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Single Honours Philosophy

St. Cuthbert's

Agonic Logic

Leibniz: Windows 137

Preface

"All knowledge is certain and evident cognition" and, as Descartes advises in his second rule for the direction of our native intelligence, 'we should attend only to those objects of which our minds seem capable of having certain and indubitable cognition'.

Accordingly, he admonishes us not to neglect 'easy tasks' by frittering away our time only upon difficult ones.

The only sciences that he believes that are free from any doubt or uncertainty are those of arithmetic and geometry, having as they do as their objects of attention a purity and simplicity of form.

Do we fritter away our time in studying a rigid and uniform system of symbols upon rectangular paper pages? - moving always from left to right, top to bottom in a never ending and unavailing attempt to draw a definite and definitive conclusion?

Is this repetitive unidirectional progress from one supposed fact to another what philosophy is all about?

When any doubt or uncertainty arises within this apparently two-dimensional process philosophers invariably appeal to formal logic to justify and, hopefully, verify the most abstruse, and hence absurd, propositions.

One is told that philosophy contains no answers, only arguments: yet these only raise further questions as to their validity and thus those involved 'find the appearances of wisdom more easily attained by questions than solutions'.

As a general rule therefore philosophy becomes 'like stirring mud' and if this is an apposite analogy then logic merely stirs it with a ruler.

Our 'Why?' as Butler puts it 'is answered with so much mystifying matter' that one leaves off pressing an issue 'through fatigue'.

One may ask 'What has happened to the dream of Metaphysics as becoming an exact science?' with the necessary attendant axiomatic formulations of its universal laws and its terms of reference using its own syntactic linguistic definitions.

Hume adopted a methodical approach in his Treatise of Human Nature which was designed to introduce the 'experimental Method of Reasoning into Moral Subjects'.

Kant wishes Metaphysics to be an exact science founded upon the classification of analytic a priori concepts making it possible to synthesise knowledge from the raw material that nature supplies and thus fix the boundaries and limits to reason and its uses. This work is to a great extent concerned with fixing boundaries and more particularly the form and shape that those boundaries should take.

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To further this aim the author takes Leibniz's dream of a universal grammar founded upon geometrical rigour one stage further.

Leibniz writes in his article 'Of the Mathematical Determination of Syllogistic Forms' that 'I shall not only show....why there are only three direct figures' (the fourth being indirect) but also that he will be able to validate a set of propositions by 'drawing three straight lines'. The intention of this work is to demonstrate that there are four direct figures and that to be truly meaningful all propositions should be presented within and made relative to a four-sided framework in order that their placing within a science that demands reasoned conclusions will readily be apprehended.

Accordingly the introduction which follows sets out its proposals in a 'geometrical fashion' (after Descartes) so that the principles upon which the method of reasoning adopted will be justified may be more readily perceived.

Readers will be assisted if they consult the glossary, (placed before the appendices), of the terms and symbols used in this work.

A page by page bibliography is also given in which all parenthesised textual insertions are given their particular source.

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The titles of this formal discourse may be considered to be of equal standing.

The term 'Windows' refers to the intention to start from Leibniz's proposal for explaining causal interaction by uniting the concepts of predetermined events unfolding as apparently harmonious manifestations of unity, to be accounted for by monadic entities, with that of their co-ordinated functioning which gives rise to all experience. However, these monadic forces are blind for they inhabit a world wherein they cannot perceive each other directly; they have no windows through which to observe the unfolding destiny of their fellow travellers.

In short, they possess no theoretical framework by which their destiny may be altered for they are fixed within a greater, more universal frame of reference: that of nature being a manifestation of the creative genius of God, from whom all things come and to which all things return.

This constancy of purpose, however, does not preclude Man from transcending the union of body and soul and raising himself spiritually towards the 'larger law-structure of their co-ordinator'. Since (Sec. 14 Principles of Nature and Grace) GOD, the law giver, has regulated our small world and since the physical world is designed 'so much according to rule' (Berkeley), is it not likely that these rules may not provide us with universal constants which, no matter how imperfectly, will reflect the constancy of the Universal Architect?

Note: For Leibniz's thoughts regarding harmony and the constancy of spiritual and physical harmonics see Monadology Sect. 42 and 47.

Accordingly this work introduces two primary concepts.

The first is that of the constancy of the framework, the 'Order, proportions, harmony' that delight us, of which 'painting and music' are examples. 'God is all order' and as such maintains the 'truths of proportions'. (Sect. 41 Monadology).

The second is that which must of necessity exist within the universal harmony of proportions, that is, that which is active must be bounded by that which is passive - for our world to make sense there must be some stable a priori frame of reference against which all contingent and changeable events are judged. (Note the distinctions made in Sect. 72. Monadology).

We may now bring before our minds the idea of a window or picture frame - an objective reality of fixed proportions by and through which we, the self, that dominant, slowly changing monad, views the outer world - a world that is not only changing (Sect. 71) but which is also a world in flux, an ever moving picture generated by countless monads travelling towards their pre-established destiny.

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Nevertheless (Sect. 57), we as 'self' must also move towards our destiny and thus as we travel through life we look through many windows, we forever change our 'points of view' and we see the world and ourselves in a different perspective.

If we take our reason or intellect to represent a subjective, internal constant method of judging the changing patterns of monadic motions, is there not an objective universal constant to which all these 'windowless' entities have been made relative to by the great architect, so that they perceive their place by a universally fixed and constant ordinate? (Like the fixed stars - the unchanging order of the heavens?).

The philosophy of physics (see: Constants. Encyclo. Brit. Vol. 5. 1974. P.75), proclaims the virtue of and conformity to reality of Euclidean Geometry and states that although this world appears Euclidean 'this experience is limited to cases in which the distances are not too great (not much greater than 10^9. Light years) and in which gravitational fields are not too strong (as they are in the vicinity of a neutron star)'. One hopes, however, that the reader suffers from neither of these impediments and that 'normal', i.e. relatively constant conditions, prevail. The article continues under the assumption that all things being equal geometry presents a good approximation of reality though with the provision that any a priori postulations made independently to experience need to be validated empirically, i.e. that any hypothetical relationships must, for the Physicists to be satisfied, accord with their mathematical descriptions of what is out 'there' - wherever 'there' is - to them.

As all and every relativistic theory requires at least one constant it will be of use for us to choose a fundamental constant which may be used as an analogous to the fixed ratios to be used within logic. To this end the writer chooses the number 137, the inverse of the fine-structure constant, which being dimensionless, i.e. a pure number, needs no units.

Accordingly for this discourse we will use the Euclidean Geometric framework represented by □ and the fundamental constant 137 of quantum physics.

One may ask 'So what?'

Well, we are attempting to establish some consistency to our method of viewing the world. Elementary quantum physics, as well as common sense, dictate the necessity of fixing as many co-ordinates as possible so that we may begin the major task of this work which is the use of geometric propositions to analyse the validity of inferences drawn from four or more premises and to declare not only whether or not the conclusions are correctly formulated but to discover whether they are synthetic or analytic consequences to a given set of propositions. The whole process of geometric analysis is known in this essay as Agonic - which is used to imply that the actual framework used in proposing and carrying out the analyses does not in itself vary or influence the outcome of that analysis: in short the process is not influenced by the structural requirements for that process to function correctly.

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The analyses of 'whole' Leibnizian simple terms is indicated by an analytic constant, which implies, a unitary whole analysed into divers parts.

Synthetic terms which combine to form a whole Leibnizian complex are designated $\triangleright$, i.e. parts $\Rightarrow$ whole, and if these parts be divers, i.e. from other frames of reference then $\triangleright \cdot x$ will indicate which divers variable have been bound.

Notwithstanding the above explication, there is no requirement upon the reader to draw any determinate distinction between analyses and syntheses for it should become self-evident as the work progresses that $\cdot \triangleleft$ merely implies the viewpoint on the perspective that has been or will be adopted to discuss the inferences that may be drawn from a given set of propositions, whether geometric or syntactic.

The first part of this discourse covers the grounds and justification for using the terms of reference that have been adopted. A recapitulation of Greek thoughts follows with due consideration given as to how best to use their method of syllogistic reasoning in which one set of ideas is united with another, a 'third predicate' common to both propositions being used like a catalyst to unite the ideas but which in itself remains unchanged whilst dropping out of the equation.

The scene changes by considering how the introduction of artificial optical aids so enlarged Mans' frame of reference that the old forms of syllogistic reasoning based upon the conjunction of two or more concepts to produce a necessary conclusion may have become out-moded by the need for a closer and more apposite analysis of how A becomes B via C.

The discussion which follows highlights some of the major attempts during the 17th and 18th centuries to give a predominately linguistic prescriptive set of rules and directions so that we, the reader, may become more 'enlightened'.

J.S. Mill is singled out as being responsible for establishing or rather for not establishing an exact definition of how terms were to be defined relative to their standing towards a given perspective or 'point of view'.

The attempts of later logicians to rectify this mistake leads one to conclude that they either misunderstood the problem or realised that something was fundamentally wrong and thus they undertook to limit the damage by the introduction of a ludicrous array of ill-defined symbolic references so that, we the reader, might be wearied into compliance. (See also Descartes' rejection of the multiplicity of algebraic symbols - Rule four Native Intelligence and Pt. II. Discourse on Method).

This work concludes by proposing the use of a rigid framework composed of co-ordinated reference points into which concepts are placed and to which and in which they are kept so that they may be properly and accurately evaluated in themselves and also when and if they are conjoined with another concept. This essay concludes with an

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attempt to prove the a priori logical necessity to have four constants by which every and any proposition must be subjected to if its validity and standing as a meaningful symbolic representation of reality is to be readily and easily justified.

'A visible square, for instance, suggests
to the mind the same tangible figure in
Europe that it doth in America'.
BERKELEY. (New Theory of Vision).

A visible square is to become the whole analogy that will be used throughout this formal discourse.

The 'certain and evident cognition' of Descartes (Rule Two), which constitutes all knowledge, is based upon the apodictic supposition that we, the Rational, are all equally sensible to that which comes 'before the senses'. (Kant).

It appears therefore that what is required, before all else, is to distinguish between 'seeing' and 'perceiving'.

Aristotle's comments regarding Man 'loving sight for its own sake' (Protrepticus) lead onwards to his belief in sense-perception as a sort of knowledge arising out of our preference for sight above all other senses.

However, philosophical insight, phronesis, leads to a sort of knowledge, 'episteme', which is 'purely theoretical'. The most desirable activity for the soul of Man is to indulge in this contemplative speculative thinking which arises by and through our (universal) senses but most particularly sight 'for one would prefer to have sight, even though nothing but vision were to result from it'.

We take the above statement as axiomatic.

Before leaving sight as the most treasured of our senses it may be worth noting what J. Bennett states about our 'obsession with sight' as being 'positively dangerous'. He warns us of 'The positive dangers of allowing the sense of sight to dominate philosophical writing'.

Are, then, all philosophy books to be rewritten in Braille?

We may safely assume that we shall continue to use sight to read by and sight to see by. But what do we actually see before we contemplate how we may speculate as to what it is and what it may mean to us, both as individuals and as groups of individuals.

St. Thomas Aquinas in his 'Summa Theologia' discusses what an object must possess for it to be seen. Here we are talking about merely seeing something, like a dog 'seeing' a square but not speculating as to its meaning.

There are two major points raised.

