purposes.

Yet there is scope for confusion for those locked into the modern mentality. For, they may eliminate the reality of the subjective causality by denying that we can

know the “transcendental ego”; and obviously they can eliminate the reality of the objective causality by denying there is anything known other than pure objects of thinking. But, there is not much one can do to avoid this sophistic “criticism”; if one cannot recognise the plain meaning of words one remains a prisoner of one's contrived meanings.

Subjects and Objects in Aristotle's Analysis of Human knowledge

Fundamentally, there are two kinds of subjects involved in human knowledge, material things and human persons. These latter are also material or bodily things, but are called persons by reason of something spiritual pertaining to them. But both are real things, both active, and persons necessarily more so, being also living and indeed spiritual according to their highest activity. Thus, they are both able to be active sources of effects that we call knowledge.

This complicates the understanding of human knowledge. By concentrating on the spiritual side (as did Plato) one tends to downplay a person's dependence in knowledge upon the physical action of bodily things upon a person's body, and its sense organs. By treating a person as exclusively an animal body like any other, one tends to exclude the spiritual and specifically human nature of human understanding. Accordingly, one denies any spiritual action which is needed to explain this.

Aristotle takes both into account. The external thing (stone) may appear inactive relatively to other things, but for Aristotle, in so far as it exists, it acts, i.e. it is a source of energy no matter how indiscernible this may be to us. Whether this activity is explained as something derived from something else or not does not concern us here. The fact of the matter is that something from the stone (e.g. its hardness or heat) produces an effect on other things.

As explained before, where that other thing is a hand, or organ of sense, the effect is rather peculiar; for although it may make the hand itself hot the hand also knows the heat as of the stone. This distinction between the physical and psychical effects becomes clearer with the example of sight. For touch immediate contact is needed; but for sight and hearing a medium is involved. Nonetheless, it is a meeting of two subjects, one according to its physical nature only, the other also bodily, but of a nature more than merely physical. So far as the psychical effect is concerned, then, the cause is grounded in the physical activity of the one, even if the other is a higher kind of being.

So far as the form of the thing known, as an object of knowledge, is concerned, the organ of sense is purely passive, simply receiving the impress of the form (e.g. heat) of the stone. The reason why the organ does not as a sense become hot is explained elsewhere. But it is clearly a case of one thing (real subject) acting on another thing (real subject).

So we have something of the external thing producing a likeness (form) of itself in another thing. This other thing happens to be something capable of receiving forms in the manner of knowledge. There is a whole complex process that can take place refining this knowledge. But basically the process is complete on first reception. So we have now the same form (heat) in two subjects. The notion of object comes into play when this form (whether qualitative, quantitative, substantive or whatever), originatively of the thing, is considered relatively to knowledge.

The external thing (or something of the thing) is now the object of touch, sight, etc. Thing and object are opposed in meaning but only relatively. What we have is one thing (form) producing its likeness in another thing whereby the original thing (form) is known (something like a thing is seen in a mirror). The extraordinary thing about it is that the likeness and its sign-value is so perfect that one is aware of the thing before becoming aware of the means wherein it is known (in this it transcends the material limits of the mirror). Which should we call first the object then? clearly the thing, but called object in so far as in knowledge it is cast up against or impressed upon the knower.

The question: Does the object of knowledge exist in the knower or in the thing? poses a false dilemma. We do not have to choose; for it exists in both, but primarily in the thing. This primacy is not lost in all the process of human knowledge right up to the form being received in the understanding intellect. What we understand is precisely some thing. But because knowledge is an intimate union, in knowing the thing we also know ourselves. For the thing according to some part or form of it (as object) is now part of the subject/person. In Aristotle's language, by the thing's action the sense power is "made in act" according to the very form by which the thing acts.

Just as the fire and the water are closely united in the action of heating, so that the action of the fire is somehow in the water; so the hot spoon is united with the hand so that the form of heat (to which Aristotle gives the name "act") in the spoon is in the sense of touch. Both recipients have been "perfected" in a certain respect by

the reception. The difference with knowledge is that the action (and reception) is all one way. There is no re-action on the part of the sense. The subject/person, as knower, simply accumulates the various “perfections” of things at a higher level so as to fill up its own nature. Aristotle puts it beautifully when he says that the sensible and the sense, the intelligible and the understanding, become one in act.

It is sometimes put that we become what we know; just as some like to point out that we are what we eat. There is an analogy here but it is a much more sublime truth at the level of knowledge. Nutrition concerns a material absorption from things. In knowledge we nourish ourselves with the forms of things; we do not increase our natures in bulk or quantity, but in being or quality.

So, in knowing the thing/object, the knower is knowing itself. At the lowest sense level this co-knowledge is minimal, a sort of concomitant knowledge not adverted to. Indeed, it is necessary to posit a distinct sense faculty of (sense) consciousness (which is called the common sense by the scholastics) to explain our distinct knowledge of our own sensations, or our seeing our seeing along with the thing seen.

If the question is asked regarding knowledge at the sense level, then: How do you know that you know? the answer is; by my sense consciousness. It is this sense consciousness that is suspended in sleep. So another way of answering the question may be: because I am not asleep.

At the level of intellectual knowledge this reflective feature of knowledge is fully operative, so that in understanding something I am fully aware that I understand my understanding in the same act. So to the question here : How do you know that you know, the answer is: in knowing something I am also aware of my knowing it – if I was not, I would not be understanding at all.

Human knowledge, therefore, needs to begin with the activity of things. This explains the objectivity of our knowledge of the external material world in which we live. But, aside from the consciousness or co-knowledge of our own acts of knowledge, and distinct from the merely reproductive function of the imagination (images) and the intellect (concepts), which still represent the original things/objects received through the external senses, our knowledge includes an order of objects that can only be accounted for as “creations” of the imagination and/or the intellect.

These seem to fall into two principal categories: firstly, those of an

instrumental value, such as the logical relations ordered to reasoning; and, secondly, those of an artistic value, free creations of the mind and the imagination corresponding to the free expression of the human spirit in art, which as it were adds to and completes the raw beauty of nature, including human nature. These of course do not work in a vacuum. They presuppose a foundation in reality, or naturally based objects as “materials”.

The instrumental mental objects, such as logical relations (and negations) have the least foundation in reality; to have the concept of “nothing” (which is not the same as not to think), for instance, presupposes the concept of “thing” but it comes about by a purely mental act of denial. Such objects are pure or mental objects.

The purely logical objects (relations and negations) are produced by the mind automatically, for they are necessary instruments of understanding and science. But there is a whole world of objects that are freely “invented”, both at the imaginative level (under the influence of the intellect) and at the purely intellectual level. There is a risk here that some will see the human “mind” (a term which is used to encompass both creative imagination and intellect) as some sort of creative power in an absolute way, and thereby ignore our dependence upon the one Creator God.

It is easy to see that this human creativity pertains to art. But the other kinds of purely mental objects, i.e. logical objects, applying to our theoretical knowledge are also “invented” by the intellect, for the sake of science. The difference is that these are produced unfreely and, indeed, so far as the relation of universality attaching to abstract concepts and the immediate and necessary connections of concepts in our primary propositions are concerned, quasi-unconsciously. There is no thinking about in the first instance, for example, whether the very first principle of non-contradiction is true or not, or whether one should act according to the first practical principle: “seek good, shun evil”.

We can thus account for the whole array of objects of knowledge, starting with those directly representing the things of the world we live in, and extending to those that do not directly represent such things, but are inventions of the human mind in the ways discussed. But there is an aspect of human knowledge that needs to be accounted for, to explain the radical difference in the character or conditions of the objects of sense and the objects of intellect.

We have already indicated how Aristotle solves this problem. In the modern

terminology used by us it suffices to say here that the “objective” causality of things needs to be supplemented by the “subjective” causality of the intellect. But these terms need to be translated back into the language of Aristotle. In truth, both productive activities or causalities are subjective in the Aristotelian sense of the word “subject”. For real activity is rooted in a real subject; fundamentally, “actions are of suppositis”, i.e. there is no activity without some thing/person acting. In human intellectual knowledge, however, the action of the human spirit (called “subjective”) presupposes that of the material thing (called “objective”). For the abstract object (of triangle) produced by the action of the agent intellect is different only in condition, not in essence, from the concrete object (of a particular triangular shape) in the imagination.

There are, then, in Aristotle's usage of the terms, two subjective causes; there is no objective cause. for “object” primarily names only the first subjective cause (the external things) as related to a knower in the act of knowledge, and, secondarily, those objects produced by the mind referred to. The two subjective causes co-operate in the production of abstract intellectual knowledge. The spiritual activity is higher than the physical, but the physical is more fundamental. The human intellect is not “creative” in the proper sense of being able to produce its objects from nothing, neither in the radical way in which the agent intellect “transforms” the concrete image into an abstract concept, nor in the way the creative imagination and the understanding intellect produce merely mental objects. So, for Aristotle, and from a sensible point of view, if there is no thing to know there is no human knowledge of any kind.

WEEK 10 PHILOSOPHY AND TRUTH (c) D. Boland LLB PhD
Idealism/Realism

It is worth noting at this point the difference between a philosophy and an ideology. Philosophy refers to any general system of thought, realist or idealist, objective or subjective. Before Descartes, philosophies that were not total scepticisms were generally speaking realist. That is to say they did not deny or doubt the reality of the objects of human knowledge. The natural certitude of our judgments regarding reality was not therefore put in question.

However, Descartes, as we have seen, succumbing to the sceptical spirit of the age, endeavoured to construct a philosophy based purely upon a certitude had within the mind about its own thinking. This certitude exists but it is concomitant one, supposing the reality-based one. Thus, when I know something, I know that I know it, i.e. I know that I am thinking. But, if I do not know anything there is no thinking going on. I cannot do the act of thinking without an object, which is either drawn from reality or consequent upon such. Having something already in mind I can make my own thinking into an object. But that is by way of a reflexive act, supposing an object directly had in the first place. Descartes' project, based upon his method of universal doubt, is accordingly self-defeating.

The subsequent history of philosophy, which has taken the same starting point as Descartes, namely, a sort of self-enclosed notion of consciousness rather than one open to reality, a world of our own ideas rather than of things, has been, as noted by Pope John Paul II in his encyclical "Faith and Reason", a history of psychological introspection: "Abandoning the investigation of being, modern philosophical research has concentrated instead upon human knowing. Rather than make use of the human capacity to know the truth, modern philosophy has preferred to accentuate the ways in which this capacity is limited and conditioned." (n. 5)

Rather than producing profound insights into our psychology, however, it has produced the opposite. The disconnect from reality, or "loss of touch" with things, has played its part in producing the modern "crisis of identity". As noted before, it is not that self-knowledge is not a worthy object of study but it only progresses as we progress in our knowledge of reality and the world. "... the more human beings know reality and the world, the more they know themselves in their uniqueness ... all that is

the object of our knowledge becomes a part of our life.” (FR n. 1) To cut us off from knowing the external world, as Descartes did, is therefore also to cut us off from knowing ourselves.

The systems of thought that result from this kind of thinking may aptly be called “ideologies”. These are philosophies built upon no real base but constituting attempts to construct a coherent system of ideas from what is thought to be wholly from within the mind. Moreover, just as such thinkers refuse to rely upon anything that might be considered to have come from “outside the mind”, so they purport to be totally self-sufficient in their thinking and try to exclude relying in any way on the thoughts of others. Hence the devaluation of all pre-modern philosophy, whether it be ancient or mediaeval.

Such was Descartes' project for a philosophy built from within upon absolute certitude. But the project is like that of a builder with no materials on site to work with, nor with any co-workers. Inevitably, therefore, some things or objects have to be smuggled in and the labours of others called to assist. Metaphorically, however, this is done under cover of night.

Descartes' philosophy and that of his immediate followers may, therefore, be rightly be regarded as ideologies. Even the critics of the philosophical construct he erected, however, admired his method of approach and, in so far as they did not revert to some sort of sceptical philosophy, may also be said to have produced ideologies of their own. In the subsequent history of modern thought the evident contradictions between the various philosophical “systems” constructed by major thinkers were attempted to be resolved by Kant. His philosophy, however, basically adopted the same unrealistic starting point and ended up as much an ideology as any, having recourse (surreptitiously), however, to ancient ideas obviously drawn from the history of philosophy prior to Descartes, such as Aristotle's notions of “form” and “matter”, and also restoring partial acknowledgement to external reality as a (passive) factor in human knowledge.

This last concession to realism, however, was quickly pounced upon and the most fully-fledged idealism of all was produced by Hegel. His “Dialectical Idealism” and its philosophical offspring may therefore be classed as the most complete of all ideologies. Yet, even more so than Kant, Hegel was prepared to acknowledge and draw upon the valuable contribution of all other philosophers in the history of philosophy from ancient times to his own. In fact, Aristotle was his most admired philosopher. So, Hegel went against the cartesian trend in so far as it required one to “go it alone”. However, he simply appropriated the treasury of wisdom of the history of philosophy to fill out his own vision of philosophy as a self evolution of Mind or Spirit. It was used as “material” for a logical construct of his own mind, drawing selectively upon materials imported for the purpose. Like Descartes his focus was on ideas not on things.

So it was that he identified the ideal and the real. “The rational is the real; the real is the rational” is not a good translation of what he had to say in this regard. For the word for “real” that he used is better translated as “actual” in the Aristotelian sense of the ultimate perfection of something. “Something is most real when it is

most rational” is closer to the sense and is something that Aristotle might have said. The difference is that Aristotle did not confuse or fuse the mental and the real worlds. Reality is intelligible, but nonetheless fully independent of our thought about it. The source of that intelligibility has to be sought in the divine intellect, not in our minds nor in any notion of mind taken absolutely.

Hegel's choice of the dialectical method was significant. For, it is a method of reasoning that does not apply outside the order of mental processes (as the analytical method of Aristotle does). Since Descartes it has become difficult to distinguish Logic into Analytic and Dialectic, as Aristotle did. As those familiar with the history of philosophy are aware, Aristotle regarded himself, a claim generally accepted, as the “inventor” of logic. Yet dialectic was a much practised art well before Aristotle as, for instance, by Socrates and Plato. Aristotle's discovery was of Analytic, understood more particularly as the process of logical reasoning from reality based or true principles of the various sciences leading to true conclusions. That was his notion of scientific proof or demonstration. Certitude was the object of this exercise, whereas the object of dialectical reasoning is not certitude or “proof” but probability only.

