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Reality, Knowledge and Excellence

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1. Introduction

This essay provides a sketch of different definitions of reality. It examines how these definitions affect concepts of knowledge of the physical world and human excellence. This leads to a critique of contemporary elitism and proposals for a fresh approach to excellence.

2. The World of Ideas and Reality

Plato associates reality with the world of ideas. In the case of an object such as a temple he would hold that it is the universal idea of a temple that is real/true and that actual, individual temples merely constitute imperfect copies which are less real/true than the archetypal idea.

At a rhetorical level knowledge of this world of ideas is visual, but on closer examination it is so only in a restricted sense. Persons may claim to be able to visualize the idea of a temple in their heads, but any attempt to make an actual drawing or other visual representation of such a temple would involve a particular structure rather than a

universal idea. Hence if the universal idea can be mentally pictured it cannot be physically drawn. No objective model or standard is therefore possible.

Plato might agree that the Parthenon on the acropolis of Athens offers a good example of a temple. Nonetheless, because this example is ultimately only an imperfect copy of the real, details concerning this structure fall outside the scope of Plato's concept of knowledge concerning temples.

In the absence of a physical drawing or a concrete example that could serve as a visual standard, Plato is constrained to fall back on verbal formulations. At best he can hope, through discussion with others in universal terms, to arrive at a verbal consensus concerning the idea. Thus knowledge of the ideas inevitably becomes expressed verbally not visually and the encyclopaedia of Platonic knowledge becomes the dialogue.

Given that reality is in the world of ideas, all that occurs in the physical world is ultimately outside the scope of both reality and knowledge. All human effort in producing new temples, all experience is ultimately of no interest. All particular examples of temples are insignificant.

The reality of the world of ideas is held to be eternally true. The idea of a temple must therefore remain static. Within Plato' framework there can be no development of the idea of a temple in the course of time. A history of temples is thus precluded.

By definition the idea of a temple concerns the temple on its own, independent of any context. Whether a temple is built on a hill or in a valley, whether it dominates its setting or is subordinated to a minor role, whether it is large or small, all these are questions which do not fit within the Platonic knowledge of temples. A geography of temples is thus also precluded.

While making claim to knowledge about the eternal ideas of objects such as a temple, Plato cannot hope to explain why the temples as a context for worship should have developed at a given time or place in history or why it was subsequently replaced by other constructions such as the church or mosque. Indeed his static concept of knowledge of temples precludes any dynamic knowledge of the function of temples and without this the story of their changing importance escapes him. In short, Plato's approach to reality and knowledge may theoretically promise everything, but in practical terms it provides very little. In focussing on a theoretical world, it ignores the world of practice. It is a deductive framework capable of being discussed but incapable of being tested or verified. Hence it is not surprising that Plato has had a constant stream of critics through the ages (from Aristotle through to Popper).

3. Creatural Realism

The Judaeo-Christian tradition with its concept of creation out of nothing (*creatio ex nihilo)* introduced a fundamentally different approach to reality (Auerbach, Foss, Polka).

Created by God the physical world was no longer an imperfect copy of a world of ideas. It could now be considered as fully real, as could the man-made objects therein.

Neither mental picturing nor verbal images alone could hope to provide an accurate record of this physical reality. Actual visual images in terms of drawings (ground-plans, elevations etc.), pictures, photographs, models-- possibly complemented by verbal images--, constituted the medium of knowledge. As a result any claim concerning knowledge could now be objective.

Given creatural realism the abstract idea of a temple as such no longer contitutes an essential aspect of knowledge. Hence discussions about universal characteristics ultimately become secondary. Of primary importance now is the particular example of a temple and its individual characteristics. The Parthenon in Athens is no longer an imperfect copy of the real: it is a real example worthy of detailed study. The scale of this particular temple, the measurements of its various parts, the type of marble from which it is made, the sculptures it contains, are all aspects that now fall within the scope of knowledge.

This applies not only to the temple at Athens. It applies equally to the temple at Segesta, Agrigentum, Paestum, Didyma and Uzuncaburc. All experience is now of interest. Each further particular example of a temple introduces a new variation of reality and is, therefore, significant.

Since experience and particular examples are assigned an essential role, the concept of a temple cannot remain static. Temples change with time. When a given temple was built therefore becomes important. A need for a history of temples thus follows directly from a belief in creatural realism.

Moreover, each particular example cannot be understood in isolation: it involves specific location, setting or context. Whether a temple is situated in a high or a low place, a dominant or a subordinate place now becomes important. Hence a belief in creatural realism also implies a geography of temples.

Knowledge is now potentially inductive, involving a visual record of all particular examples and a comparison/contrast of their individual characteristics, taking into account both the dimensions of time (history) and space (geography). In Plato's framework knowledge had been closed, finite. Given creatural realism, knowledge is open and potentially infinite; no longer a static given, but a dynamic, cumulative process.