The first is that 'To exist and to exist without form are incompatible'. Whilst this maybe challenged upon the grounds that it is not necessary for 'anything' to have a substantive form, for example gases, radio waves, and yet to be discovered forms of energy, it cannot be challenged upon the grounds that for us, that is, human rational creatures, it is

absolutely essential that such materials that give rise to our awareness of them do possess some form or property that is accessible to us.

The whole point of discussing 'How creation is related to diversification' is that there is no point in having things which are ethereal and mysterious to a degree that precludes Man from ever being able to distinguish one sense or sensation from another, let alone one object from another.

Leibniz discusses this in his New Essays on Human Understanding: for him existence is already or has already been diversified into discernible parts thus perfect similarity holds 'only in the case of incomplete and abstract notions' and perfect harmony is possible if one takes just one aspect into consideration 'as when we consider shapes only, and neglect the matter which has the shape'.

Which world or frame of reference then are we to occupy during our contemplation of a simple geometric visible, suggestive form; discernible by sight and universally perceptible as being in possession of a 'certain spatial relationship' which simply is 'whatever we or anybody else may do'. One may contend that there are four possible worlds into which one may place an object in order to make it a subject for discussion.

There is that world, the world of atoms and forces, to which all objects external to our 'selves' inhabit. We have no direct access to this world for as a 'thing in ourselves' we are a part of it. As a 'thing in itself', i.e. the ink, the matter which has the shape of a square, inhabits this exterior world, we may disregard this aspect for we are indulging in an intellectual exercise in which we are using ideal concepts and ideal definitions for 'it is convenient to neglect irregularities and to reason as if they did not exist'. (J.S. Mill. Logic).

Further we are using what Leibniz describes as simple terms, either pure predicates or pure objective realities, but as we wish to use the pure objective reality of a □, the relative (to us) properties of which cannot and do not alter over time, for the purposes of illustrating concepts and for the 'arrangement of arguments in a geometric fashion' (Descartes Replies) we may accept what De Morgan notes as being inherent in simple geometric propositions in that they (the properties) may be 'collected from our images as effectually as from the objects themselves'.

We thus have real objective squares, as on graph paper, particular squares as drawn □, ideal squares, i.e. how we imagine a □ has to be, to be a square and general squares, i.e. things thought of as having the general properties of a square.

We are however in this work ignoring the □ in itself and 'we base no particular conclusion upon a particular line', we are discussing only that which a □ illustrates.

We may consider a □ to be a Euclidean element, i.e. compared to a letter of the alphabet relative to a particular language, which in our case is Agonic logic. Thus the 'words' are composed of the conjunction of letters, i.e. shapes, for example  , the conjunction of two analytic ideas producing a Leibnizean 'complexion' or an Aristotelean conclusion.

Leibniz agrees with Hobbes in that 'everything done by our mind is a computation' that is 'either the addition of a sum or the subtraction of a difference'.

Before discussing Euclidean Geometry and Aristotelean thinking up to Leibniz and Kant it will be of use to read the relevant appendices. These deal with the differences and similarities between 'inner' and 'outer' senses and the relative concepts of size and proportion. Another point of interest, which tends to demonstrate the analytic a priori necessity to be sensitive to and sensible of objects, is given by Sextus Empiricus in his writings 'Against the Ethicists'.

When addressing the issue of whether skills relating to life are teachable he makes four points of interest. Briefly the ignorant cannot teach the ignorant, nor the ignorant the educated. The educated cannot teach the educated which leaves the educated to teach the ignorant. However the ignorant are only ignorant as to what the educated have been taught which, if it were sensible would be self-evident to everyone. If it is insensible yet intelligible then even the non-evident must become evident somehow, yet if it is sensible and evident then it should be sensible and evident to everyone yet there remain unresolved disagreements.

Nevertheless there are certain objects, both subjective and objective over which no disagreement is possible. This concept forms the whole basis of Euclidean Geometry which will now be discussed in some detail.

The following remarks are taken from 'The Thirteen Books of Euclid's Elements' Vol. 1 Second Ed. 1926 Cambridge. The introduction by T. L. Heath relies almost exclusively upon the Greek commentaries of Proclus and Aristotle whose terms of reference and definitions were to remain unchallenged for over two thousand years and indeed Euclid's and their 'common notions' remain totally unchanged today.

These are: Common Notion ①. Things which are equal to the same thing are also equal to one another.

e.g. if $\square = x.\ \square = y\ \supset \sim (x = y)$
but if $x = \square\ \&\ y = \square\ \supset\ x = y.$

The direction of how one idea is placed by the mind next to or before another is of the essence.

This ordering of ideas is fundamental to Leibniz's 'Art of Combination'.

②. If equals be added to equals, the wholes are equal.

i.e. if □ is added to □ ⊃ □ v ⊡ i.e. if we add □ to □ <u>again</u> then if we add equals to equals <u>equally each time</u> then the whole will be equal to all other equally added wholes.
Thus □ & □ as □□ is clearly not the same as
□ plus □ if □ + □ = ⊡ etc .

Note: There is a significant difference between objects or ideas being contiguous, combined, contemporaneous, conjoined or added together. The following common notions makes this clear, especially no. ④.

Common Notion ③. If equals be subtracted from equals, the remainders are equal, e.g. □ ~ □ & □ ~ □ = ◱ & ◱.

④. Things which coincide with one another, e.g. □ & □ occupying the same position, are equal to one another, i.e. □ + □ = □

⑤. The whole □ is greater than the part, ◸.
Note: The ◸ may be many times the size of □ yet we at once recognise that the ◸ does not belong or come from □ but is relative to another □.
This common notion gives rise to the whole taxonomic system of classes and classification.

Thus no matter what we 'see', sight conjoined with a frame of reference □, i.e. what we choose to contemplate, what is defined and delimited by our frame of reference = what we perceive.

If someone walks into a room and says 'Observe!' then we frame them and pay attention to what may occur relative to them! within a given context re wider frame of reference.

We can go on expanding our 'wider' frame of reference either to infinity or God. For the Greeks their Gods lived up the hill whereas ours are omnipresent. Galileo told us to look outwards and inwards as well, thus the further we can see, the more there is to perceive, yet we see no God either at the ends of the visible universe nor within its very atoms. Has our frame of reference been forced to widen so much and to include the many things that science has made possible that there is no room left for Leibnizen spirits to dwell?

The whole of what has been said forms the background to Leibniz's thinking and was the axiomatic, apodictic starting point for St. Thomas Aquinas and his 'Summa Theologica'. In this extensive collation of correlated ideas and concepts St. Thomas begins with the most important question of all - 'How shall we place our purpose within proper limits?'

The propriety of many philosophical questions is open to grave doubts, not solely because they are misplaced but because they display a vulgar ineptitude in correctly defining the appropriate frame of reference to which the particular universe of discourse under discussion is apposite to.

He continues with the deontological self-evident proposition that God is 'the beginning of things' and their last end 'and especially of rational creatures'.

Thus when we use our rationality we conclude that 'when the nature of a whole and of a part is known, it is at once recognised that every whole is greater than its part'. The point to grasp here is that we, as parts, i.e. as individuals we can only know and play our own minute part and thus the whole, i.e. the whole thing-in-itself, i.e. existence, cannot be encompassed by a constituent part.

St. Thomas and Euclid and all the thinkers up to Leibniz and Kant including Aristotle used common terms of reference 'that no one is ignorant of such as being, non-being, whole and part'. Naturally, as Aristotle often points out there are those that argue for the pleasure of being a rhetor.

If one reads Sect. 3. 'First Principles: Definitions, Postulates and Axioms' on page 117 of Euclid's Elements one is given, within a few pages a concise account of the reasonableness of demonstrating propositions upon the understanding that the words or symbols used should signify something 'both to the speaker and to the hearer' and if some one wishes to be awkward and attempts to deny axioms or common notions as being reasonable starting points for all demonstrations involving the analysis of our world then as soon as he attempted to do so 'he could at once be refuted; if he did not attempt to say anything, it would be ridiculous to argue with him: he would be no better than a vegetable'.

A major shift towards understanding the dichotomy which naturally arises between the human synthesis of objects and the natural synthesis of objects is introduced in the section upon the difference between theorems and problems. To illustrate this point more readily let us take Berkeley's example of what he found most annoying with the concept of 'abstract general ideas' as propounded by Locke.

The concept which we are asked to frame before the mind is of a synthesis of lines which fulfil all the possibilities of several definitions at the same time, this simultaneous reproduction of particular properties combining to form an abstract general idea of a triangle.

Yet it is precisely because Locke, Hume and Berkeley have chosen as their frame of reference a problematical synthesis of possible and divers answers without first stating upon and in which frame of reference the actual problem is set (i.e. is it a mathematical, geometric or imaginary one?) that confusion arises.

Proclus demonstrates the difference between problems and theorems as being the same as the differences between an analytic proposition for example a square □ i.e. a theorem for it is not possible for if any of its proportions were altered it would not be possible for a □ to remain a □. A triangle is problematic in that one can synthesise any combination of angle and line to form a triangular shape.

Accordingly a square is chosen with Agonic logic because it is a truly analytic figure: both in the particular and in the general.

One can think general abstract thoughts yet if one chooses to stop this process and 'pick out' i.e. frame a particular, i.e. individual thought, one immediately defines and limits that general thought by the very act of 'stopping the film' and scrutinising a single frame.

What Locke is talking about is how we frame ideas before the mind, i.e. he is discussing how we process ideas. Berkeley is talking about framing particularised, i.e. static ideas before the mind. Berkeley appears able to 'imagine a man with two heads' yet remarks himself unable to imagine a distorted three sided figure. He can consider parts together or separately and can 'frame to myself the idea of a man' but is forced to particularise each individual part, piece by piece as being or having a specific quantity or quality.

'How' one may ask 'is one to measure such quantities or qualities?'

Locke makes the point that we have to, on occasions, think quickly. We cannot plod around the mind searching out ideals; polished figures of specific proportions and properties for the mind 'makes all the haste it can' towards general abstract ideas rather than particularised ones.

The whole point is that triangles are synthetic structures whereas squares are analytic structures.

Euclid understood this in that some things/objects simply are what they are - unequivocally. One cannot quibble about a square being square because that is what it is. One could ask someone to fetch a triangle from a room full of triangles and his selection must be arbitrary and contingent upon the idea they have of a triangle or the triangle they believe that is wanted. A square presents no problem unless the proposer wishes to be awkward and pre-dictates to himself some superlative quality or quantity that the particular square brought or displayed must fulfil another function, i.e. be viewed within an additional frame of reference, for it to qualify and satisfy their predetermined idea of what they want.

'No! I wanted the biggest/smallest square' etc.

A square can be predicated only as square, that is, within the framework of a general, i.e. non-specific, abstract, i.e. mental/imaginary construction, idea, i.e. a single 'analytic', i.e. non-compounded distinct image (irrespective of number of parts - i.e. one unitary whole).

Clearly ideas possess form without possessing substantial material substance. This is necessary for we have to, as Locke puts it, think quickly to get anywhere at all. The lighter the baggage the faster we travel.

For Hume, Berkeley and Locke to discuss triangles appears slightly absurd but understandable since Euclid based all his propositions upon the ○ and the— , the circle and line.

This work does not concern itself with amorphic and hylomorphic ideas and concepts, i.e. the indeterminate form of ideas and their conjunction and superimposition nor the literal forming of ideas and the result of their contemporaneous superimposed conjunction - what Leibniz calls 'complexions', in substantial objects, literally 'forms made into and out of wood'.

Euclid and the Greeks in general chose wooden cones and believed that 'all' possible figures were derived from conic sections.