There is thus much confusion about the meanings of “analytical” and “logical” in modern philosophy. Indeed, what is called “analytical philosophy” today would be more accurately described as “dialectical philosophy” in the Aristotelian sense. For, generally speaking, it is concerned with the “analysis” of language and the internal operations of the mind, together with testing of opinions had upon various philosophical questions, a sort of good mental housekeeping, a program ordered to “clear thinking”. This is a worthwhile undertaking, but it is provisional and preparatory, like clearing up the building site prior to constructing something substantial. Not to go beyond this, however, is rather futile, except where we have to be content with probability in regard to matters where certitude cannot be obtained (so that in practical affairs it has some considerable scope).

So it is that the dialectician does much useful work, but he is occupied wholly with ideas, either his own or those of others he wishes to debate with. He can detect inconsistencies and fallacies in reasoning and thus determine regarding particular opinions which are more likely to be true than others. But, not starting from principles or premises immediately known to be true, such as are the principles of a science or philosophy of the real, he cannot proceed to any conclusions that are certainly true or “proved”, only to what is “provable” or “probable”.

This is a mental activity happily indulged in by the sceptic and the idealist alike. For it does not involve them in talking about “reality” or “truth” or the “proof” of certain conclusions. In academia, argumentations that aim only at “probability” or “plausibility” are all that are required of a thesis. Logic, as science, is thought of only in terms of Formal Logic and its application is only in Dialectic.

Unfortunately, Hegel's use, or rather misuse, of it has made the name Dialectic unpopular with English speaking philosophers. No doubt that partly explains their adoption of the name “analytical” (which itself has a sorry history of change of meaning in modern times) for their dialectical reasonings. However, in regard to Dialectic, Kant began the modern process of distorting its significance by interpreting it as a use of reason that did not lead to scientific truth, though it seemed to, but

which therefore made it somehow a futile and illusory use of reason in the search for truth in Metaphysics. Hegel drew the absolutely opposite conclusion. Precisely because it seemed to go “beyond” ordinary logic (ruled by the law of non-contradiction) it was the very method for penetrating the deepest significance of thought.

Contradiction, i.e. the taking of positions that are absolutely opposed for the purpose of argument or debate, is a kind of opposition that is useful in dialectical reasoning. But it is another matter to say that contradiction is the way in which real things are opposed. There are plenty of oppositions in reality but, as noted by Aristotle, they are not contradictory but contrary oppositions. By reducing the real to the ideal, however, Hegel was able to subject everything a kind of internal dialectic, to transpose any real opposition into a contradictory one, and reduce the fundamental form of logic, which is Analytic (as used in scientific demonstrations regarding our understanding of reality), to Dialectic (which is confined to making best use of our mental processes).

So he sets up his dialectical method as a reflection somehow of the processes of reality. To take his very first use of it, “being”, as conceived by Hegel, is clearly not the primary notion of being that Aristotle took as the first notion in his Metaphysics, but the secondary notion of being that belongs to the logical order only. Almost at the beginning the mind has to draw upon negations in order to deal with positive ones. “Being” is the very first concept and it is wholly and supremely positive. But immediately afterwards we “posit” in the mind the concept of “non-being” or “Nothing”.

Aristotle points out that the first concept is taken directly from reality, but the second is not. The first does not imply non-being in its notion but the second, even though purely negative, is as it must be conceived after the manner of being. For, in forming a proposition about it, we say: “nothing is wasted”, or “it is nothing, really”. But this belongs only to the being (and truth) of the proposition in the mind. It is not to be confused with being in the primary sense. Many things were lost with Descartes' evacuation of everything from his mind, not the least of which was the absolutely fundamental notion of the analogy of being.

Logical being can therefore be in some respect equated with negation. To complete his initial “dialectical” triad Hegel introduces another secondary concept of being, the physical notion of imperfect being, “movement” or “become”, as “the negation of the negation” and therefore the resolution of the apparently contradictory opposition between the “thesis” and the “antithesis”. There is a certain plausibility in this in that movement is explained by Aristotle as “the act of the potential in so far as it is potential”, so that if one conceived pure potency (primary matter) as “non being which in some way is”, as Plato did, movement seems to be a mixture of being and non-being, But Aristotle corrected Plato's notion of matter to “being (potential) that in some way is not (actual)”, which makes nonsense of Hegel's “synthesis”. Not only does Hegel mix together the mental with the real order of things, he excludes metaphysical being as the first concept and, following Descartes' lead, substitutes firstly a notion of being that is purely logical (compatible with negation), and then (his own contribution) one that is essentially imperfect and “evolutionary”.

It enables Hegel, moreover, to set the ominous pattern for using negativity and contradiction at the heart of his philosophy generally, represented as the logical “evolution” of Spirit or mind, from the most abstract universal, through the concrete particular, to the most concrete universal. In the application of the dialectical method to the explanation of practical matters, and particularly human history, the destructive side of human nature is readily interpreted as a necessary part of the evolution of Spirit. This is something Karl Marx put to use in forming his own “ideology”, which he called “Dialectical Materialism”. There is, as we know too well, plenty of conflict in every aspect of human affairs, from personal relations to political, but Hegel and Marx, by a sort of logical manichaenism, make this chronic state of conflict a dialectical one (i.e. logically necessary) converted into real terms as an evolutionary law of nature.

This confinement of thinking to ideas that remain within the world of the mind only is something common to English-speaking and continental philosophy. But it has dramatically different results. For the English are more inclined to keep their philosophizing within the “club”; originally a form of an educated people's preserve, but nowadays more an academic one. That is to say the issues remain rather “academic”. The continental, on the other hand, takes his philosophy much more to heart, and preaches it abroad, where all the converted tend to live it out. Its destructive implications, therefore, are much more likely to be “realised” in social and political revolutionary feeling.

The concerns of the English-speaking world of philosophy, therefore, tend to revolve around questions of formal logic and language; whilst those of the continent gravitate towards the practical issues of personal and political life. Both, however, are speaking the language of dialectic, a legacy still of Descartes and Hegel.

Postscript

Many valiant attempts to return to a realist philosophy have been made since Hegel's Idealism virtually commanded the field of philosophy. We cannot here say much about them. We need only mention Husserl's Phenomenology. Heidegger, following Husserl's lead, strove to achieve a sort of realism with his Fundamental Ontology, but in the end he seems not to have been able to escape confusing Aristotle's metaphysical notion of being (being in common) with Hegel's primarily logical notion (being in mind only). Thus his notion of Being has more of an affinity with a mental construct than with reality. “We assert now that being is the proper and sole theme of philosophy. This is not our own invention; it is a way of putting the theme which comes to life at the beginning of philosophy in antiquity, and it assumes its most grandiose form in Hegel's logic.” (The Basic Problems of Phenomenology (1954) Indiana University Press, 1975. Introduction. Philosophy Archive @ marxists.org)

Unfortunately, it is the destructive aspect of Hegel's dialectic that seems to have come more into play in contemporary thinking and to be a significant feature of what is called Postmodernism. It goes now by the name of “deconstruction”. Derrida, who coined the term, apparently took it from the idea underlying Heidegger's terms, *Destruktion* and *Abbau*, meaning “destruction” and “un-build”. This basic philosophical attitude has spread its negative influence in all sorts of ways to all kinds

of disciplines, much to the alarm of the practitioners of the particular sciences and arts.

As to the direction modern philosophy might take after this period of attempting to dismantle old ideologies, are we to say that it is the end of ideology? Would that lead to a return to sanity, to realism in philosophy? One would hope so. But perhaps a return to reason will need beforehand a more fundamental conversion.

WEEK 11

PHILOSOPHY AND TRUTH

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The Activity of Knowledge

In defending the twofold causality involved in human knowledge we have been concerned to avoid the erroneous theories about knowledge that end up destroying the very possibility of our knowing anything with certitude, and indeed undermine the very meaning of knowledge itself. The first error, of empiricism, which denies any relevant active contribution on the part of the subject, or person, reduces all human knowledge in effect to sense knowledge which, as we have seen, inevitably ends in universal scepticism. For, although things do make impressions on our sense organs, they produce only the insubstantial, temporary and transitory aspects of things, objects which, considered by themselves, have no intelligible content or meaning.

The second error, of idealism, which denies any active influence of things, as objects, in the production of our knowledge, is constrained to explain knowledge as a product or effect from within the subjective order alone. This, too, must logically end in universal scepticism. For, effective action or production, even in the mind, does not operate “in vacuo”. If there is no thing presented (by medium of the senses) to the understanding, there can be no understanding.

Nor, as we shall see, can such an idea of productive activity from within properly explain the nature of knowledge. The activity that Kant reduced knowledge to is the activity of the artist, who puts forms into matter. Hegel, a more consistent idealist, was forced to think of knowledge in terms of a kind of absolute creation of objects (out of nothing). Just as the materialist evolutionist does in regard to the unexplained creation of matter, Hegel tried to cover up this absurdity with a theory of (idealistic) evolution.

There is this productive activity, on the side of things and thinkers, necessarily involved in human knowledge. But, it is presupposed to human knowledge; it is not what that knowledge consists in. These causalities are needed to understand how knowledge arises, not what it is. In order, then, to fully appreciate the fault in such errors, and in the scepticism they engender, we need to examine more closely what kind of activity knowledge is.

Before doing this, it is worth noting again that in ancient philosophy it is the error of empiricism that tended to foster scepticism, whilst in modern philosophy it is Idealism that tends to undermine our confidence in our ability to know things as they are, thus perpetuating an underlying sceptical attitude in philosophy. As well as this, the ancient scepticism tended to be opposed by Plato's philosophy which was an exaggerated realism, attributing to things the immaterial condition which ideas have in mind. If that philosophy is sometimes called Idealism, we need to remember that it looked upon the external world in quite opposite terms to modern Idealism.

Modern scepticism, if it is opposed at all, is rather opposed by the diminished realism of modern science. That is to say, dissociating itself from the unrealism of modern philosophy, science today operates on the same basis as the empiricism of the ancients. From a philosophical point of view it does not avoid universal scepticism for the same reason as indicated above, namely, the essential unintelligibility of such a knowledge-as-sense only position. But, methodologically, it limits its investigations to the intelligibility to be found in the observable and measurable, and thus can maintain an imperfect hold on reality, eschewing the implications of denying the existence of anything beyond the material world.

Some scientists, however, even take pride in being regarded as “sceptics”, unable to tell the difference between the good meaning of the limited scepticism referred to earlier and the nonsensicality of universal scepticism. True scientists are, however, basically realists (how could they be otherwise?). It is a shame that the only philosophy they know is idealist or sceptical, which undermines their naturally realist (aristotelian) philosophy. Kantian philosophy appeals to them because it seems to justify their methodology.

Let us now, however, examine the nature of that kind of activity or action that we call knowing. By way of preliminary it may be useful to advert to the distinction seen in the Philosophy of Nature between “action” and “movement”. We can get a sense of the difference, which is very subtle and easily missed, by reference to a couple of common expressions, namely, “all movement and no action”, or “the more movement, the less action”. The most effective person, say a football player, is not the one that moves the most, but the one who economizes such movement to best effect. At the level of physical actions there is no action without movement, indeed all action is by way of movement or motion, but already there we can detect a difference between the two notions. As we ascend the scale of being we will find that the notion of action becomes more distinct and that of motion less applicable.

Parallel to this distinction is that between transitive activity and immanent activity, and between production and action proper. Production belongs to the former kinds; knowledge to the latter. That is not to say that the former may not be required to prepare for knowledge; but it does not constitute the knowledge. Knowledge is action only, and does not essentially involve as such movement or transitive action.

Examples of action involving movement are most obviously locomotion, or change of place, but there is also what we call alteration, or change of quality, and augmentation, or change of quantity. In human knowledge, at the level of sense, the first two kinds of activity need to be involved, and even the third indirectly. For things are sensed according to their different forms or qualities, but these forms first need to be transported or transferred from the things to the sense faculties. Thus, to touch something, it needs to be brought “to hand” or my hand brought to it; to see something it needs to be brought, with the help of a medium, to the organ of sight. Once this contact is made the sense can be “informed” according to the form or quality of the thing concerned.

It is at the point of the reception of this “information” that a distinction has to be made between the physical action emanating from the thing's form, say heat, and the psychical or cognitive action arising in the sense organ of touch, as knowing it to be heat belonging to the thing (e.g. of a spoon). It is the second only that constitutes knowledge, and it is an action of the sense organ, not of the thing sensed. It is an action that remains within (immanent), not an action that passes over into something else (transitive). It is not perfective of other, but self-perfective.

But the differentiation between transitive and immanent activity is not made suddenly. “Nature knows no gaps”, or, as St. Thomas puts it, “the highest of the lower touches the lowest of the higher”. Immanent action first becomes evident in living things. All action pertaining to non-living things is transitive. But at the lowest level of living things there is plenty of transitive or non-living action needed to support the higher form of immanent or living activity, and even in the highest forms of bodily life there is always some movement or motion presupposed.

In regard to nutrition, for instance, which is essentially a vital activity, the horse nourishes itself from the hay. It is not fully correct, or one is only speaking “materially”, to say that the hay nourishes the horse, as if it were the principal agent involved. There are no doubt physico-chemical activities emanating from the material but, properly considered, the hay is the “nutriment” not the “nutrient”; it is the instrument of the horse's nutritive power to assimilate the food into its living system. It is the horse that does the nourishing (*nutriens*) and it is the horse that is nourished (*nutritum*). This is the vital immanent activity involved in the whole process. The hay, with its non-vital transitive (physico-chemical) activity, is the instrument, the nutriment (*nutrimentum*).

Of course, no nourishing takes place without nutriment, but then again Michelangelo could not have produced the *Pieta* without a chisel (and marble). The dependence is “material” and “instrumental” not “formal” and “principal”. Only a reductive mentality (which is unfortunately present in much modern “scientific” thinking) will have difficulty with seeing the difference between the higher and lower levels of activity in the one process.

An important philosophical axiom is most relevant here: “Dependence does not argue identity”. It proves connection or unity, but not identity. This axiom is ignored probably most in regard to the relation between the intellect (which is spiritual) and the brain (which is material). The human brain is a living organ that is the seat of functions at the two lower levels of human life, “vegetative” and animal, but, most importantly for intellectual knowledge, it is the seat of sense life at its highest level in the internal sense of imagination. The activity of the intellect is dependent upon the activity of the brain, obviously, but that does not mean they are the same, no more than Michelangelo is to be identified with the chisel or the marble quarry.