4. Idealized Creatural Realism

Notwithstanding fundamental differences in the Platonic and Judaeo-Christian approaches to knowledge, there have been continuous attempts to synthesize and reconcile them (Augustine, Plotinus, Aquinas, Scotus, Whitehead). These attempts have been both philosophical and practical, conscious and unconscious.

At the unconscious level these efforts have had dramatic consequences for the approach to and organization of knowledge. With respect to temples, for example, there has been a tendency to accept the reality of individual examples, concentrating, however, on outstanding ones, treating these as corporeal manifestations of the ideal. Hence the importance of an example such as the Parthenon in Athens becomes emphasized beyond all proportion. This example often functions as an epitome of temples at Selinunte, Miletus, Ephesus or Aegina which are ignored. Indeed variations which occur in other temples in the course of time are overlooked. The history of temples becomes unimportant. Moreover, that it is the situated on a given acropolis, that it has a specific setting also tends to be overlooked. Context is ignored. The geography of this and other temples becomes unimportant.

In the case of the Parthenon, the problem of missing context goes deeper. Lord Elgin removed many of its friezes and deposited them in the British Museum in London. Others were removed to the Acropolis Museum. Individual parts of the Parthenon now function as characteristic examples of freizes, metopes etc. As a result a conception of the Parthenon as a whole is difficult, if not impossible. An individual standing before the British Museum has trouble in imagining the temple for which they were built, let along the actual setting of the temple in question. On the other hand, the person standing in front of the Parthenon itself has equally great trouble in imagining just how this temple would look if the original friezes were still in place.

That which applies to the Parthenon in particular applies to archaeological sites and museums generally. The sites confront the viewer with contexts devoid of individual parts and objects. The museums confront the viewer with individual parts and objects devoid of context. Nor does the process of compartmentalization of knowledge stop here: visual information about temples is stored in art galleries or photographic archives, while verbal information about the same temples is usually stored in books within libraries. The knowledge that exists about a given temple or any other object thus comes to be stored in so many different places that only the rarest persons can hope to have the know how to gain access to all these sources and develop a full catalogue of the knowledge concerning it. Most persons are doomed to having access only to isolated books or pictures which convey the knowledge in such abstract ways that one has the greatest difficulty in relating this to physical objects in space and time. Temples become reduced to lists of statistics about lengths of columns and sizes of stylobates, or learned patinage about the number of centimeters by which this column's entasis is at variance with another column in another country-- which one may well never have a chance of seeing. As a result the sensuous experience of seeing an actual temple is reduced to an intellectual game with figures and words. Knowledge which involves lively objects is reduced to lifeless facts. The connections between the sensuous column and the dry statistics concerning its entasis cannot be made with the statistics alone. Thus what was potentially fascinating knowledge is reduced to boring, bookish knowledge.

In classifying the various aspects of knowledge about temples in different places, thereby the sensuous dimensions of knowledge are lost. Knowledge may remain technically or intellectually valid, but it is doomed to unnecessary sterility.

5. Materialist Creatural Realism

Another variant of creatural realism concentrates on certain temporal and spatial dimensions of objects and employs these to emphasize the development of given key concepts. Here history and geography are assigned a causal role, such that all progress is held to be determined by these dimensions.

In this approach the concept of history itself is transformed, however. No longer a simple temporal record, history now becomes a story of abstract intellectual concepts in turn: freedom, liberty, equality etc. Concrete objects are subordinated to these abstract concepts. Hence a single fortress such as the Bastille may acquire enormous significance for the history of liberty. In such a case, the date when the Bastille was stormed may become crucial, but the date when it was built may well be forgotten. That the Bastille was situated in Paris may be emphasized, precisely on what street it was located, what building surrounded it, whether it was on level ground or on a hill are all questions which may well be ignored. Many details of history and geography fall outside the scope of this approach to knowledge.

For similar reasons, large questions of context, such as the position of a Bastille in the history of fortresses, tends to fall outside the scope of this approach. Indeed a history of fortresses, temples or other concrete objects on the own is unthinkable. A conceptual teleology subordinates everything in ideas, ideologizes everything.

Behind a rhetoric of complete objectivity which considers all knowledge of all classes and all levels, this approach thus screens out most knowledge, focussing only on those objects which provide evidence for pertinent abstract concepts. With this approach, a record of all existing fortresses, temples and other objects becomes unnecessary. Knowledge cannot be cumulative in its fullest sense. Examples are not collected or studied for their own sake. Examples cannot be infinite. They must remain restricted if they are to illustrate efficiently a priori arguments.