Hence even today we have not ridden ourselves of an obsession with the ○ and — or the △ when discussing (see Helmholtz - 1998) philosophical 'problems' or should that be 'theorems'.

Locke in his Essay in human understanding refers to 'common notions' as maxims (Bk.IV. Chap. VII.). He does, however, demonstrate the common and almost universal failing of

almost instantly deferring towards mathematics with a kind of obsequious sycophantic reverence in order to 'explain more clearly' that the common notion ③ 'If equals are taken from equals the remainders will be equal' is better understood numerically. But as De Morgan so succinctly notes 'one and one plus mathematics = two', for one and one plus Rule 5 may = 11.

Failure to identify and state the frame of reference (i.e. the context into which and by which a proposition is to be understood) can and does and will lead to conflicting ideas and endless, pointless and ultimately meaningless arguments which, like the philosophical preference for the circle, leads to a never ending revolving sphere of inadequate conclusions based upon improper propositions.

If people would only ask 'What are you/they talking about' instead of supposing that the speaker has a clear and distinct idea which is apposite to the object/subject under discussion.

'About' is probably the most useful word within the English Language. It places object and subject within or without a particular frame of reference, i.e. either ⊡ or ·□.

However unless one believes in a totally chaotic universe and that we come to terms with this chaos by some Nietzschean optical and intellectual delusory and illusory conceptual framework (which even if a lie must be a true one) then ·□, although the object · lies without □ it must and does lie within a greater or lesser frame of reference, e.g.

Mill failed to grasp this point as we shall see later. The analytic - synthetic distinction is easily made if one considers □ and △ in which △ is a part of □ and though □ is a synthesis of line, these parts - lines form a whole homogeneous object in which the predicate 'inheres' in the subject, i.e. the symbolic reference word 'square' relates to an object whose whole property is that of having sides whose ratio is a ratiocinatory product of the functioning of the intellect upon a given, static and particularised formation of lines.

A square is a constant figure with a ratio of sides 1:1, no matter the size, whereas a triangle has indeterminate properties and thus requires to be particularised by numerical units.

Universal constants however, which are ratio, require no numerical nor descriptive units either of quantity or quality. All the above points and many besides are discussed with great reasonableness in Chapter IX of Euclid's Elements. We have then a brief outline of the world of intellectual considerations that would be dominant generally within the academic disciplines followed by all metaphysicians, notably Descartes and Leibniz.

If one reads Descartes' 'Discourse on the Method', especially the last three paragraphs in Part Two, one will find in these latter paragraphs the whole fundamental principle of agonic logic. He proclaims to have used the very methods adopted by Euclid and offers them to every individual, leaving it up to that person to fill in the spaces between the lines as and how they think fit.

Leibniz, in Section 34 of his Monadology, echoes both Euclid and Descartes and in Section 46 he acknowledges his and our debt to Thomas Aquinas who well understood

that we must not fail to recognise our duty to honour the universal spirit which gives all men their rationality (this gift being immortal and passed from one generation to the next) and it becomes encumbant upon us, as rational individuals, not to abnegate our responsibility for our own actions by proclaiming indifference and contempt for the opinions and wishes of others. Dr. Johnson cannot be bettered when he lists eleven points which he believes are the root cause of Scepticism. No. 7 (P.514. Penguin Classics) reads: 'Absurd method of learning objection first'.

We are about to move on towards one of the two major considerations of this formal work. The first centres around 'windowless' monads and is about questions such as 'How does one monad avoid hitting another?'

The second major consideration is 'Why did Leibniz abandon a promising method of constructing a universal symbolic language based upon point-matrix co-ordinates which could have formed a 'universal polygraphy'? (1666).

Before we commence the above, a recapitulation of what has been proposed so far may be of use.

The whole subject of geometry is said to be concerned with the five regular solids, the 'cosmic figures' which are constructed and 'inscribed in a sphere and compared with one another'.

Naturally there is no requirement upon us in this work to accept this method of demonstrating propositions: indeed, the writer rejects this frame of reference as of being use to his work; yet realises that to judge the validity and justification of Euclidean Geometry one must accept the definitions that define what is proposed to be demonstrated within that discipline.

One should be sympathetic to a cause if one is to enter a field of battle as a partisan but as Descartes points out one should meet the inevitable opposition upon the best terms available, and not least to encounter resistance suitably attired and with commensurable abilities and armour.

Definitions are merely the rules of the contest for if one 'admits that words can mean anything to both hearer and speaker' then anything can be claimed ipso facto because the fact of the matter, or frame of reference, scene of contest or what have you can be viewed either objectively, i.e. by agreed rules - this agreement being true by the very act of betrothment: or subjectively, by an assumed agreement (see Berkeley three dialogues - the meaning of the concept GOD) or a so called enthymematical conclusion based upon 'synthetic' arbitrarily assumed conditions which appertain by and through some imagined antecedent - either of a moral or logical conventionality.

Accordingly the natural eurythmic perceptual constancy of the square is taken as the rationally assumed actuality of form both as a hylomorphic representation and an ideal general abstract form.

Thus the epexegetic use of what Berkeley calls terms that 'which we do not rightly understand' is avoided and the philosopher's proclivity for putting doubtful, half-hearted

or risqué propositions into another language, preferably Latin or French - or if pressed hard into Greek or Arabaic symbolism - this tendency is resisted within Agonic logic for as the Ancients well understood we employ the symbols to illustrate and communicate ideas and concepts, not between masters but between all those who wish to learn about how ideas are formed and the relationships between ideas and concepts.

We are not concerned with what these ideas or concepts may be in themselves as material entities - for us it is the relationship which is either true, proportionate or wrong. The universal acceptance that ◻ differs from □ is immediately apparent. However we do not notice infinitesimales between identicals as Leibniz claims. Our perception works within two modes - one in which quantum differences operate on a scale governed by the speed at which we think - thus see Locke and his concept of general abstract ideas - and in a fixed rational scale when objects are viewed passively and at leisure - thus the difference (or differentiation) between ◻ ←→ □ at thinking speed (i.e. the speed at which they are presented to us - the writer acknowledges that there are two relative speeds that may be discussed) will be of a different magnitude than ◻ ←→ □ studied at leisure. (See Berkeley - General Abstract Ideas). A great deal of information is dished out without regard to its accessibility and one is asked to 'spot-the-difference' between one picture of reality and another whilst the proposer indulges in some obscure version of St. Vitus's dance.

This work deals almost exclusively with what Aristotle calls axioms, i.e. 'Whenever that which is assumed and ranked as a principle is both known to the learner and is convincing in itself'. Theorems and hypotheses are propositions which belong to a later work.

It is taken as agreed that the □ will be taken as possessing a natural harmony of proportion and can be considered as an object of universal apperception, i.e. any mind would perceive itself as seeing what all other minds would perceive.

It is therefore taken as axiomatic that the □ is both a subjective and objective thing and De Morgan's definition of objective as being ideas that are general and public in that they are not defined by any particular mind but are universally perceived to be 'common notions' is taken as a suitable defining concept. The two aspects of existential thinking, that is the process and the result - the union of the active and passive (see Thomas Aquinas) were both extensively used by Descartes and Locke, the most famous conceptualisation of the natural dichotomy between the formation of concepts and the end result is given in the form Je pense - the active process of thought - donc - the connective Je suis - the passive, the continuing self which is the basis, the fixed (relative to the speed of changing thoughts) constant (i.e. biological constant) which makes the further processing of ideas possible.

There are two major ways in which philosophers can confuse the issues. One is to convert problems into a metalanguage the rules of which have to be sufficiently simple for the proposer to remember and sufficiently complicated so that others cannot. The other related method is to change and enlarge or diminish the frame of reference imperceptibly so that if one manages to grasp the issue at one moment it is put 'out of court' the next.

Berkeley, in his Three Dialogues, has Hylas making dubious inferences from obvious by definition alone conclusions. Hylas states that no idea can exist without the mind. He not only states it but because he emphasises it not only by accenting the point in italics but by

drawing general inferences from a particular conclusion; (see also Proclus P.131. Euclid) he convinces himself of what is self-evident. But it is self-evident only by definition and that definition is particular to a particular frame of reference.

Ideas in hylomorphic form exist without the mind. It is only self-evident that it requires a mind to access those ideas. Language, being the radio of the mind, is the bell boy who does the fetching and carrying and without him the baggage of existence would lie around uselessly rotting away.

The proportion of a □ exists objectively yet as a carrier of information we need not concern ourselves with its material form nor fritter away our time, like the positivists, in trying to guess the contents of a preposition by examining the baggage it arrived in for the form has not got to be visible - nor active or passive - it simply needs to be accessible - re 'food for thought'.

We must however vary our diet, and ideas, and their formation into concepts, is how we do this. We are required to access the world of enigmatic forces. We appear to have done this successfully by the brain converting quantity into quality, i.e. by converting the electrodynamics of atomic forces into audible and visual effects. No matter how random and chaotic these forces are thought to be it is self-evident that there is, for the present Time at least, a more or less constant distance maintained between forces, monads, electrons, nuclii, units of energy - call them what you will.

Kant called this constant distance 'space' whereas Leibniz thought such a possibility, illusory - which it probably is, yet as it is a constant and universal lie and everyone will proclaim it to be so then it is true, faithful and constant to us. (We ignore the spurious possible worlds in which motorbikes are made of cheese etc.).

For us space merely implies (see Euclid on how things are demonstrated and illustrated for us) the necessary distance for us to be able to discern one thing from another. (Again we ignore the apparent superfluity involved in creation which worried the theologians and Leibniz - who are we to judge, as parts of creation how big or small the whole should be).

The Greek obsession with things being either one thing or another, with being opposites, with having to occupy either one end of the spectrum must be dispensed with.

A more rational approach is required in which the replacement for the above, an imperceptibly sliding scale from the infinitesimal to the infinite recorded in fractionalised numerical units is also disregarded as being too precise. The concepts employed within quantum mechanics appear neither too coarse nor too fine in that they recognise that something is either at one level or another, not drifting around aimlessly in between.

Thus □ → □ or electron · → ○ can be regarded for illustrative purposes as a fixed and constant distance (unless we are back on our neutron star - or in a possible world where having no rules is the rule except on the 31st of October etc.).

Quantum mechanics, reason and common notions infer to us that empty frames, i.e. areas which under normal circumstances and relative to a wider frame of reference, i.e. with a specific relativity which owes its meaning and justification to the rules employed in framing

the frame of reference (e.g. the so called theory ladeness of observation) do indeed exist as intellectually necessary a priori accessible areas into which we place ideas. If such areas were full, we would, by default, create new ones. Empty classes exist within the mind for it is the frame of reference which decides how and what rules are needed and which ones are to apply to what has been delineated by the mind, i.e. determined to be the case. The active universe is thus pacified and passified long enough for us to particularise parts of the whole. Needless to say, like planting a frame upon the ground, a lot of extraneous material might be included within the frame of reference.

J.S. Mill in his System of Logic has a class classified as an indefinite multitude of objects which engender their own classification.

Agonic logic has a frame which delimits and defines that assumed and arbitrary definition of existent classes by making indefinite multitudes definite articles. If one is furnished with an unlimited multitude of words which have indefinite objective meanings then one may be tempted to shovel words around without any due care or attention and if one ignores a certain degree of geometrical fashioning of one's arguments then words will simply mean whatever one wishes them to mean.

This abuse leads to the meaning proposed being discredited upon the flimsiest of whims, thus the sceptic is left free to believe in his own version of reality and is able to deny the objective opinions of others.

