

BA 1110, Course C

Souvenir Programme

Inaugural Meeting

University of Guyana

held in the Auditorium at Queen's College

ON TUESDAY, 1st OCTOBER, 1963 at 8 p.m.

# **A UNIVERSITY IN A CHANGING SOCIETY**

*An Inaugural Dissertation*

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*On the occasion of its opening Oct. 1, 1963.*

We have met here to recognise the birth of a university. At the outset, it is fitting that we should scrutinise the relevance of our use of the term to the needs and to the aspirations of a society vastly more susceptible to change than the learned world of Greek-speaking antiquity or that of mediaeval Christendom.

It is customary to speak of the Athenian schools associated with the names of Plato and Aristotle as the forerunners of secular higher education in the western world. In one sense this is true; but the Academy and the Lyceum were far less like what we now call a university than was the so-called Museum of Greek-speaking Alexandria with its memorably associated library looted by Caesar's soldiers. To be sure, it did not bequeath to what is now the world-wide heritage of western science an institutional offspring of its own womb. Despite this, it remained from 300 B.C. till 400 A.D. a university city in some ways more like Princeton than the European models from which the universities of the New World nostalgically and exiguously claim descent.

During a period of over seven hundred years, which include a stagnant century after Caesar's withdrawal, Alexandria was the focus of the most brilliant flowering of creative thought till we approach the Newtonian era. The curtain fell when the fanatical sex-starved monks of St. Cyril dragged from her chariot the last of the Alexandrian mathematicians, stripped her, and lacerated her nude body with oyster shells. Thereby, Christendom severed its only institutional link with the higher learning of antiquity. None the less, the death of Hypatia did not extinguish the enduring flame of a continuing tradition which seven centuries of cultural efflorescence have transmitted to us as our privilege to sustain and to share with others still as backward pupils as we ourselves were then. Such being our privilege, let us pause at the outset to ask what Alexandria did indeed in the fullness of time transmit to ourselves.

Assuredly, what is most unique and most modern about the Alexandrian episode is that it garnered all the wisdom of the two great temple civilisations of the astronomer priests in Egypt and Mesopotamia, reinterpreting it with the secular curiosity of their Greek-speaking pupils. It thus laid the cultural foundations of a multi-racial superstructure to which other peoples of other territories have later added so much, at least potentially, to the benefit of human life. The word *potentially* in this context is deliberate. It signifies the hope that human life will indeed outlive the threat of nuclear annihilation, as its secular culture has outlived the total destruction of the Alexandrian seat of learning. Then as now, rational grounds for hopefulness seemed few. Against the contemporary background of Christendom in 1000 A.D. it would still have been foolhardy to forecast an efflorescence comparable to that of Alexandrian civilisation.

Having, however, the privilege of hind-sight, we ourselves can now recognise latent contributory possibilities inherent either in the Christ-Judaic ethical tradition or in circumstances dictated by the official adoption of Christianity as the established religion of a dying empire. First of these and perhaps most important, is the circumstance that the

Christian Church by imperial sanction had necessarily to take over the oldest cultural responsibility of its pagan predecessor and of the astronomer priests of more remote antiquity. *Ipsa facto*, it became the custodian of the Calendar and, as such, committed to encourage both the study of astronomy and of mathematics as its handmaiden. Second, the beatitude of those who tend the sick, no less than Christian hostility to gladiatorial spectacles which made life cheap, encouraged the creation of hospitals, and therewith of the monastery physic garden for the cultivation of allegedly medicinal herbs. Of less relevance to the curriculum of the early mediaeval universities, of western Christendom, but highly significant to the tempo of enlightenment in the century of Leonardo da Vinci and Galileo is also the circumstance that hostility to chattel slavery of a creed lately recruited from a mighty following of slaves with little earthly hopes of happiness removed an immense obstruction to mechanical ingenuity. Where life and labour had hitherto been too cheap to foster the impulse to devise labour-saving substitutes for human toil, a new impulse to human inventiveness emerged to gratify a long standing need.