6. The World of Ideas and The World of Humans

If the world of ideas constitutes the prime reality, then reality is limited to being theoretical, or spiritual. Within this framework a person is conceived as being a mixture of spiritual and material aspects and, for this reason, at best an imperfect copy of the real. A person is therefore of interest to the extent that they are not materially human rather than for their qualities of humanity as such. Analysis of persons tends to be in terms of the extent to which they reflect abstract ideals: beauty, the good etc. This analysis tends to be largely static. Either one is beautiful or one is not. Development of character is a phenomenon not built into the Platonic conception. Faults, failings, human weakness and

error are either ignored or damned. That these dimensions of the human being could play a positive role in the development of personality is alien to the Platonic approach. Persons become acceptable to the extent that they possess divine qualities. That persons are actually human is an embarrassment and that most persons are all too human means that they must ultimately be excluded from consideration. Everyman may get a mention but he never plays a significant role on the Platonic stage: the scene is set for godlike persons but hardly for human beings. Spiritual and material remain in opposition: a notion of the whole man/woman who holds these aspects in balance is not possible within Plato's framework.

7. Creatural Realism and Human Beings

Since God created man/woman in His own image and likeness an opposition between spiritual and material dimensions disappears. Body and soul are now integrally related: wholeness is a norm.

If man/woman can be created out of nothing, change, development is also a norm. Far from being a static given the individual is a dynamic phenomenon. The dramatic implications of these basic principles have been studied in some detail (Auerbach, Foss, Polka).

8. Idealized Creatural Realism and Elitism

Idealized persons of exceptional beauty, intelligence, physical strength etc. are made the focus of attention. The average person lacking these exceptional qualities is given little attention or ignored altogether. The qualities and talents of these idealized persons serve to set them apart from their fellow men. The extraordinary gifts of individuals serve primarily to exclude them and separate them from those with ordinary gifts. Indeed extraordinary talents are seen merely as means of gaining supremacy over those with ordinary talents. Supremacy ensures one financial and other means by which one can do as one pleases, concentrating on one's own advantage and ignoring others. A metaphorical ladder of success arises with a Darwinian edge of survival of the fittest.

The constant attention in mass media to idealized persons, even when everyday matters such as the advertisement of cigarettes are in question, makes the average man, everyman, feel excessively inadequate. Feeling hopelessly inferior he develops an inverted superiority complex. This seems to confirm the exclusive instincts of the few and the up-down class perception of humanity crystallizes to the point that generalizations become plausible and even convincing. The human aspects all persons have in common go by the board as a result. So too do the individual qualities of each individual. Personal differences thus explode into impersonal conficts which are the heritage of humanity as a whole. In self-defense the talented begin to retreat. In the eyes of the average man this amounts to a confession of guilt. The few now become scapegoats for all that is bad. An opposition between the bad few and the many good develops and with it the rhetoric that the category of the few should be destroyed

altogether. Forgetting logic and practicalities of life the average man finds himself calling for, demanding, even fighting for an abolition of all that is extraordinary in his (fellow) men. Elitism now appears as a root of all evil.

9. Materialist Elitism

An alternative form of elitism works more subtly: Extraordinary talents are encouraged, fostered, rewarded but they are not publicized. Instead, attention is focussed on the ordinary. The importance of the average man, everyman, is emphasized. Universal equality is rhetorically asserted. The average man is encouraged to be self-satisfied about his mediocrity and is rhetorically assured that nothing better than average ought to exist.

This rhetoric is complemented by a particular interpretation of history analysed earlier (cf.5 above), whereby all reality and truth are reduced to certain temporal and spatial factors, while all causality is reduced to material objects/events. Within this deterministic framework the spiritual dimension is denied entirely as is the value of all independent personal effort.

Such an explanation could well lead to utter despair were it not for one brilliant twist. The blind, materialistic course of history is perceived to have an inevitable happy end in which life will be ideal for everyman. But although supposedly deterministic, the goal is not held to be a matter of course: it must be worked for, struggled for, not individually but collectively. For the average man the promise of an abstract paradise now takes on a material form on earth. Unlike other ideals which include the extra-ordinary but exclude the ordinary man, this ideal has the attraction of including him and the particular attraction of ensuring him that he has an important role to play in achieving this goal.

To lend credibility to everyman's hopes that the promised ideal is actually drawing nearer, news, and information generally, is filtered in such a way that progress appears to be confirmed at every step. A rhetoric evolves which assures everyman that his earthly paradise is just around the corner. As an added incentive, everyman is given select information about those who are preventing the earthly paradise being established here and now. A class of haves in far away countries are identified as those responsible for everyman remaining a have-not. With both the goal in sight and the enemy clearly defined everyman becomes blinded by his ideals of equality and progress from looking into the matter more closely.