How they “co-operate” is of course a matter for investigation. But that investigation is pre-empted by those (“scientists”) who confine themselves to dissecting and pursuing the examination only of the physico-chemical or neuro-electrical activity of the brain. That is equivalent to ignoring the intellectual artist's contribution and trying to solve the mystery of the artistic reality of the statue by analysing the material make-up of the marble and the physical attributes of the chisel.

The example of the intellect and the brain is the high point of the continued dependence of human knowledge on the lower living and non-living activities/passivities of the human body. For the human being, though only to be explained as one having a spiritual soul and purely intellectual knowledge, is always in this life dependent upon the body and its activity.

Let us turn to the examination of that immanent activity which is knowledge. In nutrition the living body benefits itself by making use of the matter and bulk of its food. The maintenance and increase achieved is quantitative. The process necessarily involves the destruction or “consumption” of the material thing so made use of. It has to lose its form and qualities, so that its material goodness may be subsumed into another for its benefit. The immanence of the activity, however, is clear. This may be recognised by identifying the agent and the end as the same; whereas with transitive activity they are not. But it is also clear that the whole process includes a heavy reliance on transitive activities, even to the point of the corruption of the substances of things.

With knowledge, even sense knowledge, however, the immanence of the activity becomes much clearer and the transitive activity diminishes in significance. In the activity of sight it is clearly the animal that does the seeing and benefits from it. It is the agent and the end. It still needs other things as means, however, which

necessarily involve transitive activity or movement. But, what it makes use of, or “feeds upon” (not to be conceived of in the same gross way as in nutrition), is the forms and qualities (light and colour) of the object/thing; separating out these forms from their material support, but in a way quite opposite to nutrition. For, it means to grow “formally” and “qualitatively”, not “materially” and “quantitatively”.

By this process, the material things, and their forms, are not affected, except incidentally in so far as the transitive activity (e.g. heating) itself might involve a loss of perfection (heat). The process is wholly ordered to the “information” of the knower/animal, with the result that the same forms already possessed physically by things are now informing it, after the manner of knowledge (thus possessed not physically but cognitively). The goodness thus taken in is not material but “formal”, enlarging the being of the recipient in a real but higher fashion.

The distinction between the transitive activity and the immanent activity is hardest to see at the lowest level of sense. Thus, with touch the sensitivity of feeling is as it were mixed with the physical effect of the thing's activity on the hand. Hence, one does not know the heat of the thing purely “objectively” but only the difference between the natural or physically induced heat of the hand and the natural or induced heat of the thing. A certain relativity therefore attaches to sense knowledge at the lowest level. But with sight (the highest sense) this relativity virtually has disappeared, so that, barring some defect in the organ of sight, the form (colour) of the thing, whilst received physically in the organ of sight, does not stand in the way of the objectivity of knowledge.

But, aside from this, it is necessary to understand the limitations still attaching to this immanent or self-perfective activity at the level of sense knowledge. The forms are still particular, concentered in all their material limitations. The knowledge, accordingly, is superficial and fleeting. This sort of “information”, obviously, does not satisfy our appetite for knowledge of things in any fundamental way.

That is where the need for a further operation on things/objects becomes evident to reveal their substantial forms and the essences of their qualities. “Sense knows colour, but it pertains to intellect to know the very nature of colour” (St. Thomas). This operation involves the “breaking” of the sensible shell of the thing known so as to feed upon the pure essence of the thing, much as one gets to the milk of the coconut. In Aristotelian terminology this operation is called “abstraction”. This is a “productive” activity of the highest (spiritual) order. It is not the activity of knowledge itself, but preparatory to it, making it possible for the understanding intellect to “inform” itself from the object/thing so opened up.

This is the sort of “information” that is suitable to an intellectual being. Even so, it opens up possibilities that so transcend the things/objects that are the instruments/material of intellectual knowledge that one's intellectual appetite for truth is more stimulated than satisfied. But these sort of considerations would take us well

into the depths of reason and faith. For the present we are concerned only to understand the nature of knowledge for the purpose of defending its value and certainty.

The immanent character of knowledge is therefore verified at all levels. But human intellectual knowledge in this life never reaches the stage where it can dispense with sense knowledge, nor with a superior kind of productive activity as explained above; nor does it and sense knowledge cease to depend upon transitive activity both from within the body and outside.

Thus it can be understood how human knowledge is passive initially to the transitive actions (or movements) of sensible things, and how intellectual knowledge is passive to the combined productive action of the internal senses (instrumentally) and of the spiritual power of abstraction (principally). Yet the knowledge itself, whether of sense or of intellect (understanding), is pure activity, exercised by the knower for its own benefit (i.e self-perfection).

There are other productive activities that apply in the full analysis of the complex process of human knowledge, such as the imagination's production of an image and the intellect's production of a concept. All these activities, however, as with the other transitive activities connected with human knowledge, are preparatory to that immanent activity that is knowledge itself. It is this immanent character of the activity of knowledge which we wish bring out here so that the complexity of knowledge can be properly appreciated and the errors and scepticism that flow from not appreciating this can be avoided.

The first activity, then, in relation to human knowledge is the transitive activity of things according to their forms, such as heat light and colour. By this the sense faculties are put in a position to assimilate the forms as impressions of the particular things. This is the first immanent activity proper to knowledge. These impressions are then co-ordinated by the sense consciousness, through which these particular things are further impressed upon the higher internal sense faculties known commonly as the imagination. In fact there are three faculties involved here, the imagination proper, the memory and the natural or particular power of assessment of the animal (popularly called "instinct").

The imagination assimilates these forms to itself by reproducing them in images (or the corresponding "unsensed intentions" of the memory and animal prudence – called "unsensed" only relatively to the more familiar sensible objects of external senses). Such reproduction is a productive activity; the immanent activity of the knowledge of the imagination occurs in the union of the faculty with the object in the image.

This is the highest level of sense knowledge (especially as evidenced in the particular judgment of the animal). In higher animals this is often called

“intelligence”. It does not, however, transcend the level of sense knowledge which is bound to the particular conditions of time and place. It is, therefore, to be carefully distinguished from the (abstract) intellectual judgment of humans.

It is at this highest point of animal life that intellectual knowledge comes into play in human knowledge. For, it is by the co-working of the imagination (as a cognitive instrument) and the intellectual (abstractive) power of the spiritual soul (as principal agent) that the essential character of the accidental forms expressed in the imagination, reaching to the substantial forms of the things so represented, are opened up, whereby they can be known and understood by the intellect.

This abstraction (and illumination) is not the activity of knowledge. It simply puts the forms (by a spiritual impression) into the understanding intellect, which is where the immanent activity of knowledge occurs. This is the beginning of human knowledge as it is intellectual or spiritual. There remains as all are conscious of a long and arduous process of intellectual work (reasoning) still to do before any degree of full human knowledge is achieved. This course is part of that work-in-progress.

Sense Knowledge and Intellectual knowledge

The principal concern that we have with the problem of human knowledge is in regard to intellectual and rational knowledge. For without these all the intelligibility of things disappears and we are left with no firm ground to stand on. The main critical task then is to defend the validity and certainty of our intellectual knowledge. But, in human beings, this cannot be done without showing the dependence of our intellectual knowledge upon sense knowledge. For, just as the human being is not a pure spirit, so human knowledge is not purely intellectual. *Sciendum est autem quod in cognitione humana fundamentum et origo est sensus*; “it is to be understood that in human knowledge the foundation and origin is sense” (my translation) (St. Thomas, *De Princ. Indiv.*)

Not till late mediaeval and early modern times was this relationship of the certitude of human knowledge to sense awareness seriously questioned. The attempt to refute scepticism entirely from within led inevitably, as we have seen, to the disconnection of intellectual knowledge from reality, and the invention of a series of systems of thought that are not only so disconnected but also fundamentally irrational. Contradiction, with Hegel, becomes both the the law of thinking and the law of things.

The evident fruitlessness of this sort of thinking for its own sake led to a shift of attention from “philosophizing” to “praxis”. For human affairs seem to lend themselves to explanation in terms of inherent oppositions. This is most dramatically seen in Karl Marx's dictum that the object of philosophy is not to understand the world but to change it. But much of philosophy subsequent to Hegel has a similar pragmatic inspiration and orientation. In the practical and political order, however, violence thus comes to be identified with the natural and conflict becomes the law of progress. Destruction as a necessary means to social re-construction and deconstruction as a necessary prelude to reading literature and history become legitimized. In Economics “competition” is taken in its lower (more material) sense of rivalry instead of in its higher (more spiritual) sense of seeking together a common good. And all this is done in the name of “freedom of the individual”. If this sort of human thinking were to gain ascendancy, the world would be left to go mad with unregulated desires for pleasure and power.

It can be seen, then, how modern ideologies, and the universal scepticism (promoted as “freedom of thought”, taken as an absolute) that underlies them, have had the potential to wreak havoc upon modern society and culture. Evil cannot, of course, totally overpower good. And, as Chesterton so acutely noticed, in Christian society, and indeed in all human affairs since the coming of Christ, there is a principle of resurrection always operative. Nonetheless, we have to do our part, even at the level of reason and philosophy (though not without the aid of faith), to counter the forces of unreason (and evil).

How do we know that our knowledge relates to things outside of us? The answer is that we know this intuitively. Like all words the word “intuition” takes on many meanings. These meanings generally imply a certitude, but not always one that is objectively based, or derived from our external senses. The original meaning of “intuition”, however, signifies clearly that one is in contact with the real world, is “in touch with reality”.

This can be seen from the etymology of the word, which we can examine in the latin equivalent of “I intuit” (*intueor*). Taking each element of the word, *in-tue-o-r*, we have “unto-done-I-am, or more according to the order of English words, “I am done unto”. Whereas English focuses on the active side of knowledge, Latin, more acutely, brings out the underlying passivity involved. One who inadvertently touches a hot object is in no doubt that it exists, even though he may not suffer any physical injury. Thus the original receptivity of the knower to an activity on the side of things is clear in the very first things known by the external senses.

Just as one does not have to prove what is already known, so it is nonsensical to doubt and ask for “proof” of what is known intuitively. As Aristotle said: “One who does not know that snow is white does not need proof but sense [sight]”. To say that one doubts or denies certainty with regard to one's sense awareness of external things, therefore, except upon the basis of a hypothesis one knows to be impossible, or as a dialectical proposition only, is to say what one knows to be false. “Not the same”, as Aristotle is reported to have said of Heraclitus, who is thought to have denied the principle of non-contradiction, “is what a person says and what he thinks”.

Strictly speaking, however, only the external senses and the concomitant sense consciousness are intuitive. Only these, therefore, give us warrant for asserting the existence of things. That does not mean we cannot be sure of the existence of other things; but, if we are, such knowledge is necessarily derived from what we know first intuitively (in the most proper sense).

Intellectual judgments regarding first principles may also be called “intuitive”. For they are immediate in the intellectual order of knowledge. But, though we are in no doubt about the certainty of such intellectual “insights”, so that we say the we “see” them, they are not intuitive in the strict sense, and presuppose the existence and activity of things giving rise to the intuitive knowledge of our external senses and sense consciousness. Our first intellectual certainties, therefore, even though they are more immediately derived from the imagination (taken generally for any internal sense), are an insight into what are at the same time present objects of sight (taken generally for any external sense and sense consciousness). So it is, too, that we cannot rationally prove the existence of anything except by what is inferred logically from what we know (by intuition) to exist.

With all this presupposed we can go on to consider more closely the nature and

causes of intellectual knowledge and science. Human intellectual knowledge, as with sense knowledge, supposes the existence and activity of things as the objects to be known. This activity of things, however, as we have seen, is productive and therefore not yet the activity of knowledge as such, which is immanent.

If what we know in the objects of intellectual knowledge were no more than that of sense, we would not need to posit any further productive activity preparatory to the activity of intellectual knowledge itself. But it is evident that by “insight” we see more in things than we do by “sight”. “Intellect”, in one etymology of the word, signifies “to read within”. Something is “done” by us in respect of the things known by the senses whereby something more of them is able to be known, rather like x-radiation is able to reveal to us the inside of things.

This intellectual power, or internal spiritual light, is called by Aristotle the “agent intellect” (*nous poietikos*), by whose productive power we are able to penetrate into the essences of things, or abstract from their sensible images their innermost natures. How this power works is something dealt with more fully elsewhere. Here we are only concerned to note its existence and function in rendering the sensible object an intelligible one.

We are then in a position to examine what happens to this intelligible object once the understanding, i.e. the receiving intellect (*nous pathetikos*)¹, informs itself from it. This is, as we have seen, essentially an immanent activity. It is the understanding that does the apprehending of the things according to this objective aspect of them, grasping, as it were, the objects according to their intelligible forms, so as to assimilate itself to them. Thus, things come into the mind, and the mind becomes informed by the things it knows. So, as Aristotle says, the intellect, from being at the beginning a clean slate, potentially all things, what it can know, makes itself to be all such things, according to the various forms of being.

It is to be carefully noted, however, that the intellectual process of assimilation of forms, or information, because its objects are in a different condition (being in the first instance abstract) from the things which it knows (being necessarily concrete and individual) is more to be compared with the objects of the higher internal senses (imagination) than with those of the external senses. Thus, though we may use the term “intuitive” in a relative sense in this context, just as imaginative knowing needs to be mediated by an image intellectual knowing is had only in and through a concept produced in the very act of knowledge. The thing/object known intellectually, e.g. the essence of horse or triangle, exists as an individual physically and in the imagination, but it is known intellectually, initially and essentially, as something abstract and universal.

¹ To be more precise we need to distinguish between what Aristotle calls the “passive intellect” and the “potential intellect”. It is the latter which is intended here. The former refers to the cogitative power, which is properly an internal sense, as moved by the (potential) intellect. The intellect, though purely spiritual, is truly passive inasmuch as it receives the forms of things.

How this occurs is something we need to understand very clearly. Otherwise we will misunderstand the very process of intellectual knowing. St. Thomas uses the example here of seeing something in a mirror. The “movement” of sight is together towards the thing and its image in the mirror. But the seeing is carried primarily to the thing and only secondarily to the image. This is expressed by saying that the image has an “intentional” character. It exists not to draw attention to itself but precisely to move us to see the thing of which it is an image.