This issue brings us directly onto how one would justify a proposal: is it better to claim that concepts have been inductively tried and tested, i.e. by trial with consistent results? or is deductive reasoning, that apodictic certainty of a particular a priori necessity that generally and universally no matter how many times we conjunctively impose a □ upon a □ in order to produce a third reciprocally proportionate square that the resultant shape always must, because we have used two analytic shapes, be a self-evident analytic object.

Thus □ conjoined with □ gives  .

The symbols used to enunciate this have no relevance or priority in themselves, they merely, as Aristotle says, have to be understood.

For example it will be understood that a Leibnizean 'complexion' G will be of the form B (where B is blue) and Y (where Y is yellow) if B and Y are conjunctively superimposed as  . The third reciprocally proportionate square will be the conclusion or the resultant of this combination. One may ask oneself 'Is the third (predicate) square an analytic or synthetic proposition/conclusion?'

In the 'formal division of a proposition', P.131. Euclid's Elements an account is given of how general inferences may be drawn from particular demonstrations and it requires no elaboration other than in our case it should be noted that our frame of reference is not generated by an amorphous mass of indefinite objects but is a conceptual entity generated by the intellect requiring a fixed viewpoint, a 'holding pen', in which ideas may be sorted. An incidental requirement is that these frames of reference should 'map out' the whole concept without leaving interstitial spaces as is endemic in Euclidean Corpuscular theories based upon conic section.

Thus mapping out the world with a scone cutter would leave too many irrational improper fractions. The conjunction of the shapes or spaces created by such improper fractions are rationally irrational and thus cannot be combined in any isometric proportionate form if their number exceeds three. This is of no real consequence other than it diminishes the clarity and self-evidenceness of certain propositions, which, after all, is what the whole of this formal discourse is about. We shall now turn our attention upon Leibniz's 1666 attempt to create a universally recognisable polygraphic language of the relationship between discernible objects and the ideas and concepts which we generate concerning them.

One may feel a degree of uncertainty as to the extent of Leibniz's 'idée fixe' regarding the explication of relationships mathematically against a background of revolutionary ideas as to what frame of reference the expanding universe should be explained in.

Preconceived ideas, by their very nature offer a good deal of rightful resistance to any new ones, those prepositions which cannot be said to conform to any familiar pattern of conceptualising how things stand relative to us.

One tends to feel a degree of inflexibility in Leibniz's attitudes engendered by his need to discover a unitary answer, some fixed universal constant that will stabilise an unstabilised world within a framework of predestined harmonious relationships which follow the monotheletical message brought by our creator's one and only Son.

The whole purpose behind the expansion and interest in a scientific line of enquiry was to discover a non-spiritual monomorphic physical inorganic relationship whose mathematical interpretations would demonstrate a universal conformity to the theoretical doctrines of its advocates, that is, the universal physical constant to which all processes of existence and change owe their allegiance and stability towards.

Leibniz's 'Discourse on Metaphysics' is written to demonstrate that we owe our allegiance to the universal spirit within Man and not to the universal laws of science.

Single acts cannot, as many believe, be said in many ways: this platitude leading to a superfluity of words which fail to signify objectively for all words, without a proper frame of reference, signify no thing.

The cruxification, as an actual event can only be said one way but its meaning can be expressed in many forms. 'The Titanic Sank' within a frame of reference of things sinking can and is said only one way but the 'complexions' arising out of the particular can and unfortunately do in this instance lead to tedious extensive expositions of fabulistic imaginary consequences. Leibniz is keen to grasp the connection between what a thing is in itself, e.g. the Titanic, and how the Titanic is described. Yet clearly if the object T. is to include all that ever happens to it if T., as a concept is ever to be true, i.e. that the predicates :- was/is salvaged, is filmed etc. are truly affirmed of T. so that the predicates inhere in the subject T., which is the object of our attention, then no object is complete by linguistic definition until it ceases to exist.

However for Leibniz all objects cease together at the end of time and in conformity not to any mathematical certainty or relationship, e.g. 137 but in accordance to the will of GOD.

One of the major obstacles to conceptualising such a process as fixing the relationship between objects (T) and the assumed totality of realities would be to use a system of symbolic relationships which in itself would be incapable of clearly demonstrating the number and complexity of the moods or modes of possible representational methods (i.e. things may be said in many ways = things may be expressed in many forms).

The symbolic representational method least suitable for illustrating such relationships would be an inflexible pre-set self-regulating abstract non-unitary system such as mathematics.

Another impediment to clarity apart from the certainty of having to fracture unitary numbers into parts in order to ensure a 'good fit' would be to use a mapping system which conjoins two propositions that rationally should not be joined and thus again improper fractures or fractions occur.

If a conjugation consists of two incommensurable parts which to use an electromagnetical analogy are 'out of phase' (by 90°) then, as with Π, pi, conjoined with Euclid's desire to demonstrate propositions in terms of the basic elements of the cone, we have — + ◯, the resultant being an irrational number, the product of ⊖, i.e. the relationship between circumference and diameter.

No amount of calculation will ever achieve a unitary whole numerical relationship.

The reason for this should be self-evident but its demonstration should not be a mathematical one for a process cannot be used to justify itself or, like its fundamental elements, this justification will lead to circular arguments.

If Π is based upon conic section then ⊖ = ⊖, i.e. the juxtaposition and conjugation of two parts of the whole conjoined 90° out of phase. Thus the frame of reference for one is edgewise and the frame of reference for the other is full-face.

The number of degrees required to rotate the diameter into the circumference is 90 but to bend the diameter without rotation is not possible and a never ending spiral is the result. Calculating pi is simply watching a corkscrew revolve.

In Agonic logic, the circle and its rigid mathematical systematic division is rejected in favour of a simpler more universal constancy of unitless, thus unitary, proportions, i.e. the whole analytic concept of the □ = unity.

To be fair to Leibniz, in his day, motion and forces were all the rage. Circular or epicyclic planetary motions and lines of force dominated current thinking.

Inclined planes and mechanistic models with wheels and axles filled his frame of reference whilst Christian theology propounded unitary theories based upon heavenly harmonies. Within this frame of reference Leibniz wrote his 'Art of Combination' in 1666.

This work is an attempt to convert language into a symbolic representation of the mathematical co-ordinates of a given proposition in the form of the linear relationship

between the parts of that proposition and the whole proposition, to which those parts belong.

This move was in line with a general trend within Philosophy to try and keep apace with the proliferation of scientific symbolic (usually numerical) references to hypothetical entities and their possible relationships with our world.

In order to keep pace with the inherent complexity of what was being uncovered by the application of the scientific method the original science, metaphysics resorted to cryptographic explanatory methods either of extreme complexity or banal indifference.

The former depended heavily upon the newly conceived idea of the infinite and thus spawned infinitesimales whereas the latter appealed to the clarity of the planes generated by the analysis of the cone.

Everything now could be explained in terms of number and position, even language.

The conceptualisation of an object makes it a subject for predication and this idea was, it is claimed, going to form the whole basis for Leibniz's logic.

Thus one's idea of a □ makes it possible to describe by predication that the □ is □.

However, in the active process of thinking, we miss out, i.e. omit the predication, is □, for it is axiomatic and self-evident to us that if we recognise our idea as being the idea of a □ we do not have to particularise it, the □, by examining it in all its possible details to make sure it is what we think it is. We take things as true, upon trust, taken as said or for granted: this enthymetic device enabling us to think quickly. As we progress through our thoughts about subjects and their predicates we may become uneasy as it appears to be a minefield wherein contingent predications are aligned with essential predicates coupled to the fact that no map is available to distinguish subjective predications from objective ones. Without some glossary of terms, rules of engagement or a governmental health warning such apparently unstable environments should be entered with trepidation.

For instance [W], the house is white, is a contingent predicate, i.e. contingent upon the house being white.

It is not contingent upon an house being white, because no house may be white - one cannot predicate with contingent predicates upon the universal assumption that at least one house is white, even the White House, unless this contingent predication is an objective contingent predication - i.e. it is a common notion that there is a white house.

A subjective contingent predicate is contingent upon a defined, i.e. definite article of acquaintance. (See Russell). But Russell confuses subjective contingent predicates with objective contingent predicates and compounds his error by confusing these with essential (a priori analytic) predicates (Leibniz's simple/first terms: Euclid's Elements/common notions) by stating that his rules of engagement with a table (see Russell's Problems of Philosophy) are to be 'his' subjective 'contingent upon his table' rules.

If Russell was incapable of discovering the essential predicates necessary for him to recognise his own table then this hardly constitutes a philosophical problem.

The essential predicate of [S] is square, is that of being square - not the subjective contingent predicates of being black, white, on paper, is not quite square, is crooked etc. Clearly the number of possible subjective contingent predications, of any square, ☐, is infinite but for a particular square ⊡, the possible predicates are as finite as the particularised ☐, denoted by a symbolic dot, → ⊡.

One would be hard pressed to state more than four contingent objective predicates concerning this → ☐, i.e. ⊡. Thus the indefinite general abstract idea, ☐. Any ☐ could subjectively be any colour (for we are told that there are millions of shades and hues), could be of any size, for abstract ideas cannot be measured - could be of any material, for we know not upon what substantial form our ideas rest or move upon, or what matter they modulate or interact with. We do not even know where these ideas are located within space.

However the ☐, i.e. a specified and particular ☐ can as a subject alone, i.e. when subjected to a specific universe of discourse within a given frame of reference, be only stated one way, i.e. it can only be said of a ☐ that it is square, and if it is particularised as the ☐ under discussion it is recognised by 'pointing to it' → ⊡.

The number of subjects that can be subjected to predication is limited only to the number of individuated objects. For an object to be individuated, relative to what it is in itself, the essential attribute is that it must be visible - that is no matter the visible form - it must look like some thing even if it does not look anything like itself.

Furthermore if shades of grey are included, which logically they ought to be (for ☐'s and houses etc. are/can be grey), then all that one 'sees' before we 'perceive' it is colour alone. With the above points resting upon the sidelines of our frame of reference, which is a geometric interpretation of Leibniz's 1666 work the 'Art of Combination' (Ed. G.H. Parkinson. Oxford 1966), we shall now address his Definitions.

In (1) Leibniz states that variation means a relative change. For example ☐ ↔ ☐ is a variation of ⊞ by analysis. However we are immediately faced with a very broad frame of reference - either substantial change, i.e. ☐ drawn or illustrated in another hylomorphic substance other than ink or several ☐'s each exhibiting a different quality other than (i.e. apart from) squareness. Leibniz here is not specific.

In (2) the quantity of all these (infinite) possible variations is the 'Variability'. However if particularised and expressed in numerical terms which are opposite and commensurable with both particularised and differentiated objects then one specific symbolic relationship can be established that conjoins these two separate objects at one instant in time as possessing a fixed at that point of time relationship which is or can be a proportionate one, e.g. Leibniz's example 2:1. or in geometric terms the relationship may be expressed visually as ☐ ↔ ☐ 2:1 ☐, ↔ [2].

Machines develop their power, i.e. maximum power (torque, i.e. useful work) at specific speeds of operation thus for a level playing field to be assured a suitable frame of reference

must be constructed so that any comparative relationship will truthfully reflect their proportionate outputs as measured in similar units at similar or reciprocally proportionate speeds, i.e. one machine might operate most efficiently at x units/sec. whereas the other at y units/sec.

(3) The 'situation' is the position in space or a space in which differentiated objects are perceived to exist.

(4) Accordingly these differentiated objects, this assumed plurality, generates a relative or an absolute relationship within a space or simply, space.