In this form of elitism extraordinary talent forms a criterion for entry. It takes more than great talent, however, to prevent everyman from uncovering the fundamental lie on which this system is based, namely, that the few who are in fact rhetorically helping everyman change his pitiable state, are precisely those who are in fact exploiting him and determined, moreover, to keep him there. This elite has what the have nots are lacking but hides the fact by laying the blame elsewhere. To maintain its invisible quality and to ensure its continuation, this elite takes at least four further steps. First, everyman is taught to think uncritically: i.e., not to doubt, to consider alternatives, develop a creative

scepticism or to ask penetrating questions which might be embarrassing. Secondly, everyman's access to knowledge is severely restricted such that, even if he were to doubt a point of fact or some other claim, there would be no way in which he could check the information personally to arrive at an independent point of view. Thirdly, since materialist determinism can only remain convincing as long as there is no evidence to the contrary, spiritual realities must be eliminated wherever possible, or at least denied.

Religion, where it is not suppressed must be discouraged. Culture may be superficially praised in general, but support for particular arts will vary considerably. Ballet, which can be passed as a dramatic display of material bodies, will receive heavy support. The playing of instruments, theoretically nothing more than the technical mastery of metal objects, can also be heavily supported. On the other hand, painting, except where it involves obvious material objects, is much more suspect, Musical composition, literature and poetry, where the spiritual dimensions regularly dominate over material ones are dangerous, and therefore to be restricted as much as possible. Thus, while everyman is assured that he may have his culture, the expressions of culture are nonetheless closely controlled. Fourthly, potential military force rises into conspicuous prominence. Guns and other instruments appear on the streets to inspire an unspoken insecurity into everyman and remove any thoughts of protest.

Hence once this form of elite has established itself the avenues of open knowledge and free expression become slowly, but systematically blocked. Technical inventions and even advances in isolated departments of knowledge may still be possible. But knowledge as a process of liberating the spirit or as a means of exploring creatively the potentials of humanity is impossible in such a context. Hence, even if such an elite may defend itself from present criticism, this cannot lessen the verdict of future generations.

10. Knowledge and Excellence Re-defined

Our knowledge about any particular object, such as a temple is, at present scattered, among a variety of verbal and visual media and to be found in a number of institutions ranging from the actual archaeological site, to museums, galleries, archives and libraries.

In the case of visual information alone this knowledge exists in various scales. With regard to the Parthenon of Athens, for example, a map showing Athens in the context of other European and Middle Eastern cities of the fifth century B.C. might well be on a scale of 1:5,000,000. A topographical map of Athens may be on a scale of 1:50,000. An aerial photograph of the Parthenon, an artist's conception of temple what the Parthenon looked like, a ground-plane of the temple or a photograph of the temple as it looks today will, in turn, all have different scales. A plaster cast of a given sculpture from the Parthenon may well be on a scale of 1:1, while an archaeologist's sample of the building materials will almost inevitably involve microscopic scales. All this would pose no problems were it not for the tendency to store each scale of knowledge by different means and in different places, without cross-references, such that there is effectively no place where all the modes and scales of knowledge about the Parthenon, or other temples

is coordinated. Such a systematic coordination of knowledge verbal and visual will be a first prerequisite for any future synthesis of knowledge.

In addition to a systematic arrangement of all knowledge concerning a given temple such as the Parthenon, there will need to be a systematic arrangement of all the knowledge concerning like structures and a means of cross-referencing this information both spatially and temporally. Hence one could theoretically not only request to see where the Parthenon is on a map, but also where all the other Greek temples are, a question which could then be refined within temporal coordinates to reveal which temples were built where in the seventh, sixth or fifth centuries respectively.

Similarly a systematic arrangement of all knowledge concerning parts of temples will be needed, such that a figure on a Parthenon freize can be compared/contrasted with figures on other Greek temple friezes, and ultimately with all other Greek sculpted figures.

This systematic arrangement of knowledge would require a computer in conjunction with a television-type screen. Were it arranged in book form a particular figure could normally appear in but one specific place in a series of figures. In a computer it can theoretically be so programmed that a single image recurs in a variety of specific places within different series of figures. For example, a statue of Diana might appear once in connection with the temple of Ephesus; a second time in a list of illustrations of Diana; a third time in a list of personifications of Mother Earth/Nature etc.

This systematic relation of knowledge of given objects to knowledge of the contexts in which they arise ought to lead to a re-definition of truth and reality itself. For the true temple can now no longer be held to be either some abstract ideal structure, or some ideologically significant temple. The truth of a temple will now be found to lie in its particular play with and combination of elements in a given place and time. Hence the truth and reality of the Parthenon is bound up with its having been constructed in the Athenian acropolis in the fifth century B.C. and the reality of the temple of Segesta is bound up with its having been built on a hill in Northern Sicily in the sixth century B.C. The abstract idea of a temple is no longer the focus of truth or manifests itself in concrete form at a particular place and time. This makes the coordination of different scales of knowledge so important.