The natural images and concepts produced in the imagination and the intellect are infinitely more perfect in this “intentionality”, so that, though they mediate our knowing of things so represented, we are not at all aware of them except by subsequent reflection on our processes of knowledge. Upon such reflection we note that what we know, i.e. the objects of intellectual knowledge, are individual things, such as particular horses and shapes (which we already know by our external and/or internal senses) but only according to their abstract condition, which belongs to the objects as they are received into the understanding, to which is attached in the concept a universal reference to the particular things from which they are abstracted.

Thus, in the study of Logic, we distinguish between the comprehension of the concept, namely, the one, if manifold, content of the concept, and its extension, its reference to the multitude of individual things from which it is taken, or to which it may be applied. It is this latter relation of referability which constitutes the universal most properly speaking, and it belongs only to the object as abstract, i.e. to the condition it has in the concept, and in the concept only.

Rather confusingly, however, the term “universal” is applied also to the object simply as it is the content (comprehension) of the concept. In this sense it signifies something understood abstractly as one (e.g. plant), though taken from what really exists individually as many (this plant). The former is given the name “metaphysical universal”; the essential quality of the latter (even though an individual nature) is also called a universal (“material universal”). This series of distinctions, though without the scholastic terminology which developed later, is discussed in St. Thomas's classical treatment of the universal in “On Being and Essence”.

The universal in its most proper sense is then distinguished from these two other meanings by being called the “logical universal”. Thus, universality is described as “the first logical property of the concept”. The object in the concept, then, taken only according to its content, or comprehension, has neither logical universality, nor, for that matter, the condition of individuality that belongs to the thing (plant) as it exists in matter.

Hence, we have to be careful to distinguish the productive activity of the “agent intellect” from the properly immanent activity of the understanding intellect (called “potential” in relation to the productive activity involved). In terms of the act

of knowledge itself, however, the intellect which does the understanding is supremely active, for by it we inform ourselves from the things of the real world. Keeping these distinctions in mind we are in a position to examine a little more closely the various kinds of intellectual acts that make up intellectual knowledge.

WEEK 13

PHILOSOPHY AND TRUTH

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The Acts of Intellect

We are concerned, therefore, to examine more closely intellectual knowledge in the context of the problem of certitude. Certitude most properly belongs to the act of judgment and, a fortiori, to the judgment of intellect or reason. With human intellectual knowledge, however, the act of judgment presupposes a prior intellectual activity called the apprehension of simples (i.e. simple abstract objects, such as “horse”, “triangle”). Furthermore, our elementary or first judgments provide the bases or starting points for that movement of the human intellect which we call reasoning, from which activity the intellect is given also the name Reason.

Strictly speaking, proof (so far as certainty is concerned) pertains only to this third activity of the mind. Here, however, we are concerned to defend the certainty of our original judgments only, which is not a matter of proof strictly taken, or directly, but of reducing the denial of such certainty to what is evidently impossible or absurd, i.e. by way of indirect “proof”.

In order to appreciate fully the refutation of fundamental or universal scepticism that such a denial of certitude, or assertion of doubt, involves, we need to examine the precise nature of the first acts of the intellect, as these provide the “materials” for the acts of judgment. This will lead straight into the consideration of the question of universals, to which we have already adverted in the previous lecture.

The first act of the intellect, called simple apprehension, is to the process of intellectual knowledge what the initial sense impressions of the various aspects of things (this heat, this patch of colour, this flash of light etc) are to the process of sense knowledge. What the intellect apprehends or grasps, however, is something more of things than sense does. It reaches beneath the superficial appearances of things and beyond their material limitations into their essences and substances (the nature of heat, of colour and of light, and of the substances to which they belong).

It is not to be thought, however, that we can take in the full intelligibility of the substances of things, or even the nature of their accidents, with one grasp, as it were. For we have to grasp things first only according to their most general aspects, or what Aristotle called their highest genera, and only by a further process of differentiation division and definition do we arrive at anything like a specific knowledge of things. The first, and simplest, concepts that we have also constitute the most general and confused ones. Nonetheless, though there is still a long way to go in penetrating to

the full truth of things, we have entered upon the understanding (if the most elementary) of reality, and have left behind the world of appearances.

There are two features of our concepts that are often confused but which need to be carefully distinguished, their generality and their universality. Universality attaches to all abstract concepts; as we see in Logic, universality is the first logical property of a concept. “Animal”, for instance, is universal in that it is one aspect of being that is able to be said of a (potentially infinite) multitude of individual things. But the same can be said of “horse”; so that both “animal” and “horse” can be called universal concepts, the one no more so than the other. But, “animal” is a generic or general concept and “horse” is not (being specific).

Generality, then, in its more strict sense, pertains to what is contained in the meaning of our concepts (being less “meaningful” than specificity), not to their referability to many individual subjects (or universality). In point of fact our first (universal) concepts are the most general (and confused). But it is the object of all intellectual knowledge, in this first activity of the mind, to progress from generality to specificity, i.e. from confusion to distinction. Universality is the mark of the difference between the abstract concept and the concrete image; generality is the character that attaches to our first concepts; it is a sign of the weakness of human understanding, not of understanding as such (as empiricists tend to think).

Our intellectual certitudes begin with our first judgments, which, made up from the most general universal concepts, are also the most general. Their generality, therefore, does not make them any the less certain, for it is in the nature of human intellectual knowledge to begin in such a way. It is from a failure to notice this that some identify certainty only with particularity and distinctness (and eventually with sense knowledge) and equate generality (and therefore intellectual knowledge) with vagueness and uncertainty. Curiously enough, it seems that Descartes (the father of Rationalism) is the one that set modern thinking upon this wrong path, with his insistence upon grounding certitude in clear and distinct ideas.

Universality belongs to our concepts subsequent upon the assimilation to itself by the receiving intellect of the object (say, substance as such) abstracted from the image of the imagination (this substance). The object, so abstract, is immediately seen to be referable to the many (or one) individual beings from which it has been abstracted, and to which it may now be applied. With regard to these individual things we can, with the help of our senses, form the equivalent concrete concepts. Hence, we can say “This thing (tree) is a substance”, or, more specifically, once we have made our concept more distinct, “This thing is a tree”. In this example, the proposition is made up from an abstract concept (substance, tree) and a concrete concept, both of which have the same objective content (form) though they differ according to condition. “This thing” and “tree” are in the same subject (existent); indeed they are really identical. So it is that the proposition “this thing is a tree”, though logically complex (two concepts, relates to something that is really the one

thing.

The relation of “referability to many” belonging to the concept, therefore, as well as the relation of “saidness” in the proposition, are purely logical relations. They are called “second intentions”. But what the concept first “intends”, or means, be it substance, tree, horse etc, is the form of reality with which the receiving intellect has assimilated itself. These are called the “first intentions” of concepts. We can say, therefore, that in knowing such, the knower becomes, according to the mode of its knowledge (cognoscitively), the very things it knows.

All this is dealt with more fully in Logic. But here these explanations are needed to make it clear that the universal concepts in the human intellect have the same objective contents/forms as the things according to which the intellect becomes informed. The first relations of the concepts to the real things, then, needs to be distinguished from the second logical relations (universality, predication and illation).

It is the “first intentions” (i.e. the concepts as “meaning” the things, according to some aspect or other of them) that keep us in contact with reality. Without appreciating this function of our concepts we are in danger of falling back into a world of our own thought. If we do not appreciate the fact that it is not the concept, but the thing it represents, upon which our intellectual knowledge first bears, we will fall into the trap of thinking that the first object of all our knowing is our own concepts or ideas. Here again, it seems that it was Descartes who put us on the wrong track and laid the seeds of modern Idealism. Phenomenology, we might say, is an attempt to recover this awareness of the primary “intentionality” of our concepts. Husserl, though an admirer of Descartes, looked for a way out of the Idealism that his method of doubt had led to.

If we keep these first intentions of the mind we should avoid the cartesian mistake. Nonetheless, the use of the term “universal” is fraught with the potential for much confusion, particularly between the logical and ontological meanings of the term. We have already adverted to the differences between the “logical universal”, the “metaphysical universal” and the “material universal”. Taking the example of the thing “horse”, the first refers to “horse” found only in the mind because it is taken together with its logical relation of “universality”. The universal horse, so understood, exists in the mind only (pace Plato).

The second usage of “universal” refers to what are called the “first intentions” of concepts, which are the content of the concept taken simply for what it means or “intends”, i.e. “horse” considered as the same in form wherever it may be found. That is to say the metaphysical universal is horse taken without its logical universal reference (and for that matter without its particular mode of existence in individual horses).

The third usage is the most strained of all. Here the universal refers to the

individual horse or horses from which the abstract object (horse) is taken in the process of human intellectual knowledge. This usage no doubt means to emphasise the real foundation of the universal found in the concept.

Thus, we have such awkward expressions as “the universal as universal”, “the universal as neither universal nor individual” and “the universal as individual”, respectively corresponding to the three universals referred to above. Needless to say, confusion is worse confounded when we have the word “particular” used in Aristotelian Logic for the particular universal (“some horse” as distinct from “every horse”), but generally used in English, and in much modern philosophy, including modern logic, as equivalent to “individual” (“this horse” as distinct from “horse as such”).

How our intellectual knowledge is connected with reality is therefore evident to some extent from a proper understanding of the first act of the intellect, namely, simple apprehension and the processes of abstraction and conception necessarily associated therewith. The intellectual process, however, finds its perfection in the second act of the mind, which is judgment. The certitude and realism of human intellectual knowledge, therefore, is most evident in the examination of the judgment, to which we now turn.

Judgments and Principles

The second act of the intellect is judgment. It marks the completion of the initial process of human intellectual knowledge. We do not fully “know” something until we have made a judgment about it. The first act, apprehension of the essences of things, is therefore only the very beginning of knowing something intellectually. Even at this level, though, much needs to be done to advance in our knowledge of things, such as occurs in the process of comparing, contrasting etc in the process of definition. But all this is ordered to making a judgment where, as we see further on, some truth about things is first properly achieved.

Even so, our first judgments are elementary in their turn, and give us only a most general insight into the truth of things. They, too, in terms of the full truth that we can know, are only the beginnings; hence, what they produce are called “principles”. Much intellectual work including, with the help of our senses, the discovery of more particular principles or laws, and reasoning therefrom, needs to take place before we can achieve that state of relatively complete human knowledge we call human wisdom, philosophy and science.

We are here concerned with the very first judgments, and the very first principles that issue from them. For they are the ground of all our certitudes regarding knowledge and truth about reality. If we focus exclusively, as Descartes did, and many modern thinkers do, on the simple objects of our first apprehensions, our ideas or concepts, we easily lose our grasp on the real world and slip into solipsism. For, though these involve a true beginning of objective knowledge, the contact is as it were with the tips of our fingers only, not by a full grasp of the hand.

To suspend judgment arbitrarily, by a pretended doubt, is like inducing a sleep of the mind. We are left with a collection of disconnected impressions as in dreams. For the act of judgment stands to the mind rather like sense consciousness does to the external senses. In it the union of the knower with things that is knowledge is completed; by it we become fully aware, not only of the objects known but also of our knowing of them. In the perfect action of knowledge we come to know both the things and ourselves, for they, without losing their real identity and independence of

us, have also, in the mysterious manner that belongs to knowledge, become one with us, or, more so, as the action of knowledge more strictly speaking proceeds from us, we make ourselves one with them (though this has to be achieved by a piece-meal process, as it were).

There are, however, two differences between the initial processes of sense knowledge and those of intellectual knowledge to be careful noted. The first is that the former is intuitive, whilst the latter, strictly speaking, is not. Hence, in order for them to be “in touch” with reality, to grasp truly things in their actual existence, intellectual judgments, even the very first, depend upon the concurrent operation of the external senses and sense consciousness.

Where the sense consciousness is suspended, as in sleep, the intellect may still be “fed” by the external senses to some extent, but naturally enough the acts of judgment are seriously affected. Human knowledge is not simply intellectual nor of sense only, but works naturally by an integration of the two. Intellectual judgments, therefore, made without the direct co-operation of the senses, are made in terms of essential and universal knowledge, even when considering the act of existence itself (*esse*), which of itself transcends the order of essences (*essentia*). But these matters cannot be gone into here. They are taken up in Ontology.

The other difference is that the knowledge of the acts of sensation, or sense consciousness, requires a separate power from those of the external senses, whereas our distinct knowledge of our own acts of understanding does not require a separate power but only distinct acts of intellect. For, whereas a sense can be the faculty of one aspect of things only (e.g. sight of illuminated colour), intellect as such is the faculty of being simply, which is one.

The non-intuitive character of our intellectual knowledge is verified by the fact that we can consider things and their properties in their absence, just as we can in our imagination. Indeed, in order to understand things, or any aspects of them, we need to form concepts, which stand to intellectual knowledge as images do to the higher internal sense faculty of imagination; the difference being that the former concepts are abstract and universal whilst the latter images are concrete and particular; their contents, on the one hand, intellectualized (or de-materialized) and, on the other hand, retaining their material and individualized condition.

But, just as the mind produces concepts in order to represent what it sees in things, so it also produces propositions in the process of judging the truth of things. What the mind asserts (or denies) about the things it knows is mediated in and through these propositions, which are combinations of concepts produced in the first act of the intellect. The act of reasoning, too, will fashion for itself a complex of propositions which make up the argumentation. But we are concerned here only with the certitude of the first propositions formed in the intellect, which are called “first

principles”.

The concepts produced by the mind in order that we may know the intelligible content of things through them (i.e. understand the thing/object in the concept), necessarily produce themselves a logical relation of universality to the individual things of which they may be said. The proposition, which is a complex of at least two concepts, also brings into being in the mind a logical relation called predication or “saidness”, by saying one (the predicate) of the other (the subject).

Just as universality follows automatically from first concepts to the individuals to which they refer, so are these first and most general concepts necessarily predicated of the same individuals as subjects. “Being”, the very first and most general concept of all (though not strictly speaking a genus), is necessarily predicated of every individual thing. The first principles express the necessary and immediate predications imposed upon us by our understanding of the nature of things. These are the basis of our certitudes. We cannot not think them, though we may verbally deny them. Here are some examples: “Everything is what it is”. “Everything relative supposes something absolute”. “Every action is for the sake of an end”.