The relative positions are taken as being between part and whole □ and ◺, i.e. an Absolute relationship and between parts of a whole and another part or parts of (one assumes) that very same whole, e.g. ◺ and ◺, i.e. relative position. It is best at this stage to ignore the fact that within one, i.e. a particular frame of reference a □ can only be divided into two◺'s which are distinct in not sharing more than one elementary part of a □, and yet within another frame a □ can be divided into an infinite number of 'parts'.

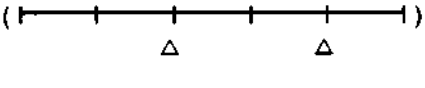
However to avoid infinite numbers of variations we may choose (and remember we <u>are</u> free to choose any interpretation or frame of reference that we think fit despite the length and inferred prescriptive meanings that introductions to certain works tend to display) a frame, Ⓐ into which we place a choice of variables, in this instance three, (for illustrative purposes only). Ⓐ binds these variables to and within its matrix and it is to Ⓐ that our three variables, both individually and in dichotomous or trichotomous conjugation or conjunction owe their absolute allegiance, that is their true position, the truth of their relationship to Ⓐ is an absolute truth relative to Ⓐ.

However x, y & z possess a relative to themselves contingent truth, a subjective contingent relationship which to be true needs to be specified relative to a specific co-ordinate at a given moment, usually the moment at which x, y & z are observed. If, on the other hand, x, y & z are fixed, i.e. constant within a constant frame of reference, Ⓐ, then their subjective relative position within Ⓐ being constant and by induction, forms a constant conjunction, whenever Ⓐ x & y & z, then Ⓐ becomes synonymous with its parts (or the cause becomes tied to its effect). When these two conditions of fixed constant relations are formed we have a biconditional - we thus conceive a Universal Constant - we have a proportionate non-changing relationship that requires no units.

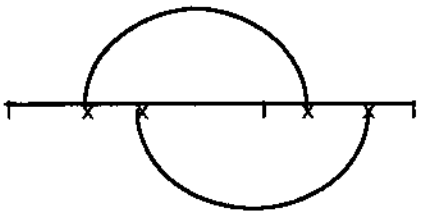
Unfortunately it is at this point that Leibniz offers to us and himself an almost predetermined numerical linear interpretation of relationships.

He uses Euclidean ideas, but not their method. Mathematics is his paradigm, with line and curve the ultimate elements.

Accordingly absolute relationships are linear:-



Relative ones therefore must, as relative points cannot be demonstrated using the same process (line), be circular.



It is at this point that we see that Leibniz will be required, in fact he will be forced into fractions, the very thing one ought to avoid if clarity of meaning is to be established in a logic which has as its frame of reference the self-evident apodictic clarity of geometric proportions.
On page 6 of the above papers he notes 'We could have set out by the same method all the definitions from Euclid's 'Elements', if time had permitted'. Leibniz continues with his classification of relationships by number and fractions but it is only when we arrive at the final section, mysteriously entitled 'Use X1', that we begin to understand Leibniz's complexions - the union, or should one say, the product of the union of a smaller whole in a larger - as being how predicates are conjugated, conjoined or co-related, i.e. correlated, to form a sufficient number of useful moods and intonatory inflexions through the symbolic representation, which is both common and universal, to all rational creatures.

'The whole of such writing' Leibniz believes 'will be made of geometrical figures, as it were, and of a kind of pictures -'. For convenience he believes that the signs should be 'as natural as possible' and if these are 'ingeniously established' then this universal writing 'will be as easy as it is common'.

Within the very same paragraph Leibniz envisages a type of dot or point matrix system of co-ordinates and he envisages that the conjugation of geometric shapes will produce lines which subtend the whole tachymetrical structure yielding and displaying 'kinds of relations' through and by the conjugation of isomorphous propositions.

Although the 'kinds of relations' Leibniz is thinking about could be demonstrated by isogonic relative values, that is the angle that a part subtends relative to the whole, this would prove difficult to demonstrate with the requisite degree of clarity that would be demanded by and expected of his idea of a 'universal polygrapghy'.

For that reason the author of this work contends that the geometrical figures should be artfully combined agonically as this would accord better with the common notions endemic within Man and would be a closely allied system to the one envisaged by Leibniz.

Leibniz never really got to grips with the problem of skilfully combining symbolic representations for it appears that even in the years following 1690, over 25 yrs. after his first thoughts he appears (see P.131) still to be locked in the conjunction of epicycles and line.

The problem which arises as a consequence is that propositions or problems stated in such subjective synthetic forms cannot be directly converted into a pattern of self-evident and logical proportions.

Without a rigid framework which insists upon objective analytic forms into which concepts are placed before conjugation then how is one to distinguish between what is necessary and what is merely fanciful elaboration.

What of Leibniz's later works? If Leibniz had developed a universal geometric language what would be his 'Monadology' have looked like?

Sections seven and eight of the above work will now be discussed using the simplest elements from Agonic logic as a visual aid to meaning.

We should have as our main frame of reference Leibniz's Deontological commitment, that is his commitment to a proper discourse founded upon his ethical duty which arises out of his love of God who, for him, encapsulates the perfect union of love, goodness and beauty. (See opening 'Discourse on Metaphysics').

This frame should also take into account his earlier works which may 'colour' his ability to confront monadic predestination without recourse to preconceived mathematical beliefs which may have been, or made his mind, too inflexible to cope with the inevitable consequences of a mathematical frame of mind, that is, finite unity and infinite number.

Also as line and circle dominated his thinking one feels that his windowless monads would be imagined by him to be orbicular, like mini-planets caught up in a Deontological force field, predestined to be made self-aware in order that our destinies were made available to us.

We either praise the author of this rationality, if praise be due or to paraphrase Johnson's prologue to the 'Good Natured Man' (Goldsmith) - 'Their schemes of spite God's foes dismiss, Till that glad night when all that hate may hiss'.

Leibniz believed it was his Christian duty to subjugate the 'loud rabbles' of his day by propriety in discourse. This message which needs to be proclaimed becomes entangled in his ontological discourse as to what is to be properly admitted as being essential to an object for it to be what it is and the linguistic methods required to differentiate by predication one object from another - that is another element is introduced, an epistemological one.

As there is as yet no known method that one can use to test the Epistemic integrity of philosophers and their proclamations we must appeal to self-evident a priori axiomatic truths which have no masters and owe their allegiance but to one.

Before sections seven and eight the preceding sections are given briefly but without loss of meaning, relative to the logic of this essay.

Section (1)

A monad is a simple thing or substance.
e.g. a □, a simple proportionate object, i.e. proportion itself is not extended and is independent.

Section (2)

If there are composites then the result of decomposition will be simpler parts or forms.
e.g. ⊞ a composite (idea/concept) → by analysis □ . □.

Section (3)

However these intellectual forms have no parts, i.e. intellectual relationships/proportions are independent to substance; like the universal constants they are the 'elements of things', i.e. make things appear as they do.
e.g. □, the intellectual space generated by the universal constants of proportion.
The frame frames the idea, it is not the idea itself.

Section (4)

The relationship of part to part is fixed, by God. No thing within our natural environment has dominion over this fixed and constant relationship. A □ is and always will be a □ (as a general abstract idea).

Section (5)

No thing can combine to form the idea of a □ as a general abstract idea, i.e. a proportionate space in which effects are generated by the conjugation of fixed and constant absolute constants.

Abstract spatial frames have and are absolutely relative to God alone. God is pure spiritual love and goodness. The enactment of his will does not require substantial forms.

Our world only appears substantial to us through the interaction of part with part, i.e. for the sake of human kind so that we may honour our creator by interacting with his other creations according to his wishes - desires.

Section (6)

Relationships between part and part come and go because they are contingent subjective expressions of a universal harmony of purpose. The ultimate relationship of part to whole, of Man to God can never end until either we unite with and in God as a perfect unity or we are annihilated.

Section (7)

Our nature, i.e. our frame of reference is set for life. Whatever happens is within this frame and no thing can enter it once God has breathed life into it, Man is made flesh when he is delimited by God who fixes man's boundaries - he is made mortal and rational but is given no window through which to communicate with God directly. We are however given the whole 'visible' universe, that is our intellect is fixed in direct proportion to our abilities/sensibilities. We may be given next to nothing but this apportioning of grace fixes our individual and special absolute relationship to God.

Although this frame of reference is fixed for all time the intellectual spirit may reject God and indulge in self-love, vanity and greed.

For Leibniz it is clear that our special relationship with God does not end with the death and decomposition of the visible effects of monadic conjugation or the specific individuated existences which come together to produce individual beings.

We are rightly advised that within the context of the Universal Christian religion that there is to be a final judgement at which the special absolute relationships engendered by the spiritual activities of Man are either consummated by our perpetual spiritual embodiment with our saviour, The Lord Jesus, The Father and The Holy Spirit into one timeless unity or the contract is ended by the abolition of our right to a constant and fixed relationship and thus we are abandoned onto a world of chaos out of which we can find no escape.

There never was, has been, or will be any rational argument that can be put forward that will demonstrate any necessary fixed or constant relationship that could apply to our spiritual freedom, i.e. although our course within visible existence is fixed within a rigid framework it is self-evident that the spiritual freedom we enjoy to exercise our choices, i.e. what we will to be our frame of reference cannot in itself be the subject of any predetermined choice. The process of choosing our relationship with God cannot be predetermined.

This is what Leibniz means by the principle of sufficient reason. If this relationship were predetermined (which it is at the end of the process of existence, i.e. at the end of time, i.e. empty frames exist for those spirits who are either chosen or rejected) then we would be either saints or sinners or like the choices already made by God, Angels or devils. There would therefore be no sufficient reasons for our earthly being, and one may be entitled to ask 'Why on earth would God predestine Man's destiny?'

Accordingly sections one → eight construct a picture in which the whole frame of reference is God's gift of reason to Man thus G, in which Leibniz's ideas as propounded in his Art of Combination 1666 are put in the same form in the Monadology. G is God, the frame of reference and the dot - matrix polygraphic illustration is to demonstrate our possible relationships to each other and our necessary and absolute relationship to the whole, G.

It is curious to note that in Section 8 Leibniz is quoted as having said that if we admit the plenum, that is the idea that there are no universal constants which maintain the apparent structures of the universe at a constant distance from one another and that there is a mathematically induced reasoning that can conceive of this universe as being infinitely variable so that one can approach either end of an idea to an infinitesimal degree (without actually reaching it) and which is opposite to the fundamental principle of quantum physics which state that processes are not composed of infinite variables but function in quantum changes from one state of being to another, then it would not be possible 'even for an angel, to distinguish one state of affairs (or frame of reference) from another'.

It is the change from one frame of reference to another that in Agonic logic is taken to occur in quanta, not in infinitesimales.

The curiosity factor that may be aroused is that in this section Leibniz is quoted as stating that certain forms must be allowed; yet he still envisages these universal forms to be somehow based upon line, — , and circle, O, and though he rejects the plenum his own works still retain the traditional view that the circle and its linear division somehow have an intrinsic value in their ability to demonstrate the totality of possible individual monadic experiences which are conceptualised and demonstrated by the number of possible predicates which truly inhere in the concept of an individuated existence.

One may contend that Leibniz's persistence to conceive and explicate concepts and ideas relative to a geometric figure that contains in its very essence the enthymematical inference that its circumference in itself presents to us a unified boundary layer which, by implication, suggests that not only that something must lie within this ring but, to be what it is, in itself, it is absolutely necessary that something must also lie outside.