What happens in a given time and place is fully determined, some would claim. Theoretically an individual in Constantinople in the first half of the sixth century wishing to construct a cathedral is restricted to local builders, building materials, methods and styles. In practice, however, if the individual in question is Justinian and he decides to build Hagia Sophia he can persuade Diodorus of Miletus who has been directing the Platonic Acaddemy of Athens to come to work with Athemius of Tralles. Moreover, he can import marble and other materials from places stretching from Egypt to the Pyrenees and draw on building methods and styles from all over the Roman empire. A related phenomenon can be observed in the construction of the Cappella Palatina in Palermo, the Alcazares Reales in Seville or the monastery of Las Huelgas in Burgos.

Such examples serve to throw light on a vital principle. The number of builders, of building materials, methods of styles is not a static given. This number can be increased, different building materials, methods and styles need not compete merely with a view to excluding one another. They are all factors which can be played with to include one another, and the more complex and subtle (is) this play of factors, the more subtly complex are the potential results.

In this context the historical knowledge of building materials, methods and styles takes on a new significance. The past is no longer merely a record of the given, but rather a repository of the possible. And if all is a play with various elements, then the cultural object of the past becomes one in which this combination or play of elements in a given time and place are particularly felicitous. These elements, if all recorded and then recombined in fresh ways thus offer an important source for new cultural objects. The past contains ingredients for the future.

Given this approach the criteria for excellence change also. Given the presence of examples, any claim can be tested by means of comparison and contrast. If claims are made about a temple being exceptionally large or particularly graceful, one can run through the list of all temples and see how this particular example compares with others. Excellence, that which stands out above the ordinary, is no longer based on deductive assumptions either about an abstract ideal or an ideological goal, but rather on inductive examples.

The new encyclopaedia of knowledge, besides offering readier access to the myriad individual details, will also permit new surveys of general trends in human culture. With the aid of maps and pictures it will, for example, be possible to trace the development of the Greek temples as an institution of worship over time. The spread of this institution throughout the shores of the Mediterranean and to the limits of the Greek world can be followed, as can its demise as a basic place of worship, The architectural forms connected with religion (temple, synagogue, church, mosque), contest (hippodrome, colisseum), play (theatre) and other basic aspects of human culture can be examined and their evolution studied. One can trace, moreover, whether a civilization concentrated its building energies with edifices connected with the life after death of their key individuals (tombs, pyramids), contest and play in the present life (colisseums and theatres), or future aspects of the present life (banks and insurance buildings).

The encyclopaedia will offer insight not only into changing values, but also into conflicting values. For example, with respect to what happened in Constantinople 1453, what the Italians and the West as a whole described as the fall of Constantinople, appears as a triumphal capture when described by Turkish sources. If all sources describing events/objects are translated and available for comparison, then the extent to which religious and nationalistic convictions can colour the actual recording process will come into focus.

Hence, besides being a record of individual objects of culture, such an encyclopaedia of knowledge will offer a key to exploring their underlying cultural values. It will bring to

light the way in which detailed knowledge ultimately points beyond the details to elusive questions of value; beyond the objective contents of knowledge, to its subjective containers; beyond the man-made objects and back to man himself. Thus, such an encyclopaedia will again remind us that knowledge is ultimately an active, dynamic agent and not just a passive instrument. A contemporary trend to perceive knowledge purely as a passive process, as a problem-solving tool which simply responds to exterior demands, will, thereby, be countered. And the focus of attention will again shift from things outside ourselves, to the source of all these exterior products, which lies within us. The great encyclopaedia of objective facts will thus serve as a tool for the greater challenge: understanding the subjective dimensions of man. Knowledge of temples will be the prelude to question why humans build temples during a few centuries of their long existence on a planet and then choose another form of expression for worship. Indeed why does man emphasize the religous dimensions of his being at one time and place and yet entirely deny these dimensions in another culture? What constitutes the phenomenon of man? How can one decide that constitutes excellence in man? What are the possibilities of man?

The encyclopaedia of knowledge will again prove an invaluable starting point for this study of man. As in the case of man-made objects it will provide a catalogue of examples wherein are illustrated the possibilities of the condition human. Some may consider such a catalogue as nothing more than a blend between a *Dictionary of National Biography* and a super *Guiness' Book of Records* and yet it will offer considerably more than either of these.

For example, the life of an outstanding individual such as Erasmus would not be reduced to a few paragraphs of notes concerning birth, publications and death. A complete record of visual images of the man, including the portraits by Holbein, would enable one to picture him. Visual information of the place in which he was born, the various places where he lived and worked, as well as where he died, chronologically arranged, would accompany the verbal information in his *curriculum vitae*. Moreover, to the extent that the source materials permit, visual information in the form of maps could help one to trace his various journeys in detail. Hence, if one knew that he was travelling on his way to Venice in a given year, one could theoretically follow his journey day by day, city by city on a map.

In addition to detailed records of individual figures, a coordinated encyclopaedia of knowledge would open the way for larger questions. The verbal records of authors such as Pliny or Diogenes Laertius are basic sources for our knowledge of distinguished person in Antiquity. The statistics of these records could be studied: what percentage of the individuals described by Pliny are politicians, what percentage are military men, artists, philosophers, musicians etc.? How do these compare, in turn, with the percentages found in a mediaeval or, for that matter, a modern equivalent? If there are marked trends in biography, what can these tell us about trends in cultural history?