Over and above these most general principles, however, is one which adverts to the very possibility of saying anything at all, namely, the principle which says that it is impossible to assert and deny together the same of the same. This absolutely first principle corresponds in the order of judgment to the absolutely first concept in the order of apprehension, which is “being”. In regard to this principle (the principle of non-contradiction) Aristotle says of Heraclitus, who is said to have denied it: “It is not necessary that what a person says is what he thinks”. (cf. Woodbury para. 384)

This principle expresses the certainty had in the act of intellectual judgment. When we say that something is, or what it is, or that it is so, or why it is so, our assertion signifies that we have assimilated ourselves to it according to that aspect of it with which we are concerned (its existence, nature, action, quality etc) and that we know that this assimilation has taken place; for perfect knowledge of things involves knowing ourselves. Judgment is the culmination of the union of ourselves with the forms of other things, of the process of “being informed”. So it is said that in knowledge we become what we know (not in a gross sense, i.e. materially or physically, but in a higher sense, “formally” or spiritually).

The word “is” in the proposition is the sign not only of the union, and even identity, of the predicate with the subject, but also, in and through the judgment, of the assertion of the conformity between the thing and the knower with regard to some aspect or other of the thing. This of course only applies to propositions that are assertions of what we truly know, not to conditional statements or expressions of opinion. But, even in this human manner of knowing with certitude we can never take in all the intelligibility of the thing, so that our “information” always remains incomplete. In this regard we can never know all truths, nor even the full truth

regarding any one thing, at least in this life; but, fortunately, we have access to a higher manner of knowing, which, however, lies beyond the scope of this subject.

Certitude regarding the thing the object of judgment, therefore, is founded upon this absolutely first principle, and it is the one to which are reduced (by *reductio ad absurdum*) all other propositions, including those which are themselves self-evident from their own terms. Implicit in the expression of this principle, moreover, is certitude with regard to its being an operation of the power of knowledge involved (our intellect) and our own existence as the ones doing the act of knowledge. For it is the person who is doing the knowing, through his or her own intellect, and he or she is necessarily aware of this.

It is important to note that judgment is not to be understood merely as some sort of artificial or logical construction of propositions. It is true that the lowly nature of the human intellect means that it must represent the simple richness of reality by a complex of concepts because we are unable to intuit things whole. But, it is in this mental re-construction, as it were, of things that we grasp them as they exist. The most important aspect of judgment consists in uniting ourselves with the world outside our mind, with the truth of things, in and through the logical truth of the propositions we form with regard to them.

This propositional truth is not for its own sake, nor does it stand in the way of our knowing the truth of things; like the concepts in relation to the essences of things, the propositions formed in the judgment are the very intentional means wherein we assimilate ourselves to all the dynamic reality of the world outside our minds. We know things, in their existence and activity, at once, and are only subsequently, by direct reflection upon our mental acts, aware of the propositional character of such knowledge.

There are, however, truths that belong only to the order of propositions and do not “intend” the truth of thing (*veritas rei*). That is to say that, whilst logical truth, or the “is” (mental being) of the proposition, depends initially upon ontological truth, or the existential “is” (real being) (in as much as our mind takes its measure from things, and not vice versa), there is much within our minds that, though it is for the sake of understanding things better, is purely mental. Such, obviously, is the notion of nothing, and are other notions expressing negations.

So it is that Aristotle, in speaking about the (analogous) meaning of being, explains that the being (and truth) of the proposition is a secondary meaning, not to be confused with real being (its primary meaning). It is, however, a confusion that is made by most in modern philosophy and is inevitable in an idealist (such as Hegel).

The first propositions of the mind, i.e first principles and, a fortiori, the principle of non-contradiction, though expressed in logical form, first “intend” the state of affairs applying in the real world. The primary function of propositions, as of

all media of knowledge, is to draw attention to things, not to themselves; to bring things into mind, not to stand in the way of knowing them. So, as regards first principles especially, they are laws of thought indeed but only because they are laws of reality.

They necessarily express in a complex way what are not necessarily complex realities. But their primary role is as a means to our knowledge of the real world. That does not deny that there is a whole world of logical relations and constructs that are required to support this basic function. But it is intellectually fatal not to see the distinction between the meanings of “is” (being) as referring to the real and as taken in the proposition.

Hence, there is such confusion today about the meaning and application of the principle of non-contradiction, a principle which cannot be really doubted or denied, but which may be hidden behind a mist of obfuscation and over-sophisticated debate. The first victim in such a war of words is, naturally enough, truth. Having defended, hopefully with some effect, the certitude that belongs naturally to human knowledge, most properly at the intellectual level, we may now turn to examine more closely the notion of truth (and its various analogical meanings). This we take up in the second book called “Criteriology”.

The Truth of Knowledge

Taking ourselves as typical knowers, we have seen that all knowledge begins with the assimilation of other things, according to their forms, to ourselves so that our own existence is enhanced. That is to say we “grow” in being as we increase in knowledge. Aristotle expressed this by saying that in knowledge “sense becomes all sensibles and the intellect becomes all intelligibles”. So we can say that in a certain fashion (not grossly physical) we become what we know, for we then share the forms of other things with them.

This identification is not of course to be taken in a total sense. For the things exist and remain other than us. Nonetheless, there is real sameness of form; the real difference is by reason of difference of subject or “matter”. As St. Thomas points out, “knowers are distinguished from non-knowers in this that whereas non-knowers have their own forms only, knowers have also the forms of other things”.

In the very notion of knowledge, therefore, there is had a “conformity” between the form of the thing and the form received (its similitude) into the knower. Looked at by itself this conformity is the very reason why the (immanent) activity concerned is called knowing. The knower “informs” itself by assimilating, i.e. conforming itself to, the forms of other things.

Truth, as generally understood, consists fundamentally in this relation of conformity. So it is already clear that the notions of truth and knowledge go together. However, as there are different levels of knowledge so there are different grades of truth. Since judgment is the highest level or most perfect mode of knowledge, the perfect notion of truth will be found in judgment, where knowledge culminates in the one knowledge of the thing, our act of knowing, the conformity between the two, and our knowing of this conformity.

In sense knowledge there is conformity between things and the impressions received in the senses but the awareness of this conformity is immersed in the particular and hence is insufficient. In the first act of the intellect (apprehension of simple abstract aspects of things) there is had conformity between things and our concepts of them but not any proper awareness of this conformity, for which a knowledge of truth is required. This involves a knowledge not only of things but also of our concepts of them.

Thus, a certain reflex knowledge is part of every judgment in its very exercise

(in “exercised act”). This reflexion can, however, become more explicit by making the conformity itself (the quality/relation of truth) the direct object (in “signified act”) of our knowing. However, we should pause to examine more closely the various ways in which truth is taken and also how falsity or error can enter into the processes of our knowledge.

One thing that might be noted at this stage, though, is that just as in the objects of desire there is no pure evil, but some good must remain even where evil is greatest; so in regard to the objects of knowledge there is no pure falsehood, but some truth always remains. Things are therefore called evil or bad not because they are purely so but in so far as they are good to a certain extent but lack some due good. Thus a person is said to have bad sight, not because he has none but because he lacks the due perfection of sight.

Similarly, one is said to have false knowledge not because there is no truth at all in what one knows but because one mistakes the partial knowledge one has for the whole. Thus, if one says that pigs have wings there is no truth in the statement because there is disconformity between it and the reality purportedly known. There is no such knowledge if one regards only the wingedness asserted. But in order to make that mistake there has to be some true knowledge, of pigs in this case, that they exist, what they are and so on.

Moreover, the false proposition has to have some truth in the sense that it is a true combination of concepts (if incompatible) in the mind. Even contradictory or absurd propositions have the support of existence in the mind at least. So, one way or another, truth underlies all knowledge so that in so far as something is known such knowledge is of the truth of things.

What, then, are some of the various acceptations of the word “true”?
“Things are called true insofar as they are apt to cause in our intellect a true estimation or knowledge of themselves; but false insofar as they are apt to occasion in our intellect a false estimation of themselves, i.e. apt to deceive.”
“Speech is called true ... inasmuch as it is conformed with the judgment of intellect (according to which conformity it is called truthful).” (Woodbury, 408)

The primary meaning of truth, however, will be found to be a truth of knowledge. For that is what the conformity or assimilation involved in knowledge is ordered to. The above two acceptations of truth can be seen, therefore, to be taken from being a cause or effect of knowledge in us.

But, knowledge in us is not complete until we reach an intellectual judgment with regard to things. Hence, though there is truth wherever there is any knowledge, the perfect notion of truth is not had at the level of sense knowledge, nor indeed in the first act of the intellect (apprehension). Thus, we do not refer to our concepts as true or false so much as adequate or inadequate. Truth, most fully taken, is first had in

the judgment. Nor is it had, strictly speaking, in the third act of the intellect, reasoning. For such act is for the sake of (further) judgments; it is ordered to achieving that complex of judgments about things that we call science. Thus, we refer to our reasoning as such as valid or invalid (good or bad), rather than true or false.

From this we can see that the general notion of truth involves a relationship between two things or subjects, the one necessarily being a knower, the other not. Most properly that knower will be intellectual. Accordingly, we have the classical definition of truth: “Adequacy or conformity of intellect and thing”. Primarily, it is said of knowledge (intellectual judgment), and secondarily of anything else through relation to such knowledge. (cf. Woodbury 411.)

This is expressed by saying that truth is formally in the mind judging, i.e. in the mind asserting or denying something by composing or dividing. That is to say, so far as human knowledge is concerned, it is in the proposition formed in the mind in the act of judgment. That does not mean that our minds make truth, but that the known conformity that constitutes the truth of knowledge is completed in our minds. This conformity is not fully known until we have formed a proposition and compared it to the real thing or other object of which it is a (mentally) complex representation.

The truth of what is stated in the proposition, therefore, is not the creation of the mind (pace idealists), for it does not follow simply from the mind knowing but from the nature of the thing known. As St. Thomas notes, though light is a quality that exists (formally) in the atmosphere it is nonetheless caused by something outside it, namely, the sun. So the truth which is (formally) in the intellect is nonetheless caused by the things which determine what we know.

Hence, the truth as we know it in our minds, i.e. propositional or logical truth, is a caused and measured truth. We are here referring to theoretical truth, not practical truth. For, in the practical order, as in art, the mind makes the things produced “true”, and thus is there the measure of truth. A house is a true house if it measures up to the idea in the mind of the architect. Things in nature, as St. Thomas says, stand between two intellects, ours and God's; the one theoretical and receptive, the other practical and productive.

Though the truth as it is thus in our minds is called “logical”, it is not to be thought of as something merely produced by the mind – which is another sense in which the term “logical” is used. This is clear from what has been said already. What is thus asserted to be true is very much a statement about reality. It is real pigs that do not really fly. We have a similar difficulty here with terminology as is had with the term “universal”. The truth, as to its propositional form, is merely logical; but, as to its content or meaning, it bears upon something real.

It is worth noting here that the same problem applies when we have to deal with reasoning and proof. The truth of the conclusion is “logical” and it is indeed

something produced by the mind, for it is obviously the work of reason. Nonetheless, even here, the truth known in the mind has a bearing towards reality. The nature of things necessitates this movement of the mind, which we call consequence, to the conclusion.

This real reference applies even though we can have no sense “experience” of the existence of the thing so proved. Thus, when we prove the existence of God from his effects we prove a truth about the existence of something of which we cannot have any such direct experience. When the modern philosophy of science lays it down that nothing is to be held as true about reality if it cannot be “verified” empirically, it not only arbitrarily excludes a whole world of intelligibility and truth about ourselves that transcends the material or bodily order of things but it also excludes much knowledge about reality that is able to be reasoned to.

Such truth of the knowledge of the existence of God is a propositional truth that is caused in our minds by the nature of things, of whose existence we do have immediate experience. Such truth, which asserts the existence of God as the necessary cause of things, though not an immediate one, is nonetheless derived from reality. The reasoning or proof, as to its conceptual arrangement, propositional structure and consequential form, is logical only, but as to the intent of the truth of the judgment in its conclusion, it is real.

There are indeed concepts, such as those expressing negations, and propositions, such as hypothetical ones, and argumentations that are made up of such, that are purely logical, or wholly mental. But these are supplementary to those having a real reference, i.e. they have an instrumental function in our understanding of things.

We need, then, to distinguish being (“is”) as it occurs in the mind's propositions from being in the real. Sometimes it signifies real existence, as when we simply say someone or something exists. Sometimes it signifies merely the truth of the proposition, which may be derived immediately from the nature of things, as when we say that snakes are living things, or which may be only mediately so derived, as when we say that God exists.

Logical truth, therefore, though found formally in the human mind, is not divorced from the truth of things (ontological truth), nor indeed from Truth itself (i.e. divine truth). It is a distinct truth, but not an independent one, being, in the first instance, dependent upon and measured by, things, and, ultimately, the divine intellect.

Scientific Truth

Truth, being most properly found in our judgments, takes therefore the logical form of a proposition. It is by comparing what is said in such with the objects/things that the propositions primarily intend, or the meaning of the proposition, that we see the conformity between what we know and what is, which is to know the truth about things. Thus Aristotle defines truth as saying that to be (so) which is (so) and that not to be (so) which is not (so).

However, such statements or propositions, logically considered, are of two kinds, principles and conclusions (or self-evident propositions and hetero-evident ones). The first are in the mind immediately upon knowledge of things; the second are mediated by logical proof. Hence, with regard to the former, the propositions are formed immediately upon things being presented to the mind through the senses, and their truth immediately known. With regard to the latter, the propositions (conclusions) are formed only by medium of other propositions (ultimately first principles) and their truth is known therefore mediately. It is this latter kind of truth that is called “scientific”.

The first kind of judgments Aristotle called simply “understandings”. They are not reasoned to but, like physical vision, either seen or not seen. Such a feature of our intellectual faculty, therefore, is also called intellectual “insight”. In order to understand how we come to have these knowledges is a matter of the examination of the productive activity of the agent intellect upon the images of the imagination whereby (by abstraction) the primary (abstract) concepts are received into our minds. The first propositions formed in the mind come simply from the seen connections applying between such first concepts. Thus, “the whole is greater than its own part” is a proposition immediately formed upon having the concepts of “whole” and “part”.

There is no question of “proof” of them and to think in such terms indicates an ignorance of the difference between the intellectual acts of judging and reasoning. To require proof of everything, Aristotle notes, is to display an ignorance of logic. Proof is a movement of the mind from what is known to what is unknown. If something is not already known, no proof is possible; if something is already known no proof is necessary. As Chesterton wittily remarked about religious conversion, the only people

who cannot be converted to Catholicism are Catholics.