To conceive creation both in infinite and globular or corpuscular terms is, one may contend, a gross error, occasioned by a mechanistic interpretation using mathematical units to measure assumed relative distances.

If God is omnipresent then nothing lies beyond him. Everything, that is, the whole visible world need only be sensation and no matter in which direction we travel we must always be within God's dominion for there can be no corner of any existence that does not lie within the ultimate frameless all encompassing conceptual, i.e. spiritual affiliation we have with our maker.

No matter the size of creation it cannot be circular for that would imply a vacuum in which God's presence could not be felt. More seriously we could not communicate with God at the boundary layer and beyond and our special relationship with him would have been severed by the razor-edged division of existence into incommensurable spheres of influence.

We leave the monadology with Leibniz's words against the plenum for, if the whole universe were 'reduced to the notion of a perfectly uniform wheel about its axis' then the world would spin faster than even our general abstract ideas could process the seeing of it alone.

If one now consults 'Meanings as Conceptual Structures' by P. Gärdenfors, P.71 depicts our perfectly uniform wheel about its axis, though the text does not indicate if this device actually rotates. If it does not then why represent it as though it might? He further states that the 'saturation' of a colour is measured from zero to maximum intensity, this dimension being 'isomorphic to an interval of the real line'.

What he must mean is 'isometric to the coaxial co-ordinate' if he means anything at all.

Regrettably on P.79 he defaults to Mill's concept of class and subset as being an 'indefinite multitude' for 'we can map out the class of possible colours on the colour spindle'. We have then what? How many possible colours are there? Are we to have a photo-fit system wherein the mind lines up all its array of known and recognisable colours and then chooses an object which appears to 'fit' the image?

He concludes that (P.83) there still remains a 'lot to learn about shape space' - or should that be space shape? One may conclude that using circles to demonstrate his ideas makes him unable to distinguish between the two ideas.

We should however if we want to 'contribute to the research program' look for 'conceptual spaces' since they engender 'the meanings of linguistic expressions'.

Whilst this is true it is not new.

As Chesterton remarks in 'On Reading' it is not usually the idea that is new 'but only the isolation of the idea'.

Man has long considered that space, whether internal or external, is a necessary prerequisite for the delineation and separation of objects. All existence is one great chain of being, the invisible links forming the mystery of life.

To isolate one link without due regard as to whether it is proper to do so and without due regard as to the undesirable perturbatory effects that this action might lead to is to act according to unilateral uniliteral principles which propagate a proliferation of self-justifying hypothetical propositions of extreme complexity and thus a sub-class of exegetist is spawned whose whole purpose is to confound and weary the learner into submission.

Truth resides in how things relate to one another, for things in themselves are neither true nor false, they are what they are - it is what is said of them, it is what is done to them that either fits a proper frame of reference or does not. Berkeley's panegyric extolling the virtues of Geometry as 'an excellent logic' quoted in 'The Analyst' 1734 and continues by stating that its 'postulata cannot be refused, nor the axioms denied'. Such commendations lift the spirit yet hopes of emendatory clarity appear dashed when we are asked to understand important metaphysical questions by the 'Method of Fluxions'. One may try but many may be wearied into submission by curves and tangents, line and circle.

Within the same reference book J. H. Lambert discusses the axioms of parallels in which the distinction between demonstration through and by language, that is, syntactic proof, is judged against 'the judgement of our eyes'; which is further expanded on page 545 in an essay by A. Cayley (1821-1895) in which J.S. Mill is stated as believing that the truths of mathematics 'in particular those of geometry, rest on experience'.

Our first quote juxtaposes the different conceptual processes by which one may access the material world yet it draws no distinction between that which is said and how 'that which is said' is to be interpreted.

Accordingly, are all the common propositions that are proposed in common linguistic terms necessarily and sufficiently self-evident merely because the language in which they are proposed is familiar and common to the receiver?

From the indefinite number of potential contributors towards a book upon the foundations of mathematics, whose main function is to demonstrate their fundamental propositions, and yet to find few within that choice who are able or willing to furnish us with clear and precise diagrammatic representations of their meaning (even if it were based upon O and —), and how these meanings relate to broader/narrower points of interest, seems somewhat odd.

Throughout Cayley's presidential address and within the two volumes devoted to the source of mathematics, both of which declare the self-evidentiary nature of hylomorphic geometric demonstrations of relationships, one could be justified in expecting more helpful and direct references as to the various methods of typographic interpretation founded upon our innate ability to judge propositions both absolute and relative, not just by the lineal concatenation of Linotypes being accessed through an arbitrarily conventionalised

contingent frame of reference which demands our vision to process the symbols from left to right, top to bottom - (this type of reading method being 'point specific' to a culture) - but rather by our common proclivity to note in an instant the relative spatial qualities engendered by the conjugation of proportionate analytic forms.

We are so accustomed to 'read' our beliefs that if any symbol appears out of kelter, for ◻ read □, then a sort of self-righteous natural indignation is aroused not through some stricture derived from a particular cultural doctrine concerning moral rectitude but through an honest public sense of ignominy that such a self-evident gaff could pass unnoticed, unheeded and unchecked by the assumed impeccable methodical ratiocinatory powers forming the basis of our universal intellectual capacities. It is upon such assumed innate capacities that Cayley's thoughts upon Bolzano's 'Paradoxes of the Infinite' (P.259) are to be judged.

But judged against which frame of reference?

This matter takes us back to the disputed 'facts' that so divided Locke and Berkeley. They were talking about the same conceptual object (the abstract general triangle), i.e. they were 'seeing' the proposition correctly yet they were 'perceiving' its meaning differently as they were interpreting what they saw within divers frames of reference into which they had framed the ideas which were to be conjugated.

Bolzano believes that there exists 'wholes and sets even in the absence of a being to think them'.

Indeed, one may ask, 'If there were not, where and how do we store our ideas?'

Thus do we have to access them one by one, as Mill would have us believe, forcing us to line up our thoughts and then checking every one from an 'indefinite multitude' to be sure that it is present. His followers, including the Mathematicians, added the proviso that not only were these multitudes 'indefinite' but they denied us the convenience of 'private predications' and empty classes by demanding the linear concatenation of inductively derived subjective predicates to classify the 'truth' conditions under which and by which propositions 'had/have meaning'. (Logical positivism). We should, one feels, reach a concord and reject Mill and his followers and have as many empty sets and frames of reference as we desire or need.

Like blank □'s or discs, we choose the frame of reference and we choose the symbolic identification recognition symbol/code - after all it is the individual who has to remember/access this information.

We access these □'s in quanta, not as indefinite singular ideas but as 'whole units' - these whole units being a concatenation of subjective interpretations, hypotheses, postulates and axioms, the proportion of each part to one another forming our relative beliefs and the divers parts to the whole our general beliefs. (See Euclid, first principles 121). A proposition can only have meaning if its frame of reference is known, both to us and to others within the universe of discourse.

As Leibniz points out, words only posses a relative meaning between each other within a given linear exposition. This meaning being a relative truth based upon the relativity of one point or word to another, thus the proposition must mean something because if its geometric linear structure is constructed in accordance with the rules of grammar belonging to that language in which it is proposed then it must also possess a correct logical structure. (See Geometrical Conversion: Euclid P.256).

The absolute relativity of word to proposition is, one may contend, not that of word to sentence for one proposition may be considered a single categorematic expression amounting in its reference to a single proposed meaning, for example 'The old man with the white beard who lives in the red house on windy hill' refers to one object - which is the subject of categorematic predication. The absolute relativity of a word or object word is the frame of reference in which these words are used. Accordingly the true meaning of a word/proposition is, usually, a combination of and the conjugation of an assumed (enthymematical) frame of reference, the particular frame of reference (universe of discourse), i.e. the assumed frame is the general area of discourse, the particular is the particular universe of discourse. These combine with the subjective framing of references/propositions in which the subject chooses words or phrases which can, by inference, transmit his meanings in a more refined form by using intonatory inflective/reflexive moods. Accordingly, why not, as Leibniz and others suggest have a universally accessible and recognisable set of symbols which form a key to all constantly used and constantly necessary, both unspoken and ostensive, relationships for whilst the speaker/writer may easily follow the intricacies of his own propositions, the reader/listener may well simply assume that they follow the same course of thought, or if unable to keep track, simply wander off the path, the point, of the discourse.

The appendices to this work suggest some possible ideas to this end. For example we could use a symbol to indicate an a priori analytic constant such as a □ by the symbol ∴▷.

The symbol itself ▷ refers by and through a suitable definition, that is why ▷ is linked to □ not that it has to be.

This ▷ simply refers to a universal one to one relationship which is a fundamental axiomatic proportional relationship of part to whole within a □ or in another frame of reference - other than Geometry.

The key to the symbols unlocks their meaning, not, as in most philosophies of language, where it is assumed that the symbols themselves have reference or meaning (remember processes cannot analyse themselves using the symbols used within the process itself).

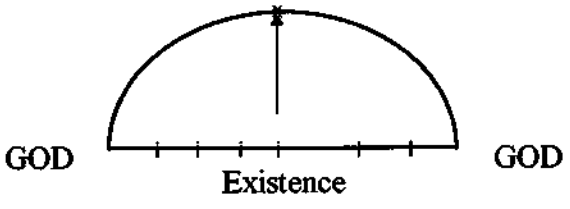
Bolzano's 'evident to all' propositions require this 'evident to all' to be a process in which the idea of a □, and that of all □'s are to be fixed within his frame of reference but he fails to make his frame of reference clear (for it should be self-evident to us) and as his conclusion is based upon these self-evident propositions then the conclusion should be 'evident to everyone'.

But it is how the conclusion is demonstrated that makes it self-evident and not what the conclusion contains.

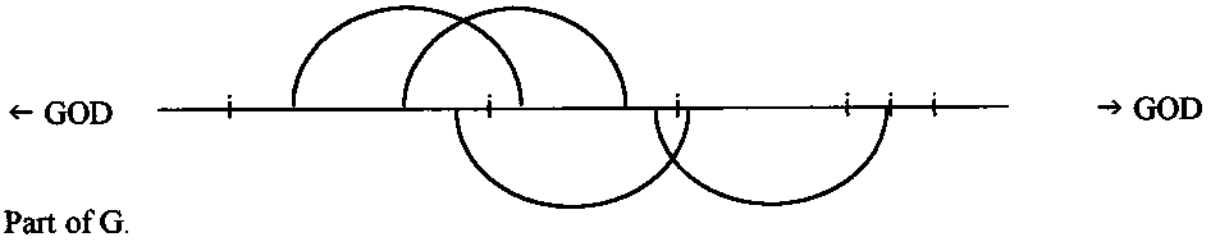
Cayley notes on P.547 that the older metaphysical writers did not concern themselves with co-ordinating abstract general precepts within imagined spaces or frames of reference. They were, he believes, entirely concerned with the construction of relationships and the description of fixed and commonly accepted notions. Exactly so, and thus Agonic logic.

Conclusion and Appendices

Frame G



How many windows or frames are there?
Leibniz states that 'Monads just have no windows'.
If they had, how many would they need?
Descartes would probably state two, one for the body and one for the soul.
Leibniz, to avoid the total predestination of Man, and thus to avoid his own principles of sufficient reasons, appears to require three.
The first and absolute one is, as above, an individual's one to one relationship with God.
We look to the heavens and see God's works yet he cannot be seen directly, one has to look through other i's, individuals, to attempt to come closer to the reality of God.