At the same time any number of possible correlations can be tested to determine whether or not they are statistically relevant: for example, whether a relevant correlation exists

between great painters, poets etc. and given latitudes/longitudes; or between outstanding figures in one profession and a given sign of the zodiac. For the modern period, in countries with census records, the data potentially available is, of course much greater.

From the myriad details about politicians, generals, philosophers, painters etc., one could gain a sense of how these professions have changed in different times and places. The same principle could be applied to standard categories for describing persons: lover/beloved; enemy, great, excellent, elite etc. Past examples would thus provide a spectrum of possibilities which would open the way for fresh definitions in the future.

In the case of human excellence, for example, the encyclopaedia would confront one not only with the idea of Plato and Nietzsche, but also with those of the *I Ching* on the subject. According to this source of wisdom the excellence of a superior man is not to be measured by the amount he can set himself above, beyond or apart from the average man in furthering his own interests, but is tested instead by the extent to which his qualities serve further the interests of the average man. Human greatness, it is claimed, does not exclude the ordinary: it integrates the energies of the ordinary in achieving the extra ordinary. The superior man is one who sacrifices his own abilities in such a way that others discover and utilize abilities in themselves of which they had previously been unaware. If he becomes a ruler of men, the superior man rules by serving and teaching the average man how best to serve the interests of fellow men.

According to this view, the superior man is one whose chief preoccupation is to administer his special gifts for the common good, rather than regarding them as possessions to be employed merely for his advantage. If he has greater possessions, wealth, he uses these as instruments to integrate his fellow men, rather than as means by which to isolate himself from them.

In aiding fellow men to achieve heights of which they would have been incapable on their own, the superior man brings into focus not only man's greatness but the greatness that is beyond man. Paradoxically in showing his dedication to everyman, the superior man proves his devotion to Heaven, Sky, God, Yahweh, Allah, or whatever name one may choose to give That Power That is Beyond.

Western examples could be used to illustrate this Eastern view. Brunelleschi's greatness lay partly therein that he was able to organize and coordinate the abilities of everyday workmen in providing Florence Cathedral with a dome which was anything but everyday. The same was true of the individual who coordinated the energies of average men on the street in building cathedrals as noble as Notre Dame, Chartres, York and Seville.

In our own day National Trusts and private organisations make faltering attempts to repair and maintain great monuments. In the past it was the average man who constructed these, and theoretically, in the future, the average,man could repair them or build their modern equivalent. Perhaps all that is needed is that the average person's place in this national heritage must again be made clear. Perhaps the true function of great monuments is that they provide contexts wherein, whereby the average man's participation in an

otherwise fairy-tale world of ideal glamour becomes a reality. Perhaps castles and palaces are ultimately less homes of kings, than places where ordinary mortals have a chance to meet regal splendour. A study of past kingdoms might even reveal that this is so: that manor houses are most tenable when ordinary tenants have a chance to meet their lord therein and that castles are more defensible as meeting grounds of a community than as a private dwelling.

But whatever evidence that the past in its richness of sources may provide through its examples, these, nonetheless, will need to be confronted with and challenged by present realities. Individuals wishing to explore the potentials of the human condition will require more than a computerized archive that serves as an encyclopaedic storehouse of knowledge. The record of examples of past masters is not enough. One needs opportunities to meet with present masters, live examples, individuals who are not just a staggering statistic or a blinding *curriculum vitae,* but persons who can challenge and encourage one, teaching one both through their words and their silence, their approval and their disapproval.

Similarly, individuals wishing to explore the potentials of the human spirit when applied to matter will require more than a comprehensive record of previous craftsmanship. The apprentice jeweller will learn much from Egyptian, Phrygian, Chinese and other precedents. But ultimately he too will wish to meet present masters, in order that past examples be complemented by living example. In the coordination of past and present example lies future knowledge.

The problem of the present is that a person in search of such exemplary knowledge finds himself running to libraries, museums, institutes, archives, universities, guild schools, polytechnics, private collections and a host of other institutes, that tend to horde their isolated examples in a possessive fashion, insisting on the reality of their little part, forgetting that it is a part of a single whole. Perhaps a systematic organization of knowledge will be needed to confirm that examples in its past and present forms united are the only convincing way of establishing high standards and inspiring higher ones of gaining knowledge of excellence.

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11. Postscript: Problems, Obstacles, Dangers

Many will object to the suggestion of such an encyclopaedia on the grounds that it is a luxury, merely a reduplication of knowledge already available in libraries and other institutions. Rather than competing with or tending to replace such institutions, however, the encyclopaedia will serve to increase their usefulness by providing more direct access to the knowledge therein.