However, this philosophical notion of rational proof and the corresponding traditional notion of scientific truth have become entangled with quite different notions that have developed in modern times, which, in some important respects, indeed, are in conflict with the traditional notions. As one would expect, the ambiguity that this entails leads to some confusion in the discussion of the matter of scientific method and proof, which spills over into the discussion of scientific truth.

Before we proceed, therefore, we need to examine more closely the meaning of the notions of rational method and scientific proof as understood today. In fact, the meanings of these have been affected by the underlying scepticism of modern thought which we have seen pertains to the two modern schools of philosophy, Idealism and Positivism. Thus, “rational method”, for instance, has tended towards two kinds of “methodology”, one dialectical the other empirical. For the former “rational” and even “scientific” are equated with a notion of dialectics. Hegel developed this notion as a universal method in his philosophy, but the weakest part of it was where he tried to apply it to the scientific investigation of the physical world, obliged to force the variable phenomena of the empirical order into his idealistic “logical” framework.

Marx had more apparent success in proposing the dialectical approach as the truly scientific method of the investigation of political and economic “phenomena”. But again it amounted to a forcing of social facts into a queer idealistic materialism. So both Hegel's and Marx's “science” were more a philosophy or metaphysic, i.e. ideology, than science.

However, for the latter modern school of philosophy, namely, Positivism, “scientific” and consequently “rational” are equated with a basically sensist or empiricist notion of science. It is nearer to the Aristotelian notion of science, and if one disassociates it from its philosophical (or rather sceptical) underpinnings, it is, from an aristotelian point of view, a true if imperfect notion of science. Aristotle allowed this scientific method as a necessary part of natural science, but it was not to be equated with the whole range of intellectual or rational knowledge. It applies in the material order, i.e. in the investigation of the physical or bodily world. But there is a world of reality that transcends the bodily order of things, not just in regard to our own human existence (the spiritual part), but also generally (the metaphysical).

The positivists, however, present this limited methodology as all-inclusive, and consequently reduce the notion of rationality and intelligibility to this partial view of things. It is to be noted, though, that they go further than simply denying any intelligibility to Metaphysics or to any science of humans (including Ethics). They even exclude any rationality from the science of (material) nature that goes beyond an observed constancy among “phenomena”. Life and knowledge as applied to animals, for instance, are not seen as higher forms of material existence but are explained in the same terms as all other material things, whose rationality is expressed in terms of

merely sensible observations of “facts” and hypotheses, mostly framed in quantitative terms.

It is not a pure empiricism. Nor is it quite pure kantianism. For the “laws” of science are thought to have some objective and intelligible basis. But these are so circumscribed that they cannot extend beyond the physical order of things, and indeed are limited to that (lowest) order of material reality that can be directly measured in quantitative terms (quantity being that most common property that applies to bodies simply as bodies). Such a view of science is thoroughly reductionist. The higher forms of material being, such as life, are explained wholly in terms of the lower, physico-chemical “phenomena”, and ultimately indeed of the lowest, the minute, theoretically observable, and somehow measurable, particles of matter.

Such a materialist inspired notion of science is not without its usefulness, because explanation by way of material cause, as Aristotle would be the first to say, is a necessary part of the explanation of material things. Mathematics is a suitable partner in this scientific enterprise. For quantity is the first property of bodies in so far as they are material.

But reason and science can learn much about things from a consideration of their different “forms” (this is something that Phenomenology has re-discovered). And this is true also in the natural sciences, or Physics, taken in the traditional aristotelian sense. It is significant that this latter name is now only applied to the laws of science applying at the very lowest level of material existence.

One can understand the reaction against the formalistic (and finalistic) approach to the explanation of things that occurred with the rise of modern science. For, an over-reliance on this use of reason can work to the detriment of true natural science in two ways. Firstly, it can become an indulgence in “speculations” where there is insufficient experience to justify them. The science fiction of today, and much supposed science too, are sufficient evidence of this proclivity in the use of our reason. Secondly, it can inhibit the due progress of science to be gained only by experience.

It was not that Aristotle was unaware of this danger to true science. He warned that there were two errors of method in the study of nature. One was to exclude the formal cause in one's endeavours to explain things; but the other was not to give due attention to the material cause. The former was a more “rational” approach; the latter relied upon the senses (observation). The proper method included both. One should not confine scientific method exclusively to sense observation (and mathematical imagination) because one cannot thereby obtain a fully intelligible grasp of the whole that is studied. One's science becomes an accumulation of observations unified only by a series of provisional hypotheses.

But, though imperfect, this approach, properly restrained, does not involve any

falsehood. It is imperfect science but nonetheless true science. On the contrary, a neglect of this side of the study of natural science and a concentration upon the formal side soon descends into an exercise in “dialectical” reasoning, or the production of logical constructs that have little or no relation to reality. One should stay close to the evidence of the senses and indeed, at the level of the physical sciences, should always verify one's rational conclusions by further observations. To a quite significant extent this did not happen within the history of Greek natural science, with Aristotle himself accepting much of the unbased or insufficiently based “speculations” that made up their cosmology and astronomy.

Unfortunately, then, for the development of ancient natural science, which was summed up mainly by Aristotle, both these faults had progressed with the Greeks to a significant degree. Such was the prestige of the Greeks in all aspects of science and philosophy that on the rediscovery of them in the early Middle Ages their “scientific” conclusions were adopted en bloc with enthusiasm. For a time – not as long as many like to pretend – this prestige dominated the thinking of the day and little or no progress was made in the natural sciences.

What is not given sufficient recognition, however, is the fact that the Greek's, and Aristotle's, general spirit of enquiry and observation, together with the promotion of reason itself, which was the glory of the Greek civilisation and still the basis of their philosophy and science, must have been to a large extent responsible for the reawakening of the spirit of scientific investigation and exploration that did develop and was present already quite early in the Middle Ages in such major religious thinkers as Albert the Great and Roger Bacon.

It can be said, indeed, that it was Aristotle's own rational and empirical method which led to his dethronement as “the authority” in philosophical and scientific questions – an “honour” he would have abhorred, being the first to state that, in such matters of reason, “authority is the weakest of all arguments”.

The combination of this empirical and mathematical spirit with the invention of new scientific instruments (such as the telescope) rapidly led to the dismantling of this speculative superstructure built upon the more primitive observations of ancient times. But the reaction was too severe and the mathematico/empirical method (confining the object of science to what is sensible, observable and measurable) not only came to rule in the natural or physical order of material reality but also was imposed upon the metaphysical order that transcends the material.

The whole of the magnificent order of philosophy (of science and wisdom) that Greek civilisation had erected was treated as all useless “speculation” and science became a totally fresh project of the mind, as envisaged by Descartes. The general name for the natural sciences was changed from Natural Philosophy to Science, signalling the abandonment of the explanation of nature in terms of forms and ends and the equation of all rational enquiry with empirical research. Philosophy

came to be equated with Metaphysics and struggled to maintain some sort of intellectual respectability.

More relevant to this course, however, the notion of scientific truth, the only kind allowed, became bound to what can be “verified”, meaning expressible in terms of external sense observations and/or able to be subjected to some sort of measurement. Longstanding notions dealt with in philosophy, even within the material order, such as animal soul, as the intelligible principle of the unity and life of the animal, ceased to have any scientific meaning or truth because their existence could not be “verified”, even with the help of the most powerful microscopes.

When it came to discussing the existence of a spiritual reality, such as God, this could not possibly be proved “scientifically”, for it (or he) could not be discovered, even with the aid of the most powerful telescopes. The spiritual side of human nature, with such notions as abstract knowledge and free will, is also thereby rendered meaningless. This makes a Moral Philosophy or a true science of Ethics impossible.

But the limitations imposed in modern times upon the notions of reason and science and the methods appropriate to their exercise and advancement can be seen to be quite arbitrary and indeed self-contradictory. The principle of “verification”, upon which such a limitation is based, has long been recognised as itself unverifiable by its own test. The test has its place where the physical sciences or the investigation of material or bodily reality is concerned, for things of this nature are essentially sensible or observable. But it does not constitute the test of their intelligibility. Otherwise, animals with powers of sense observation, but without reason, should be just as able to do science and discover scientific truth as we are.

Despite their arbitrariness and basic absurdity, however, these positivistic notions of science, scientific truth and scientific method still in fact prevail in our educational institutions and in popular science and the media. The reasons for this are partly historical as adverted to above. But the irreligiosity and immorality of modern living and life styles plays a significant role in perpetuating the materialism that underlies them. For the admission of a spiritual dimension to our lives and to reality as a whole would make clear the incompatibility of modern life with truth and moral responsibility. It is much easier to do evil in the dark.

In discussing the nature of truth, therefore, we have first to contend with a notion of scientific method that would limit the objects of human knowledge not just to material reality but to those qualitative and quantitative aspects of it which are amenable to sense observation and individual measurement, i.e. according to their lowest common properties.

Emptied of all its rich diversity of forms even at this level of reality, it is no wonder that the world then appears as no more than a mechanical collection of featureless atoms, empty of any meaning, truth, beauty and goodness. For, the

materialistic slant of this method of investigation, without any relief from the consideration of the contrary principle of differentiation of forms, reduces the object of “science” to a formless mass.

Exclusive employment of such a method, therefore, disposes us to despair of the truth and lapse into a theoretical scepticism, on the one hand, and into a pragmatic technologism, on the other. “Knowledge is power”, becomes a slogan readily adopted, a power, though, all too liable to abuse in the hands of the unscrupulous.

How are we to restore a confidence in, and reinstate a respect for, truth in all its fullness and amplitude? The first task, from a natural point of view (we are leaving out of consideration the necessary role of faith), is to restore reason to its rightful place in our educational system and scientific culture; to recover the full range of our intellectual power. That is to rehabilitate science, and the scientific method, even in regard to the particular sciences of nature. But this will not be achieved without a recovery of natural wisdom, for which the name in philosophy is Metaphysics, and its return to its place of honour above all the particular sciences.

Truth, as we have seen, is defined as the adequation of intellect and being, or of thought and thing. It cannot therefore be understood and defended without a proper understanding of intellect, and the full range of human knowledge. Once we free ourselves from the mistaken modern notions of rationality and science we will then be able to see through the seeming intellectual superiority of the sceptics, the deceits of the sophisticated and the relativism of the “enlightened”, all of whom claim we cannot find truth, but must be content to be forever “seekers”.

The fundamental philosophical issue dealt with in this course is that of the certainty of our knowledge and of its truth. A close examination of the nature and causes of knowledge and truth has already shown up the impossibility, and indeed the absurdity, of universal scepticism, and also how the selective denial of one or other of the causes of knowledge (in Idealism and Positivism) must logically end in such scepticism.

For the one destroys the very meaning of knowledge (by destroying its first objects, namely things other than the knower); whilst the other deforms our knowledge not only by excluding the fundamental forms of reality, but also by delimiting our intellectual or rational capacity to the lowest common denominator of objects of the natural world, thus “imprisoning” our minds in a hardly intelligible cocoon-like world of mere matter and motion.

It is important, though, to realise that there is some truth in every error, and that the mistake is generally in what is denied rather than what is asserted. In regard to Idealism, it is true to say that nothing can be thought of that is outside thought. What is missed belongs to the very nature of knowledge, namely, the conformity between thought and thing. The above statement, therefore, does not exclude this other, that originally nothing can come into thought that is not outside thought. Knowledge names the union of thought and thing according to the forms that things take.

There are two reasons for this mistake; the first (from Descartes) is taking the idea (thought) for the direct “thing” known, and not appreciating that it is the medium of the knowledge of the thing, such a perfect medium (pure sign) that is known only secondarily. The second reason is the tendency of the modern mind to think materially or “mechanically”, under influence from the new scientific method which puts a constraint upon our understanding of things, limiting it to those forms closest to matter (quantity and motion), and accordingly allowing only what is verifiable in terms of (change of) position and/or motion. This way of thinking cannot understand the contents of the mind except in the same physical terms as applies outside the mind, and thus excludes any understanding of the higher mode of being that knowledge itself is.

The idealist and positivist presuppositions tend to reinforce one another, since they have the same basic error of denial in regard to our ability to know the most fundamental aspects of reality. In regard to Positivism it is true to say that the natural sciences do need to be verified by sense observation or experience and are greatly advanced by experiment and measurement. The mistake lies in not being able to rise above such a low level of consideration of things. This results in the mechanist and materialist approach referred to, but also, in practically reducing the reality studied to what appears to sense (phenomena), it leads (as in Hume) to phenomenalism, which is the extreme sensist version of idealism. In the end, therefore, Positivism tends (despite itself) to evacuate all meaning from knowledge and reality.

However, let us look more directly at the problem of certainty in relation to our knowledge of things. As this has in modern times been tied to the question of proof we must here look also at this aspect of knowledge. In fact, the meaning of the word “certain” is intimately related to knowledge and truth. Judgment is the perfect act of knowledge and thus truth and certainty are primarily to be found there. Intellectual judgments are, however, the culmination of a whole process of knowledge, from intuitive sense knowledge through the formation of images and concepts to judgment itself. In addition there is reasoning which is knowledge on the way to (further) judgments.

Certainty and truth are to be found also in these less perfect kinds of knowing but they retain a degree of uncertainty and even potential for falsity in relation to the whole process of human knowledge, which comes from their imperfect mode and potential character. They thus can lead our judgments astray, but not completely, as we shall see.

But, to turn to the notion of certainty itself, its etymology is from the Latin “cernere” (“certum” being its past participle), which means to distinguish, decide, or more elementally, to sift, separate. From this comes the idea of something determinate in things, which has however to be separated out. To those who know their Aristotelian philosophy the notions of “form” and “act” come to mind in this regard. For they are the principles of fixity in things. But, as we know them, they are principles only and do not exist except in some matter or subject potential to them.

What is it, then, that we know about things, or “discern” in them, but these forms determining things to be what they are? Thus, in knowledge, as we have already seen, it is a case of our receiving the forms of things, of ourselves being determined also, and made actual in the order of knowing such things, according to their various forms.

Also significant is the fact that the word “certain” is akin to the Greek word “crinein” (to decide, separate) from which comes the word for “to judge”. The necessary association of judgment (discernment) with certainty is quite clearly brought out here. In its origin, therefore, judgment shares the certainty of its object, namely, the determining principle within things. But it is only able to do this insofar as it can isolate, as it were, i.e. separate or abstract, the form from the matter (potential principle) in the material things (bodies) with which it is “concerned”.