But for one circumstance, one may well doubt whether the gestation of the three latent possibilities I have indicated as a foretaste of the shape of higher education to come would have led to the birth of so otherwise unlikely a sturdy offspring. Happily, the Moslems overran Spain and Italy at a time when Moslem civilisation was absorbing what wisdom Alexandria had bequeathed to posterity with the new number lore of the Far East. Whether the site of so stupendously fruitful an innovation as the introduction of the zero symbol was in India, as is more likely, or, as Dr. Needham argues, in China like so many inventions and amenities which Moslem civilisation transmitted to Europe, is of little significance. What is important about the transmission of the new system of enumeration to Europe is that its adoption in the Moslem universities of Spain raised practical mathematics, astronomy and cartography to a level which made possible the Great Navigations of the Columbian era in which all the foremost pilots were of Jewish origin trained in Moslem Spain or trained by others who had received their training there. /

From Arabic versions of the great teachers of antiquity, Euclid, Archimedes, Ptolemy, Galen and Aristotle, monks, merchants and Jewish scholars who had studied in the twelfth and early part of the thirteenth century in the Moorish seats of learning at Toledo, Cordova and Seville, made Latin translations which were henceforth to be text books of higher learning and to equip theological debate with a new weapon during the period when the universities of western Christendom were beginning to take shape.

At their inception the earliest ones had no Faculty structure. Salerno was a school of medicine, set up a few years after the Normans started to expel the Moslems from Sicily and conquered England. It never became other than a Medical School and is worthy of mention mainly because Jewish physicians trained therein were instrumental in founding the medical faculties of the earliest and more comprehensive universities of western Christendom, notably at an early date that of Montpellier. Here

we should recall that papal edicts against dissection of the human body and monastic eagerness to tend the sick conspired in the eleventh, twelfth and thirteenth centuries to give the heretic Jew an honourable status as a missionary of the Moslem culture, while fanatical psychotics were recruiting illiterate robber barons to loot the Holy Land. It is therefore false to conceive a modern university as the offspring of a virgin mother, herself the Mother of God. She was a respectably married woman; and the husband of the marriage was a father of multi-racial antecedents.

In the field of medicine, as in the science of navigation, the Jewish people enjoyed the advantage of a tradition of literacy alien to the crusading Germanic laity, and they could thus provide recruits to the only other outstanding secular profession of the time. While common and statute law was local, a corpus of canon law was common to all the territories which the Holy Roman Empire embraced. From the need to codify and to transmit it with the papal *nihil obstat et imprimatur*, the first great law school, that of Bologna, came into being in Italy in the latter half of the twelfth century. By the end of the century it had a corporate existence as a body of teachers under one rector, and about 1200 A.D. its faculties of Medicine and Philosophy came into being. Philosophy in this context embraces the seven so-called liberal arts of which more anon.

What was to become the University of Paris started under the shadow of the Cathedral as a school of theology of a *genre* not as yet available for the training of parish priests and monks elsewhere. There, Jewish scholarship doubtless contributed to the new orientation. Having adapted Arabic versions of the teachings of Aristotle to its own Rabbinical traditions, it transmitted to a succession of Catholic theologians the utility of Aristotelian logic as a recipe for well-conducted debate to outwit heresy.

Duns Scotus Erigena, Abelard of the Heloise saga and Thomas Aquinas, called the *Doctor Angelicus* by those of the Catholic Persuasion, are names of three of the most renowned exponents of the dialectic art in this *milieu*. Needless to say, Aristotle's logic was of itself unequal to the task of validating the undertaking unless it could hopefully invoke with no secular misgivings supposedly self-evident principles and dogmas not susceptible of proof. Among mediaeval churchmen there was no disinclination to do. Aristotle thus enjoyed a status no less authoritative and stultifying than that of St. Paul among their Protestant successors.

The so-called Seven Liberal Arts encouraged as the basis of higher learning in the mediaeval universities of Christendom included a group of three, the Trivium, and a group of four, the Quadrivium. The ingredients of the former were *logic*, that of Aristotle, *grammar*, i.e. Latin composition, and *rhetoric*, i.e. the study of literary Latin models. At a time when Latin was the language of ritual worship, of canon law and of all the available writings on anatomy, astronomy, mathematics, mechanics, *materia medica* and optics salvaged by Moslem scholarship, the utility of the first and last items to western Christendom calls for no comment. It cherished Aristotelian logic for a reason already mentioned, albeit doubtless also as a model for legal argument.