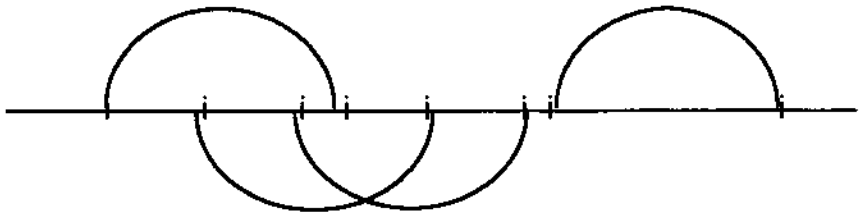


Part of G.

Relative relationships : Part of creation → Part.

Leibniz's 'second' window does not differentiate between spiritual relationships, between individuals and between the individual and their environment.
One may contend however that when Leibniz states soul he means sensitive entelechies whereas 'windowless' entelechies are monads.

Yet Leibniz could have arranged matters thus:-



Spiritual relationships
between individuals.

in which the spiritual freedom which we enjoy to either accept God as being our whole frame of reference within our individual existence or to reject him and replace him by science or the self, is to apply also to our 'other' method of 'seeing' God, through his works, and thus an interrelationship between spirits is envisaged.

His third 'window' would be :-

- the individual's relationship to his environment - i.e. a non-spiritual perceptual relationship, a one to one private intercourse between Man and nature.

This formal discourse ends in several appendices in which some of the ideas proposed are furthered both by illustration of apodictic proportions and abstract hypothetical reasonings.

Glossary: Terms and Symbols

$\lessdot$: Analytic.
$\gtrdot$: Synthetic.

The synthesis of line,— , gives □. However as a concept □ is an analytic whole, that is, the synthesis of its elementary parts yields an indivisible whole concept - squareness.
The line, — , moves from one frame of reference which has as its subject 'lines' and into a frame of reference that has as its subject 'squares'.
One may ask: 'At what stage does line , — , become shape, □ ?
By infinitesimal degrees? Imperceptibly?
One may contend that it all depends on how we choose what and how to perceive.
We are free to perceive what we see.
We are not free to choose what we see or hear.
We are predetermined to see and hear that which is contingent to our individual environment.

$\lessdot$: Analytic Object: An elementary whole and complete is itself part of a wider frame of reference, the essential attributes of which cannot be altered without that part becoming a different object.
It would then become part of another frame of reference.
A □ is an analytic object both as a general and universal analytic concept □ and as a particular specific and general object □.

$\gtrdot$: Synthetic Object: An object that has the essential attributes of an analytic object in a particularised form but not necessarily possessing these same attributes in a general universal form.
Thus a general universal form: △ and a particular◺ form of the universal.

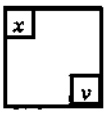
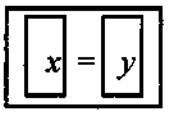
Common Notions:

1) Things which are equal to the same thing are also equal to one another.

The following explication ignores Leibniz's lineal priority thesis and assesses this concept agonically.

$\square = x \,.\, \square = y. \supset \sim(x = y).$
i.e. $x = \square = y \supset x = y.$

But in which particular respect does $x = y$ and to what degree?
Is the agreement a purely linear one?

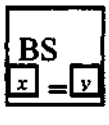
If  $\supset x = y$ &  $\supset x = y.$

but if $\square = x$  $= y \supset \sim x = y.$

It seems to depend upon which particular frame of reference x, y, $\square$,  are judged in that is chosen to give the answer, i.e. the answer in itself is not self-evident.

What 'rule' is being employed when one agrees that
$\square = x \ \square = y \supset (x = y)$?

The frame of reference may have been 'black squares'.

$\therefore$  $\supset x = y.$

Objects e.g. squares, which are equal in one particular to another square are equal to each other.
They cannot be equal to one another in all particulars.
Leibniz states this concept in that objects to be discernible must differ in at least one particular disregarding their numbering frame of reference.

The frame of reference chosen particularises, i.e. extensionalises their existential properties (i.e. essential analytic properties) by describing that particular which is to be the absolute one by which equality will be judged.

Leibniz states this when he declares 'only in the case of incomplete and abstract notions' does perfect similarity hold good and also that perfect harmony is possible if one takes just one aspect into consideration 'as when we consider shapes only and neglect the matter which has the shape'.

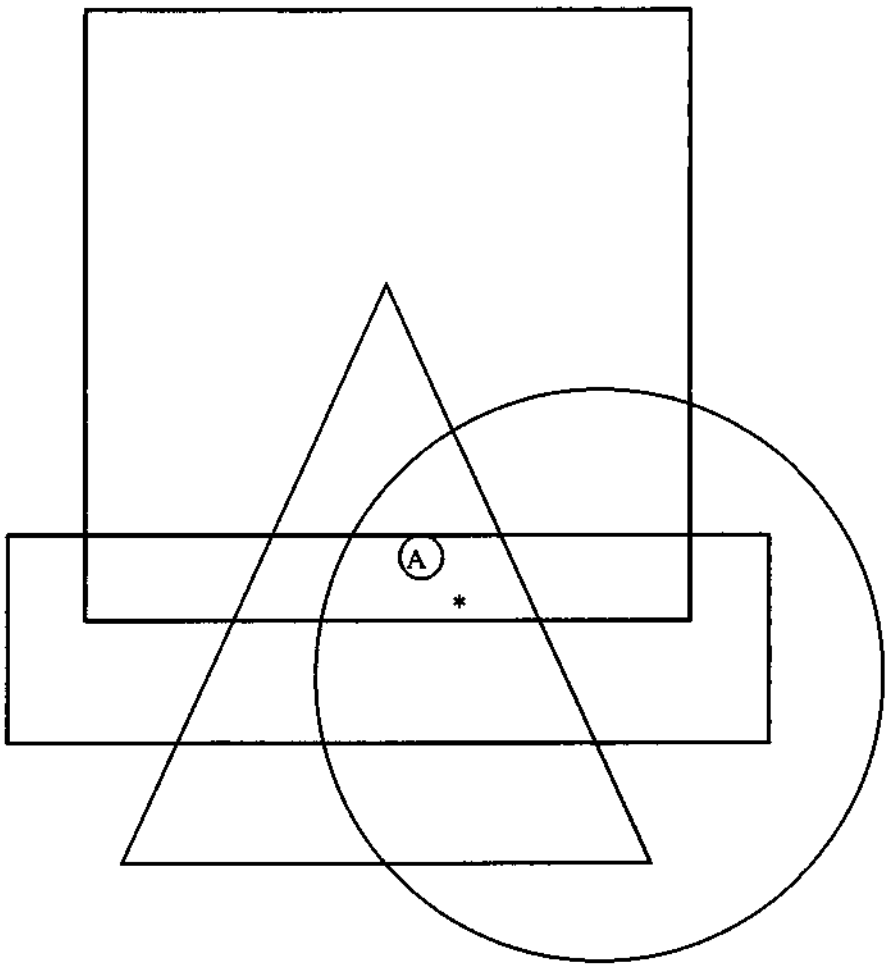
The particularised particular is of course an idealised particular.
Two yellow squares [Y] [Y] may equal another yellow square [Y], in yellowness alone, yet [Ay] the singular frame by which [∀y] & [∀y] are measured against need not be a particular yellow nor do ∀y, ∀y have to be a particular yellow, they all just need to be <u>any</u> yellow.

However as existential hylomorphic entities they are required to be as yellow as the yellow of the frame of reference into which they will be placed in order to be judged.

This main frame may be classified as anything from vaguely yellow right up to as yellow as humanly possible.

Needless to say as a subjective general abstract idea <u>any</u> yellow would do for as stated when we conjugate ideas we do not stop and check this yellow for yellowness for we cannot do so without some depictive frame of reference which for colour, must lie 'outside' the self, in some material object.

Possible isogonic interpretation of causes and their effects - or of effects which produce causes.



The basic idea is to have the conjugation of four properties or inferences conjugated with a square to form a four sided conclusion which of necessity is a 'complexion' of all four inferences.

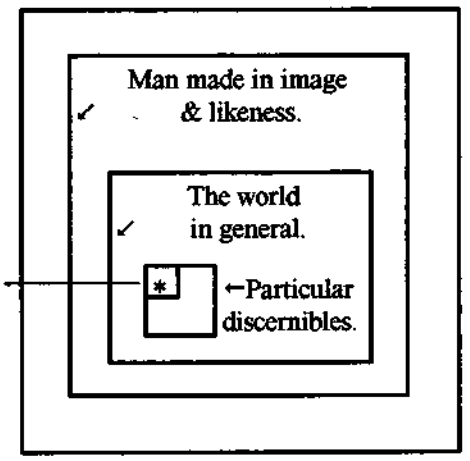
Thus:-  v  or using square and triangle  v 

Ⓐ = concave or convex left or right subtension

The result A is the result of the conjugation and for Leibniz it is the shape of the conclusion - whether left or right handed (when and if translated in his linear form) that decides whether a proper, i.e. true conclusion may be drawn from the original propositions.

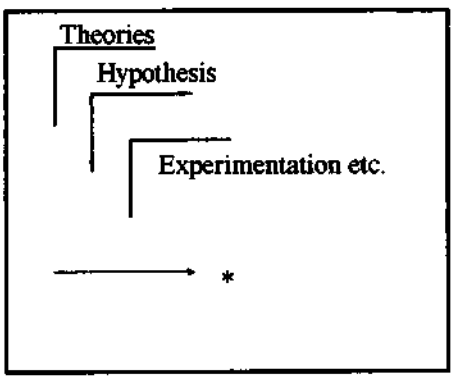
Several absolute frames of reference may be used by an individual. Again no overriding meaning may be given to any particular one.

It is only if an 'issue' is made out of or a question asked about a particular state of affairs that one is generally required to pause and think and observe or concentrate upon one particular idea or a particular conjunction of ideas.



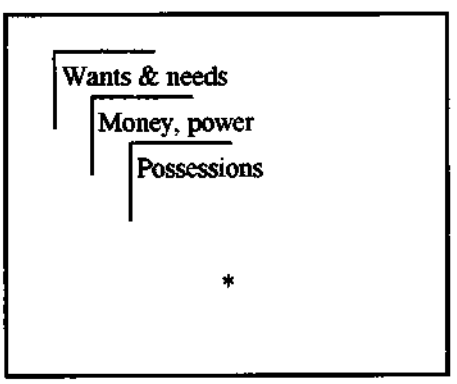
Main and absolute frame for Leibniz was God as the perfect union of Beauty, Love and Goodness.

* Individual looks out toward God & eternity.



THE SCIENCES
PHYSICS →
MAIN FRAME

The scientist looks inwards as to the causes of appearances.