At this stage we may be able to understand how it is that the objects of our intellectual knowledge can have a mixed character, consisting, as it were, in both certainty (actuality) and uncertainty (or potentiality) in our knowledge. But the important thing to remember is that, just as in the order of being act comes before potency (if this is reversed in the order of becoming), so what is certain is first in the order of knowing, i.e. in understanding or judging, (if uncertainty is presupposed in

learning and reasoning).

There are two errors, therefore, to avoid in regard to the question of certainty; to think that (in this life) we can eliminate all doubt, or to think that we can eliminate all certainty. The critical point, though, is to determine which comes first. Those preoccupied with the processes of learning and reasoning will be inclined to see knowledge as a movement of the mind out of an original state of doubt. The problem with this, as is evident from experience, is that with such a beginning nothing can ever be established as certain. If we start with doubt alone we can only end up with doubt. If we start with certainties, however, we have no difficulty assigning a (second) place for doubts.

The root of our problem today is our loss of a sense of being as form and act, which weakens our judgment about things; it is our quasi-total immersion in the material and potential side of things, a concentration on the order of become or evolution, where everything is on the way (from where? to where?) - where, quite absurdly, uncertainty and doubt are regarded as the only absolutes.

Before we proceed to consider the relative roles of certainty and uncertainty in regard to human knowledge we should note that the forms (eg. horse and animal) according to which things are known (and judged) exist both in the mind and outside the mind. There will, then, be two sides to the consideration of any aspect or property of judgment. Truth, too, which consists in the known conformity between judgment and things, can be considered as truth of knowledge or truth of things. The same twofold consideration will be seen to apply to the questions of certainty and probability in regard to our knowledge of things.

In modern terminology these two sides of the consideration of anything concerned with knowledge are called the “subjective” and the “objective”. We can retain this terminology, but the apparent opposition which it suggests needs careful “discernment”. To the modern idealistic or positivistic mind it necessarily supposes a contrary or indeed contradictory opposition. To the Idealist this means that everything is reduced to the subjective order. To the Positivist it means that everything not able to satisfy its narrow test of objectivity is to be regarded as merely subjective. But, in truth, the opposition is merely relative. Fundamentally, knowledge involves both the subjective and the objective orders, the mental and the real. For it is the (formal) union of the two. This does not mean that in some respects a disconnection does not occur. But that is, as we shall see, quite secondary.

In regard to certainty this opposition is reflected in the use of two words, “certainty” and “certitude”, the former generally nowadays connoting the objectivity, the latter the subjectivity of judgments. But all judgments are “subjective”, and all true judgments (which includes necessarily our first judgments) are also “objective”. The order of intellectual knowledge is rather like that of sense knowledge. One does not know anything if one is not in touch with reality, but this being in touch enhances

rather than inhibits the freedom of our imaginations. But, take away all objectivity, and subjectivity, like an insane person “out of touch” with reality losing also his mind, destroys itself.

At root, therefore, certainty and certitude coincide. In this context, then, we may define each as “the state of the mind adhering firmly, or without fear of erring, to the truth”. This psychological or “subjective” lack of fear is necessarily consequent on a judgment that is “objective”. The fact that this lack of fear may be induced without an objective basis is no argument for making all judgments purely subjective, for the reasons already given. The same psychological aspect is highlighted in the word “sure”. For it appears to be derived from the Latin “sine cura” (more evident in the word “secure”), meaning literally “without care”.

Where, then, does uncertainty, or incertitude, come in? The answer is that it comes into play where there is indeterminacy in the things which are the objects of knowledge. As will be readily appreciated by all, there is plenty of scope for uncertainty in our knowledge of the material world in which we live. Indeed, it is all pervasive, for the very word “matter” names a principle of indeterminacy in things.

However, just as matter must exist under some form or other, so every uncertainty presupposes some level or degree of certain knowledge. Knowledge is only of the actual; the potential is only known from its actualisation in some way or at some time. Uncertainty, therefore, has its place and, indeed, an important one, in our growth in knowledge and certainty. But it cannot be placed at the absolute beginning.

This brings us to the question of scientific proof, and the question of evidence, which is today exclusively associated with it. Proof, in fact, has to do with reasoning, or the movement of the mind from one position (thesis) to another. If we focus on this process (abstracting from what is presupposed) we can easily be misled into thinking that our initial state is that of ignorance.

This is relatively or partially true, for what we need to prove is something actually unknown (if thought possible). As noted above, those preoccupied with the processes of learning and reasoning will be inclined to see knowledge as a movement of the mind out of an original state of doubt. But no proof is possible unless it proceeds from something already known. The doubt is about the conclusion of the proof, not about its principles; about the position (thesis) to which one's mind wishes to move, and which is actually unknown at this stage, not about the position from which the mind moves. It is in universalising or absolutising this doubt or ignorance that the mistake lies. To ask for proof of everything is thus ridiculous. Certainty from (scientific) proof is only a derived kind of certainty.

The modern (positivist) notion of scientific proof attempts to use sense evidence as the sole principle of proof of any scientific (hypo)thesis. There are two

misconceptions here. Firstly, this makes intellectual knowledge depend exclusively upon sense knowledge, thus effectively reducing all human knowledge to sense or animal knowledge. It is true that our senses are actual principles of our intellectual conclusions (by induction) about the nature of material things, but only in subordination to the illuminative and abstractive power of the intellect – for all scientific conclusions are abstract and universal to some degree.

This brings in the second misconception which is that such a notion of science and proof limits our human (i.e. intellectual or rational) knowledge to the lowest (first) degree of abstraction. But we cannot here go further into the intricacies of the scientific method as so conceived. Enough has been said above about this “naturalistic constraint” to show that it is an unnatural constraint upon the human mind.

Scientific proof, understood in its traditional and full sense, extends to all conclusions that our reason can deduce, or induce, from first principles, or truths already known. Aristotle defined science as “certain knowledge through causes”. That is to say science is certain knowledge of conclusions drawn from principles which express the causes or reasons of things.

Such a general definition, of course, covers a variety of ways in which principles, reasons and causes can be understood. There is not only the difference between the starting points of deduction and induction, but also between the roles of causes and effects in a priori and a posteriori reasoning. But the starting points in all these rational processes have to be known with certainty, and thus have to express some kind of actuality or determinate form of reality which contains potentially within it the truth of the conclusions. So far as these conclusions are concerned, before proof they were uncertain, afterwards they are made certain. Their certainty, therefore, is a derived certainty.

The notion of evidence has unfortunately been tied to the modern notions of science and proof which restricts its notion to what is evident to our senses. But, though this is the level of knowledge from which the word comes (*videre* = to see), it obviously has an intellectual meaning (to see = to understand). Just as the eye of the body is immediately impressed by the visible forms of bodies, so the eye of the mind (the human intellect) receives into itself the intelligible forms of things, according to which it sees them.

These forms in the object are what is evident to the eye. Evidence is therefore nothing other than the determinate forms of things made to shine out of them by the particular light that serves the process of knowledge, whether of sense or intellect. The notion of evidence is taken from vision but is applied to its object. It is things which are evident, not the vision, though they are so called only in relation to vision.

A comparison with the beautiful and our appreciation of it is instructive in this

regard. “Beauty is that which seen pleases”. There is no notion of beauty without its relation to being seen and pleasing. That is to say the notion is essentially relative. But this relativity does not affect its objectivity. It is the forms of things which are beautiful and it is their “effulgence” (or “shining”) that causes them to be seen and appreciated by those who have an eye for beauty. One cannot, of course, stop people from shutting their eyes and taking the saying “beauty is in the eye of the beholder” to mean that beauty is only in the eye of the beholder.

With regard to what is evident to understanding the will can play a part: “there is none so blind who will not see”. But, as Aristotle notes, that which is most evident cannot fail to be seen by our intellect. For, it is not possible to shut the eye of the mind. Though one can say that one does not see: “It is not necessary that what a person says, that he thinks”.

What is immediately evident does not need proof. It is the very means whereby proof can be had. In relation to proof the notion of evidence refers to the principles, reasons and causes whereby the conclusion (thesis) is established. What is the evidence for the general scientific conclusion (from induction) that water boils at 100 degrees centigrade? Is it not that sufficient observations have been made under all sorts of different conditions to enable our understanding to induce a general law? The principles (rational evidence) then are those sense observations in so far as they indicate a common intelligible nature or property.

What is the evidence for the conclusion (by deduction) that the internal angles of a Euclidean triangle equate to 180 degrees? Is it not the known relationship of the three angles of any triangle to a straight line drawn parallel to its base through it apex? These examples are taken from Natural Science and Mathematics. But we could just as well take examples from any science, theoretical or practical, such as Metaphysics and Ethics. It needs to be remembered, however, that though we are here primarily concerned with defending the objectivity and certainty of our intellectual knowledge, it is of the very nature of knowledge, truth, etc to be relative.

Hence, whatever affects either pole of the relation, the subject or the object, will affect these matters. There is such a thing as weak eyesight; and there is such a thing as poor light; indeed the thing itself can be obscured by what it is in. Similar considerations apply at the intellectual level, though analogously only. There is also here to be taken into account differences in the degree to which forms are abstracted from matter, to which corresponds differences in the degree of illumination of the object.

Once we have defended the unhindered eye's ability to see an unobscured object in the full light of day (which hopefully is the norm) we may go on to consider the matters that may make that vision less perfect. One does not study medicine (say in anatomy and physiology) by limiting oneself to only deformed or pathological specimens. The primary object of medicine to help bring people to health and only

secondarily to manage their illnesses.

Within the discussion of evidence, certainty, and even objectivity there is room for allowing differences in degree, mode and so on. For the kind of evidence is relative to the particular science concerned, depending upon the mode of definition, the kinds of proper principles, degree of abstraction, whether it is theoretical or practical, and so on. A closer examination of these differences, though, would take us too far into the particular sciences themselves. We may take it as sufficient for our purposes here that we can understand the general nature and necessity of certainty etc.

WEEK 18

PHILOSOPHY AND TRUTH

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Opinion and Probability

Truth, certainty, evidence and all such characteristics of our knowledge, culminating in judgment, all follow upon our ability to “separate” the determining principle, or determinate features, of things (their forms) from the determinable principle, or otherwise indeterminate features, (their matter) in the things in which they are subjected. Even at the sense level this is true, so that the colour of the wall is “separated out” as an object of sight. All knowledge is of a form had.

The differences in knowledge come from the extent to which such forms are able to be had “without matter”, or rather without the material conditions attaching to such forms in matter, for the form that is received in the knowing subject is still essentially proportioned to its material or physical subject. The first and greatest difference is between sense knowledge and intellectual knowledge. The former receives the form of the thing “concreted” (overgrown) with all the material conditions it has in the individual physical things. Hence it knows things (bodies), i.e. has their forms, in a manner corresponding to how they exist individually.

As is clear, intellectual abstraction of forms separates them further from their material subjects with the result that the intellect knows their forms in a manner that differs from that of their physical or individual existence. We have to be careful here,

though, not to give the impression that we are knowing things other than the way they are. The object of the intellect belongs to the things known just as much as the objects of the senses. To abstract is not to falsify; it is to consider only something of the thing, certainly, without something else of it; but this something else is in fact a limiting factor. The abstract nature of such forms brings out fully their unitive and potentially infinite character, so that the individual things are known not according to their individual and manifold differences but according to their universal and common nature. Therein lies the problem of the universal that occupies so central a place in philosophy and the history of philosophy.

But it is not to be thought that our human intellectual knowledge is a knowledge of forms “without matter” altogether. Material things cannot be properly understood if they are separated altogether from their material principle, i.e. if their forms are abstracted altogether from the conditions they are subject to in bodies. For, after all, matter belongs to the essences of material things.

This presents something of a conundrum in the effort to explain how intellectual knowledge, which is properly spiritual, i.e. immune from matter, can have something of matter within its object. St. Thomas solves it by proposing that what matter is retained, i.e. what material conditions are still attached to the forms abstracted, is so to speak spiritualized, so that it is not “designated” matter (by which a body is individual) that is included, say in the definition of a body, but “common matter”.

With this goes the need for our intellectual knowledge at this level to be “terminated” at the sense level. For, we are not pure intellects; nor, in this life, is our knowledge only intellectual, but an integration of sense (sight) and intellect (insight). Being intellectual, however, means that we are not limited to knowing material things or bodies as material, but can also know them through to their deepest level of intelligibility, i.e. as beings. Hence, we have the important distinction between two levels of abstraction, the lowest (physical) and the highest (metaphysical). This latter, however, also provides us with a conundrum: how can we know being as such if the only beings coming without the proper range of our intellects are bodies?

St. Thomas solves this conundrum by proposing that though this higher level of abstraction cannot give us a proper knowledge of bodies as the lower level does, it can give us an insight into them according to what they have in common with things other than bodies (which we can conceive as at least possible beings – indeed we have a self awareness of purely spiritual forms in regard to ourselves). The notion that we take first of being in common, though, is not to be thought of as from some separate spiritual order of things but from the same proper objects of our human intellect, “what some body is”. But we see this common quality of being in them through a deeper level of abstraction.

What has this to do with probability? All this is preparatory to understanding as

best we can how it is that even our intellectual knowledge, or our minds, can have less than certainty and even fall into falsehood in the consideration of things which they are naturally ordained to know. There are of course “subjective” reasons for this, which we can go into. But there is also something on the side of the objects. That is to say the presence of matter, or a principle of indeterminacy, in the objects of our intellect will have some effect upon our knowledge. We wish to highlight this here because failure to do so leads to an exaggerated dichotomy between the subjective and objective orders, the mental and real. Lack of certainty on our part in some respects is not a necessary index of pure subjectivity in our judgments.

In order to understand the lack of certainty in some intellectual judgments, and indeed the possibility too of error, it is necessary to keep in mind the two ways in which our intellect functions, i.e. as intellect and as reason. Probability and error do not enter into the consideration of the former, i.e. the very first operations of the mind. For the connection between our understanding and its object is immediate. We may only grasp half of something, but there is no such act as half a grasp.

Thus, probability, and proof strictly taken, belong to that process of the mind we call reasoning. This is a movement of the mind, which may fail to achieve a certain, or even a true, conclusion. Reasoning, in the full sense, is concerned with judgments and conclusions, but it is involved in a lesser way with concepts and definitions. So we can have definitions that are imperfect and even mistaken, and conclusions that are probable only and even false.