The Quadrivium, consisting of arithmetic, geometry, astronomy, and music, is at first sight an odd assembly; but by no means so if we recall a dual secular role of the Church. It was the custodian of the Calendar; and it was also the promoter of the first musical instrument with keys, the organ as an accompaniment for the chant. Without arithmetic and geometry, no astronomy. Without astronomy, no Calendar to fix the date of Easter and to recall the Saint Days. Without its staff notation, no Gregorian chants. Thus each of the seven liberal arts in one way or another subserved the cultural requirements of the Roman church when emergent nationalism had not as yet challenged its claim to be the arbiter of good citizenship.

From one point of view, such a curriculum of basic education was therefore essentially utilitarian. I use the word *utilitarian* deliberately, because it pinpoints what charity the Seven Liberal Arts were actually in aid of. Assuredly, the intelligible rationale of higher education in this setting had no such vague intention as broadening the mind, quickening the curiosity of the student (commonly of too advanced an age to succumb to any such process) or, least of all, to cultivate an enlightened tolerance and adaptability to change. The implicit end in view was the maintenance both of the practical responsibilities and of the secular authority of the Church. At a time when European nationalism was in its infancy, it would therefore be equally appropriate to say that prescription of the Seven Liberal Arts as the broad basis of an educational programme was both essentially utilitarian and likewise essentially civic, being as such an instrument for producing an *elite* tailored to a concept of citizenship current in what was then very truly a one-party set-up.

Contrariwise, it is wholly false to pretend that the entire curriculum of even one mediaeval university encompassed all the higher or indeed, as I shall shortly mention, the most demanding intellectual requirements of material advancement. Therefore let me dismiss an odd misconception too often propagated on such occasions as this. It is false to state that the derivation of the term *university* from the Latin *universitas* signalises a place where one can learn the totality of useful knowledge. In mediaeval Roman Christendom, what we now call a university was a stadium generale. The *universitas* was a student or teacher guild of which there might be many on the same campus. In Paris, students of the same home place organised themselves as *nations*, a classification of the *universitates* still current in Sweden when I first visited the country thirty five years ago.

By the same token, it would also be foolish and erroneous to assert that the Catholic foundations made provision for all the requirements of a secular culture adequate to contemporary needs. Master Mariners had then, as needs be, a far higher level of literacy than the monks who concocted the celebrated and now almost incredible *Mappa Mundi* exhibited in Hereford Cathedral within a two hour journey from my home. The *Rutter Books* of even the British navigators of a century earlier disclose a level of astronomical and arithmetical sophistication two millennia in advance of monastic cartography at a time when Britain lagged vastly behind Portugal in maritime technology. No mediaeval studium generale had a Faculty to encourage the scientific study of navigation and geo-

graphy as such; but early in the fifteenth century, Portugal had its own teaching institute to promote it. If not an ancestor, we may regard it as a prototype of the *Ecole Polytechnique* in the Napoleonic and of the Massachusetts Institute in the Electronic era.

About 1420, Henry, then Crown Prince of Portugal, built an observatory on a headland near Cape St. Vincent, the southwest extremity of Europe. There he set up a school of seamanship in comparatively close propinquity to the Moorish universities of Spain. For forty years he devoted himself to the cosmographical studies which equipped the Great Navigations with their technological stock-in-trade. For the preparation of maps, nautical tables and instruments the sailor Prince enlisted Arab cartographers and Jewish astronomers schooled in the new Moorish learning. These he employed to instruct pilots and captains who first rounded the west coast of Africa. Among the trainees of the Portuguese navy which first established a settlement in what is now Ghana was Columbus.

One significance of his tutelage will occur to no one, if not acquainted with what was the most unique native contribution of the Moslem culture, in readiness to fulfil a new need arising from trans-Atlantic seafaring. The concept of Longitude emerged early in the Alexandrian culture; but any relevant information available even in the terminal period of Ptolemy was referable to records of the local time of eclipses or occultations of planets auspicious or otherwise to military success, and recorded as such to glorify the good luck or exculpate the failure of a military commander. Moslem cartographers immensely increased the number of localities which it was possible to locate with tolerable precision in longitude at a time when navigation following the coast line northward and southward needed no source of celestial information other than how to determine latitude, as the Phoenicians and Egyptians could do a millennium before our era. For the rest, the mariner relied on identifying visible species of sea birds to infer whether he was near or far from land. Thus westerly navigation into an unpiloted ocean created a new technical problem. Henceforth, location by longitude was now at least as important as location by latitude.