An example will serve to illustrate this point. Let us assume that a scholar is interested in burning mirrors during the fifteenth and sixteenth centuries. By consulting the encyclopaedia it will be possible to view in chronological/topographical sequence

existing visual/verbal images of burning mirrors, noting those which appear particularly significant. Equipped with this information the scholar can then return to a library to study these images in the context of the books in which they were printed. Hence, the encyclopaedia will show the parts in sequence and give their sources: books will therefore be desirable, ready access to historical sources being another not minor consideration.

The complementary function of the encyclopaedia is of some significance in resolving the problem of where such a project should be based. Some may argue that it must be in America, but while an American project would have the necessary optimism, it would not necessarily attain the sensitivity that will be required to gain the cooperation from European librarians and archivists that is imperative. A European based project might therefore be desirable, ready access to historical sources being another not minor consideration.

The base could be connected with one of their great libraries, e.g. London, Paris, Rome, Munich, Oxford, Gottingen, Wolfenbuttel. National libraries, both because of the excessive demands made on them, and because of nationist/imperialist/colonial overtones they may evoke, are less desireable.

Whatever its potential merits such an encyclopaedia will inspire *a priori* criticism from many scholars who base their reputation on rote leaning rather than on interpretation. They will fear that once all the facts have been entered into a computer, the actual limits of their knowledge will become painfully obvious and their future endangered.

While the encyclopaedia will eventually need to include knowledge in all recorded languages a single language, probably English, will be needed for purposes of comparison. Sources concerning the fall/capture of Constantinople in Italian, Greek, Turkish, Latin etc. would hence all be avaibable in English traslation. This will enable an historian to examine various sides of a story without having mastered the diverse languages in question. The temptation to rely on translation and to ignore the originals will thereby increase. Even more efforts than at present will need be made to emphasize the importance of knowledge of as many foreign languages as possible.

Because it offers access to all recorded viewpoints concerning given events, such an encyclopaedia would ideally promote a sense of tolerance. It could, however, serve to undermine a sense of objective values and increase notions of relativism in the negative sense. In any case, various political systems will see such access to multiple viewpoints as a threat to their clearly defined ideologies and will therefore be at pains to control the input of multiple viewpoints and/or restrict access to such information.

Whether the full information is being restricted or not is a problem that will become the more difficult to determine as the encyclopaedia comes closer to being comprehensive. The assumption that the computer "knows it all" will threaten to become dominant. Many will see this as a reason for learning. The development of critically open minds,

creatively sceptical, cognizant of the central significance of interpretation will, in such a culture, become all the more essential.

Ideally, the encyclopaedia will serve as a stimulus to discover the diversity of the natural and man-made world. There will be a number of persons, however, who lapse into passive roles as knowledge consumers. They will see in the encyclopaedia the possibility of living entirely in a reproduced would, where reality is experienced only second-hand through its copies. Remaining shut in one's room by choice may well become a type of disease and new means will need be found to recognize and to value original objects.

Over and above all qualitative considerations, apprehensions and misapprehensions there remains the purely quantitative challenge of how one ever hope to integrate the whole of existing knowledge within a single, massive computer system. It may seem impossible. But then it may prove helpful if one tries to imagine Gutenberg, around 1460, sitting before the committee members of an important foundation and telling them that he was now convinced how useful it would be if effectively all existing manuscript material were reproduced in published form.

At present there are tens of thousands of academics throughout the world whose main contribution is in terms of articles written for specialist magazines which remain inaccessible to most persons, their great investment of energies are guided largely by the fear of publish or perish, this activity being their key to promotion. A simple reform of the academic value system, which would award more points for pertinent contributions to a computerized encyclopaedia than for obscure articles, would serve to focus the combined expertise and energies of the world's academics on a single project. This, if supplemented by the energies of various assistants, students and other personell would soon establish the limits of what seemed as endless task.

Looming quietly in the background above all these problems will remain the question of financing. The only long term solution is international cooperation. Initial investments on the part of one, then several great foundations could serve to define precise technical needs and to begin exploring the methods these involve. The further investments of at least one major computer firm, such as IBM, would serve to see that technological equipment is developed which meets the very specific problems, needs, demands, challenges of the encyclopeadia. At a further stage, government funds, channelled via the universities could provide the necessary support.

Until it reaches a fairly advanced stage the project will involve investment without returns. The master programme of the encyclopaedia could be made available to major libraries where users could pay a fee for access to information. Eventually, this master programme could be made accessible through television screens in every home, for the use of which person would again pay rent which might be in terms of time and/or complexity of the information consulted.

12. Reflections on Practical Steps

Even if the goal of an encyclopaedia of the world's visual/verbal/mathematical/musical images be accepted, the question remains where does one start?