Probability, indeed, is something that primarily attaches to a state of mind. But we have to be careful not to confuse various ways in which the term is used. It can simply be a state of mind which reflects the state of things, their contingency or materiality. In this sense it is not opposed to scientific certainty. In the natural sciences, some of our conclusions, though to be scientific they have to be expressed as general laws, apply only “for the most part”, admitting of exceptions. The description of such laws in terms of probability, because their objects are not absolutely determined, is not a use of the notion in the strict sense. For the laws express the determinateness that is in the things so far as it can be known. The exceptions do not invalidate the law.

In this regard there is another usage of the notion of probability, which has come into prominence in modern times, that is allied to this characteristic of scientific laws. It developed from the attempt to deal mathematically with games of chance. But it has been found to have a quite general application in many fields of modern science. So successful has this application been that it is the meaning of probability that is most familiar today.

It is best understood in the context of the modern scientific method, which is a combination of the empirical and mathematical, involving observation, experiment and measurement. Under the influence of the mathematicians early modern science

tended to be deterministic, mesmerised as it were by the extent to which the laws of nature were written, as Galileo believed, in the language of mathematics. But this overlooked the indeterminacy (primary matter) that formed an essential part of the physical universe.

So it was that the deterministic or mechanistic model of Newtonian Physics eventually failed the test of empirical observations. This ushered in the later era of modern science which has had to accommodate indeterminacy or “uncertainty” (as expressed in Heisenberg's principle). By the very nature of modern science (as a medial science) this had to be dealt with mathematically. Einstein, still a believer in the objectivity of the laws of nature, ingeniously developed his theory of General Relativity on the basis of a new non-Euclidean (Reimannian) geometry in an attempt to deal with the observed deviations that defied the predictions of the old Newtonian Mechanics.

But, more significantly, the exploration of the innermost workings of the sub-atomic world (closest to matter) revealed a degree of indeterminacy that made the old mechanics impossible to apply. Despite the discovery of a physical or natural quantitative unit in Planck's constant (the quantum), deterministic notions of applied geometry and arithmetic (highly sophisticated as they had become) simply did not work in this microscopic world. Fortunately, the new mathematical notion of probability was to hand to provide a way of dealing with the new scientific problems.

Properly speaking, this notion of probability is not one of pure, but of applied, mathematics. Mathematically, the notion amounts to no more than logical possibility. One cannot know, in any particular instance, whether the toss of a coin will come down heads or tails. However, we can know, with certitude, that the coin must come down on one side or the other, as it has only two sides. Starting from this notion that the chances are equal we can express this as either side landing upwards having a probability of 50%. But here probability is used to express a proportion of the number of instances verified out of a total. It can therefore be applied to any proportion between 0 and 100, and in modern terminology includes 0 and 100 to express impossibility and absolute necessity, or absolute uncertainty and certainty.

This notion of probability, therefore, simply names a mathematical ratio. The important thing to note, however, is that, as applied in science, it is not something subjective (“expectations”). If something is verified by observation and experiment as happening regularly in 5% of cases there has to be an objective basis in the things or events observed for this. We may not be able to determine what this objective basis is but we can know that it is something determinate in the thing.

This suffices for the purposes of modern experimental science. For it had already abandoned the notion of “nature” as the intelligible basis of this something determinate in things. The ancient notion of nature was not based upon any percentage but on something close to invariability, such as water boiling at 100

degrees centigrade under well determined conditions. This therefore somehow had to pertain to the nature of water.

But, making use of probability theory, modern experimental science may simply note the frequency ratio and make use of it, whether for the purposes of theory or practice, just as the gambler takes advantage of his superior knowledge of probabilities in games of chance. What the scientist is looking for, however, is signs of bias in the “dice”. The observations and experiments are designed to detect these objective weightings, however slight they may be. The fact that even a high degree of indeterminacy or uncertainty remains does not make the findings uncertain or subjective. It is also useful to know that there is no way of predicting the behaviour of some material particles.

These notions of probability attaching to the more particular laws of the natural sciences, and even to the observed frequencies detected in the apparently chaotic world of indeterminacy more fully explored in the modern physico-mathematical sciences, ought to be distinguished from the other more philosophical notions, which are related to the forming of opinions rather than to the findings of science.

Opinions clearly have their place in the progress of the particular sciences. They also are necessary in all kinds of areas of human interest, especially in practical matters, where they are necessary to supplement our more fundamental certitudes. The notion of probability here is tied to judgments made where there is insufficient evidence to move the intellect so that the will is required to be involved if a judgment is to be made. Then we have opinion, not certitude. They cannot be together in the same mind with respect to the same matter, for certitude is defined as the adherence of the intellect to a proposition, without fear of error, i.e. without fear of contradiction; whereas opinion is defined as such an assent “with fear of the other side”, i.e. with fear of the contradictory proposition.

But there is also a notion of probability tied to a more general mental activity that attempts to address more common and fundamental issues where no strict proof is possible. This is a general notion of probability in the purely logical sense. Aristotle deals with it extensively in his *Topics*. It is the object of the art of reasoning called Dialectic, a highly useful art not only in general debating but also in philosophy. Like Logic, it has no particular subject matter, but is concerned rather with the general method of clarifying one's thoughts, or “clearing the ground” before the “real” work of our knowledge of the objective world begins. It is a means (indeed the only means) of refutation of those who would deny the self-evident. It has a particular affinity with Metaphysics. For, one cannot strictly prove principles. It is thus an art central to the subject of this course.

With regard to the mental or logical means involved in this notion there are various tests (“topics”) we can apply to check whether we or others are thinking and reasoning correctly; with regard to the opinions of others, we can take advantage

of the thinking of others which we have good reason to trust, that is, of the opinions of those with a reputation for wisdom, and also of opinions generally held, for such opinions are likely to be well founded.

The word “probable”, therefore, has various acceptations, depending on the context of the discussions. These acceptations range from being virtually equivalent to scientific certainty, such as the probability that water will boil at 100% centigrade etc., to being hardly more than the indication of a majority agreement, which is deemed to have sufficient moral probability to justify a certain line of action. Where it is founded upon opinion, however, it is always “with fear of error”. In any case it must give way not only to the certitudes of rational proof, whether theoretical or practical, where available, but also to the certitudes of the fundamental truths of things, which do not need proof.

The questioning of certitudes by (universal) sceptics proceeds from a confusion of mind with regard to proof, and hence also probability. Neither is relevant to our certitudes with regard to the first objects of understanding, for knowledge is not had at all if these are not had. To understand is, by definition, to have have such an object (some form of being) in mind. From these beginnings of knowledge (principles) we can add to our certitudes regarding things by the secondary activity of the mind, reasoning. That is where the matter of proof comes in. If we can see the evidence for the conclusions to be drawn then we have science. If we cannot but nevertheless our will can “persuade” the intellect to assent to a proposition, then we have a (hopefully well-founded) opinion. That is the proper connection in which the notion of probability is used.

Otherwise our minds are left in a state of suspicion or doubt. It is in this state of mind that questions occur. For we naturally seek to confirm our suspicions and remove our doubts. It is quite foolish, however, to make suspicion and doubt a constitutional habit of mind, however much we might be tempted to it given the difficulties associated with all human activity.

This said, however, doubt has a role to play even where we reflect upon our very first certitudes. This is not by attempting to doubt what we are certain of, but by putting even those propositions which express the most fundamental certitudes in the form of a question. Not that these are put under suspicion or in any doubt, but simply to see again, as it were, the truths they express. That is to say, it is quite legitimate here, and even necessary, to employ the method of doubt.

The Method of Doubt

As is clear from the foregoing treatment of the critical problem, i.e. of the defence of the truth of knowledge against universal scepticism, the modern pre-suppositions to its discussion come from Descartes' "method of doubt". The general acceptance of his method, despite its self-contradictoriness, can perhaps be explained from its affinity with the genuine role that doubting, or questioning, must have in all intellectual investigation, whether philosophical or scientific.

Properly, this disposition to question is directed towards propositions whose truth is unknown, or at least concerning which we are not certain. There is no point in seeking that which is already found. However, such a disposition seems to flow over into all aspects of our thinking, no doubt because of the native weakness of our understanding. For no judgment seems to be without attendant difficulties.

Hence it is that even our certitudes can come under scrutiny. When I know something, i.e. judge it to be true, I also know that I know, for this self-reflection belongs to the nature of judgment. Certitude, therefore, belongs to the judgment right from the start. But that does not stop me from further acts of reflection, and from putting them in the form of a question. Such questioning, however, though expressed in the mode of doubting, cannot undermine the original certitude. It only serves to concentrate the mind upon it, to see it better, if you like, not to change it from not being seen at all to being seen – this it cannot do.

There is something to be gained, nonetheless, from applying our minds to what we are most certain of, so that difficulties belonging to our knowledge even at this level can be resolved. It is a worthwhile exercise of the mind, then, to employ the method of doubt. But it is not sensible to try to suspend our fundamentally certain judgments in this process. It is the method of doubt that is used, without doubting our adhesion to the truth of the proposition "without fear of error". Just as in the proposing of impossible hypotheses, for the purposes of defending certain propositions, no one on that account asks us to believe what is impossible; so in adopting the method of doubt, for the purpose of defending the certitude and truth of

our first judgments, no one should ask us to deny the obvious. The doubt is a matter of method, not of substance.

Aristotle recognised the need for a critical attitude in all sciences or rational investigations, and especially in Metaphysics (cf. *Metaphysics, Book 3*). St. Thomas takes note of this in his commentary: “This science, just as it has a universal consideration of truth, so also to it pertains a universal doubting about truth” (*In III Metaphys. Lect. 1, ed. Cathala n. 343*). That Aristotle was not suggesting that such doubting was anything more than one of method is clear from the whole treatise, and in particular from his defence of the very first principle of non-contradiction.

The denial or doubting of the principle of non-contradiction means that one cannot form any proposition, i.e. say anything, which is what Aristotle pointed out. This necessarily means that the intellect is unable to function. For it is unable to make any judgment. This means, too, that the intellectual being, i.e. the human person, is not able to assert (or deny) anything. Thus, with the denial or doubting of the principle of non-contradiction logically goes as well any possibility of asserting the truth of the aptitude of the mind to know and even the fact of one's existence. The doubting of the objectivity of one's act of knowledge, carries with it the cognoscitive value of the power (intellect) and the truth of the existence of the subject (person). For things are only known through their actions.

Descartes did not appreciate the implications of all this. He believed that one could retain the evident certainty of one's own existence whilst jettisoning everything else, to appease the universal sceptics of his day. But the three certitudes, bearing upon one's acts, powers and oneself as subject, all depend upon the objective reality attained in the judgment, and expressed in the proposition. They stand and fall together.

Descartes thought that he had a secure foundation in the fact of his own existence as a thinking, if doubting, subject. But how could he form any proposition asserting the truth of this fact if he did not accept the objective truth of the principle of non-contradiction? *Cogito, ergo sum* could very well mean *cogito ergo non sum*, or even more nonsensically, *non cogito non ergo non sum*, if there is no objective measure of one's thinking. And if this is so, what value is there in one's powers of knowledge? Descartes believed that he avoided all the problems of universal scepticism simply by shifting the argument from the objective order of things to the subjective order of knowledge.

Modern philosophy since Descartes, adopting his method of doubt, continued this inconsistent retention of subjective certainty, and has worked with the internal consistency of logic (called rationality), despite the rejection of the objective basis of all certainty. Human thinking, so cut adrift, inevitably goes around in circles.

Modern science, whose rise to pre-eminence coincided with the rise of modern

philosophy, was just as concerned to reject the whole of ancient and mediaeval philosophy (which did not distinguish between natural philosophy and natural science) as was modern philosophy. But that science very soon parted company with all that was seen to be philosophical “speculation”. So it was that in the modern mind science and philosophy are seen as totally separate and even opposed. Bertrand Russell's statement about the relationship is fairly typical, which we may paraphrase as: “philosophy is concerned with those problems that science has not as yet resolved; as science advances philosophy retreats”.

In a way this separation has been fortuitous for science. For a scientist is better off in not having any explicit philosophy than in having a false one. Modern science, therefore, has been able to stay substantially realist and objective by methodologically abstaining from the implications of modern scepticism. In Mathematics, for instance, no one questions the principles of equality, such as that an equal amount added to or subtracted from equals necessarily results in equals, or that two numbers equal to a third are equal to each other. Universal scepticism, however, must regard even these self-evident principles as doubtful.

The pre-occupations of scientists in the particular sciences are not with such basic principles, which are taken for granted. So, no thought at all is given to questioning such “assumptions”. It is only when we pass from the particular considerations of these sciences and come to “the universal consideration of truth” (in *Metaphysics*) that we put them directly in question.

As we have noted no mental progress is possible without a prior questioning. But how does one progress to a beginning, or with regard to what comes first? One cannot appeal to something prior, as is the normal mode of proof. But there is a way of improving our grasp of fundamentals by clearing away difficulties, rather like, having marked out the site, we go about clearing the ground upon which we propose to build. Such clearing of the ground does not suppose any doubt about the site. Thus we may understand how nothing is left unexamined by the mind, including that which is most fundamental to our thinking, but in such a way that no concession is made to universal scepticism.

From this, it can also be appreciated that by making wholesale concession to universal scepticism at the beginning of our examination, as Descartes was prepared to do, any one assertion of certitude is in no better a position than any other. Upon a supposition of universal doubt, even the proposition “I doubt” (*cogito*) cannot be stated. My certitude, however, of the truth of this statement as regards my state of mind only goes to show that the supposition is false. Hence, I do not need to found all my thinking solely upon my subjective state of mind. The natural starting point is the objectivity of things known in the first place.

But, in attempting to proceed simply from this subjective standpoint, Descartes has deflected attention away from any objective order of things. From then on, as

with Leibniz and Locke, philosophy focuses on our mental states and processes. Since our mental makeup has something from sense knowledge and something from reasoning there developed an opposition between rationalism or empiricism, which, by way of the combination of the profound criticisms of Hume and Kant, ended up as full Idealism and Positivism.

Though these two general poles of modern philosophy have gone through many and varied permutations, and in some schools of philosophy metaphysical truths are given due recognition, the presupposition of universal scepticism, for the most part, remains to the present time. The defence of the certitude and truth of human knowledge at the most fundamental level thus continues to be a matter of great urgency.