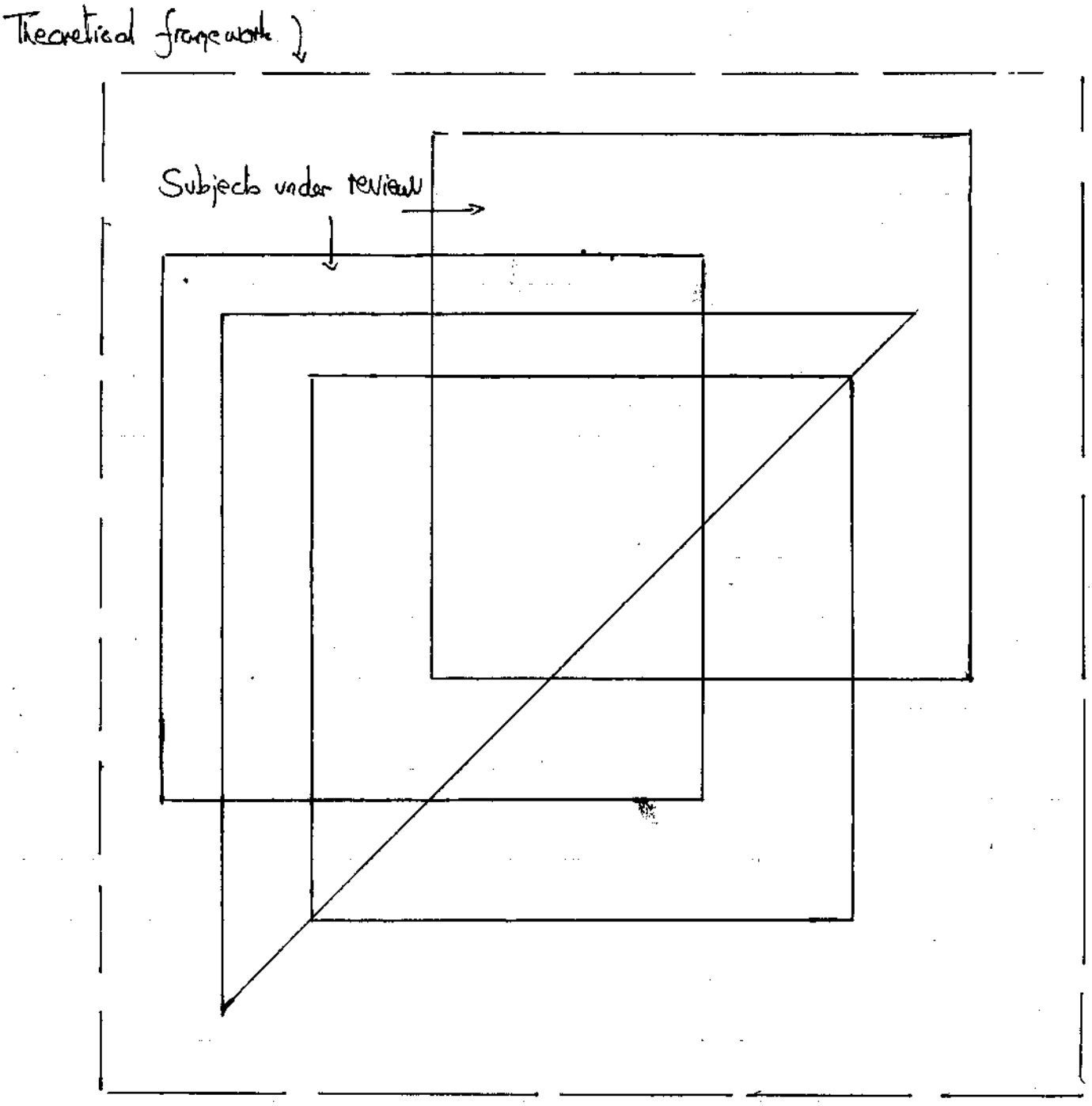
The Self → as Main frame of reference.

Individualism feeding upon its own perception of self as dominant.

Points of possible interest.

METHOD of CONJUGATING FOUR FIGURES DIRECTLY

IT IS TAKEN AS AXIOMATIC THAT THIS CONJUGATION TAKES PLACE WITHIN A WIDER FRAME of REFERENCE: THAT IS THIS PIECE of GRAPH PAPER OR A SPECIFIC DELINEATED & ANNOTATED FRAME / VIEWPOINT

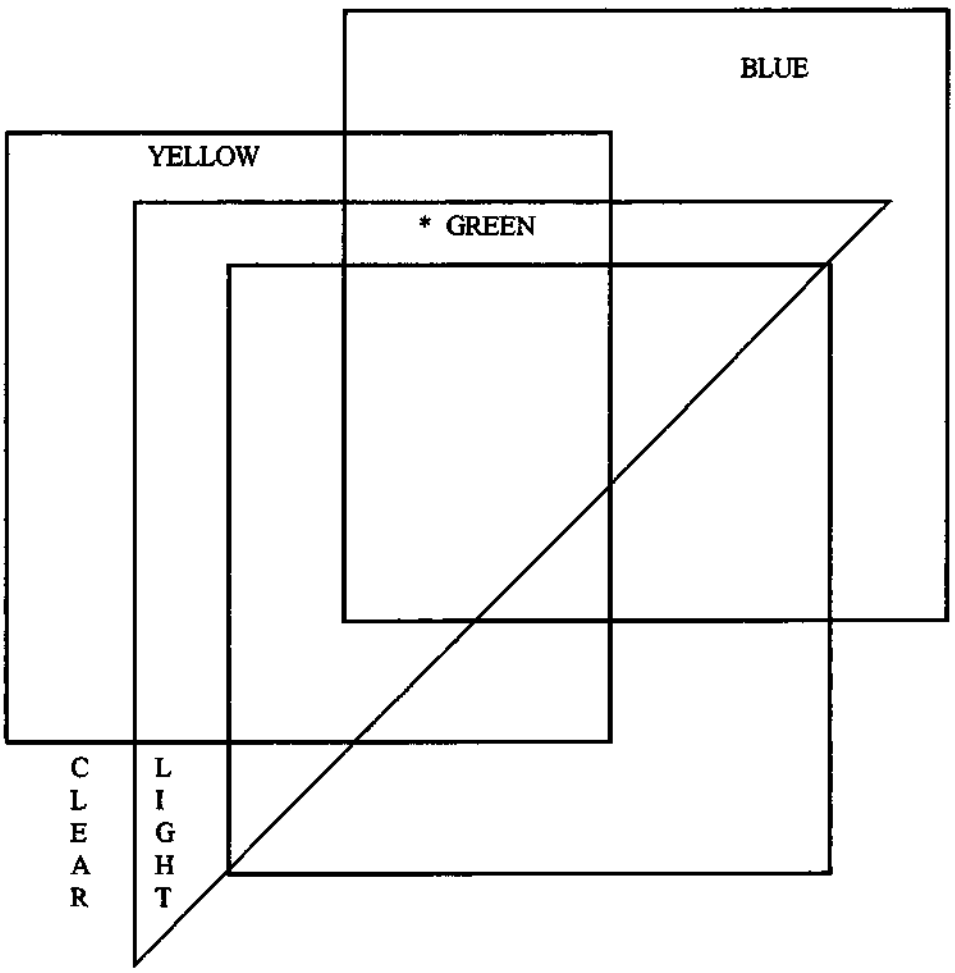


THE FRAME MAY BE SAID TO BE THE THEORETICAL FRAMEWORK IN WHICH THE PROPOSITIONS of A SPECIFIC DISCIPLINE ARE VIEWED & ASSESSED.

HENY. (A5)

Possible method to demonstrate the difference between discernible and indiscernibles.

The need for the intellect to produce a complete mapping system.
(It 'sees' in quanta of colour - i.e. it either discerns or does not).



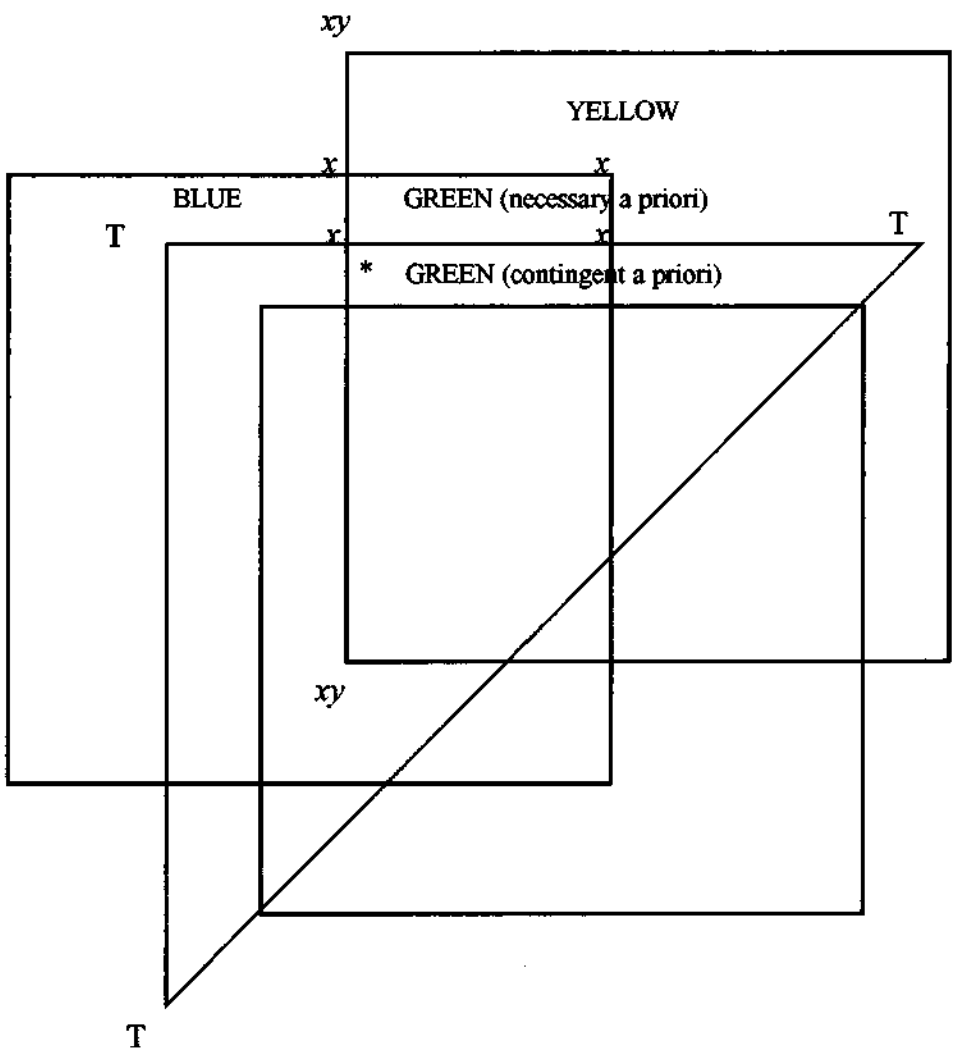
The importance of having a conceptual space * into which the concept 'Green' may be placed. If this space * were absent some 'colour' must be seen - for vision does not permit the vacuum of colour or a visual void.

The Proposition is that there are

'No infinite possibilities in the conjugation of perceptual a priori analytic ideas'.

x^2 is green.
*Green. This colour is contingent upon frame of reference T.
T might equal the refractive spectrum or T might equal the reflective spectrum.

Thus *Green is contingent upon frame of reference T.



When Blue sq. and Yellow sq. conjugate to form x^2 Green, this for colour vision (normal) is an a priori necessity.

Line x - x, may be taken as analogous to the black lines which divide the electromagnetic spectrum.

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(90) & on. 'But when the tables or categories of our art....'

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from Leibniz, Logical Papers, see B.1.

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N. Rescher, P.58, Section 7, 'Monads just have no windows through which something can enter into or depart from them'.

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Pages 26 & 27. The necessary hylomorphic properties needed to exist.

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The need for a particular frame of reference in which to conjugate ideas.

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P. 170, Notes in Berkeley 'Philosophical Works', M.R. Ayres, Dent, 1975.

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Page 3, Sections 1,2 and 3 Of the Metaphysics.

Leibniz's logical papers, Sect. XIII in introduction.
(as in B1).

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*Leibniz's example is of one machine developing 'twice' the power of another - but this is only self-evident under and relative to very strict conditions of trials (and errors).

All references are to be found in Leibniz's logical papers, as per B1.

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