At the outset one reseach person could be assigned to make a search of major firms, institutions at present engaged in problems of computerizing verbal and particularly, visual knowledge. With the aid of a secretary, this person could write to these bodies, requesting information and developing an itinerary of six months which would take awo persons around the world on a fact-finding tour. One of these persons should be historically trained; the other, familiar with technical frontiers. This tour would be followed by three months of evaluation. In the next month there would be return visits to places of particular interest, in light of which a final evaluation would be made, result in a major paper, or slender book, providing an assessment of individuals, firms and institutions concerned with computers and visual images.

A next step would be a colloquium to bring together representatives from foundations, grant giving bodies, national/international agencies and computer firms potentially capable and interested in funding the project.

With a financial programme clearly defined a provisional research team could be set up which would consist of perhaps eight persons representing key areas of knowledge and technique (cf. Table 1),

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Knowledge Technique

- librarian (verbal images) - programmer (verbal images)
- museum person (visual images) - visual aids person (visual images)
- historian - electronics person
- historian of classification - information/system person

Table 1. List of various individuals one would need for a provisional research team.

This team would work together for 3- 5 years and be responible for the development of sample knowledge packets illustrating the various problems and potentials of this encyclopaedic approch with respect to a biography, an historical document/monument /event, a solid/liquid natural object, a chemical, a micro-structure in biology/medicine etc.

With these programmes at hand a colloquium could then be organized in connection with each individual sample package. Here, experts in the respective fields would assess the results, bring to light problems in presentation and propose the criteria for an improved version.

Technical problems concerning quality having been mastered, one could turn to the challenges of quantity. At this stage it might be wise to begin by recording all books in

library such Wolfenbüttel under the heading(s) of Geometria and/or Astronomia. The results of this project would again be assessed by various experts in the given fields.

The way would then be set for entering into the computer the entire collection of a library such as the Herzog August Bibliothek. The results of this project would be assessed by representatives of major European libraries such as Göttingen, Munich, Rome, Paris, Madrid, London, and Oxford. This would introduce further problems relating to their particular collections.

Various national projects to record these and similar collections would now be initiated. The resulting information would be accumulated at the libraries themselves.

Once the major Western European collections had been systematically coordinated within a master programme, the project could be extended to include Eastern Europe, particularly cities such as Budapest, Prague, Cracow, Warsaw and Leningrad which have very close historical ties with Western Europe. Ideological and political differences, potentially a hindrance with respect to such countries, could be overcome on the basis of mutual interest. It could be stipulated that if these countries wish to have future access to a master programme of the Western encyclopaedia, they will first need to make their own collections entirely available for inclusion. By cooperation, these countries will profit from Western research exprience and thus save such expenses. Hence, even libraries in places such as Moscow and Peking will find it useful to cooperate.

Meanwhile various related existing projects in the United States, Canada and Japan could be adjusted, coordinated and fed into the master programme. Branch projects could be spread to other advanced Western countries, e.g., New Zealand, Australia, and India. Developing and underdeveloped countries would come next. The procedure outlined above with respect to libraries would be applied to museums, galleries, archives etc.

The time scale of the project must remain an open question. With present technology it could take 50-60 years. Taking into account the speed of technological advance, however, it is thinkable that the task could be accomplished in half the time. Ultimately, even more important than technology or money will be the question whether the project catches the popular imagination. If this occured, literally everyone could contribute. The challenge of finding some item of information not yet recorded in the encyclopaedia could become a game, perhaps even a contest with honours and prizes. With everyman's cooperation, everyman's encyclopaedia would become a reality sooner.

Amsterdam, 16 July 1981

14. Post-Postscript: Fifteen Years Later

When this was originally written the author was living in Germany and this seemed the most logical country form which to base these activities. Since then it has become clear that there should be no single centre for these activities and that there needs to be co-

operation among a number of centres. A few very specific comments written at the time have therefore been relegated to footnotes.

In the meantime some of the ideas which seemed far fetched fifteen years ago now seem perfectly reasonable. For instance, IBM's Digital Library Project is digitizing all the manuscripts of the Vatican Library, the Luther Library, the Edo Museum and other collections. The Bibliothèque National de la France is scanning in 400,000 books in full-text form. Libraries and museums have been designated as two of the eleven G7 pilot projects, thus creating a context for international co-operation.

Indeed all the technological hurdles that loomed a generation ago have effectively been overcome. The memory capacities of advanced computers now begins with 50 gigabyte segments to create many terabytes of storage space. With new holographic methods this capacity will increase greatly. Speed of transmission is also developing at enormous rates. ATM demonstrations at 35 megabits per second are common. Public experiments at the OC12 (622 gigabits per second) rate are about to occur. Lab experiments using OC128 (6.2 gigabits) are occuring and work is underway on terabit transmission. The latest developments in pattern recognition through software such as IBM's Query by Image Content (QBIC), or by Excalibur and Illustra permit one to search in terms of visual shapes. The only challenge that remains is to co-ordinate energies in actually making the new encyclopaedia.