Before the Protestant Reformation, astronomical instruction relevant to navigation had no place in the universities. Indeed, astronomy as taught in the Catholic universities checked interest in planetary motion prerequisite to reliable calculations of the sort which Copernicus, Galileo and Kepler made available for the determination of longitude before a reliable seaworthy clock came into use in the latter half of the eighteenth century. Thus the Moslem universities of Spain contributed far more than those of mediaeval Catholicism to the science of the Newtonian tradition.

Although no Protestant university founded a Faculty for Navigational Technology, Protestantism as such had one directly liberating effect on the advancement of science inasmuch as it detached the study of astronomy from ecclesiastical control. However, a Roman critic can take comfort from two reflections. One is the belated adoption of the reformed Calendar of Pope Gregory in the Protestant States. The other is that Protestant theology at a later date obstructed the discussion of

Organic Evolution with all the bigotry characteristic of the Kingdom of God in Geneva. There it was that Calvin, for no better reason than that the two differed about how to factorise the number three, condemned to death at the stake Servetus who anticipated Harvey's discovery of the circulation of the blood. Happily, the British constitution did not endow Bishop Wilberforce with the power to commit Thomas Henry Huxley into custody at the pleasure of the Archbishop.

To recognise with equal justice how greatly Protestant teaching abetted the growth of secular science on the threshold of a new era, one must recall how the Schoolmen had elevated the metaphysics of Aristotle to the dignity of a necessary and sufficient rational basis for Catholic theology in general and for the doctrine of transsubstantiation in particular. To question Aristotle's credentials in the fifteenth century therefore savoured of heresy. Indeed, its palsied hand continued to strangle naturalistic studies in the Catholic universities long after the Reformation. In the year of Galileo's observations on the moons of Jupiter, the Parliament of Paris passed a law to make chemists subscribe to the teachings of the Stagyrice on pain of death. Nineteen years later, Descartes still devoutly Catholic, left his native France where, in the phraseology of Voltaire, the miserable philosophy of the schoolmen still persecuted truth.

Between the two dates last mentioned, and in a Protestant milieu more congenial to innovation, Francis Bacon published the *Novum Organum*, a treatise which signalises a complete break with the Aristotelian *weltanschauung*, destined, as we learn from Sprat Bishop of Rochester and first historian of the English Royal Society, to exert a powerful influence on the outlook of its founding fathers. In countless memorable apothegms, Bacon undermined what Sprat elsewhere calls "*the notional and disputatious way of the ancient philosophers*", rejecting as spurious the claims of all supposedly self-evident principles, as when we read: "It cannot be that axioms discovered by argumentations should avail for the discovery of new works, since the subtlety of Nature is greater many times than the subtlety of arguments ..... We must lead men to the particulars themselves, while men on their side must force themselves for a while to lay their notions by and begin to familiarise themselves with the facts."

The aim of scientific enquiry, as Bacon thus proclaimed it to be, was to establish: "such philosophy as shall not vanish in the fume of subtle, sublime, or delectable speculation but shall be operative to the endowment and betterment of man's life." More succinctly elsewhere he declared that "the true and lawful goal of science is that human life be endowed with new powers and inventions." With that end in view, like his followers among the Founding Fathers of the English Royal Society, Bacon put forward a programme of educational reform, incorporating a singularly modern view of the relation between so-called pure and applied science, as in the following passage, also from the *Novum Organum*:

the roads to human power and to human knowledge lie close together, and are nearly the same. Nevertheless



on account of the pernicious and inveterate habit of dwelling on abstractions, it is safer to begin to raise the sciences from those foundations which have relation to practice and let the active part be as the seal which prints and determines the contemplative part

These words are a fitting introduction to a policy proposal which has the sanction of my Board of Governors and of our government. Here in British Guiana, we already have research units maintained from the public purse to advance our knowledge of the mineral wealth of the country, of its hardwood resources and of prerequisites to the development of large-scale cattle breeding. That the active part be as the seal which prints and determines the contemplative part, these units will become Institutes affiliated to the University and eventually housed on its campus. *Ipsa facto* pure research, which will be possible in our university only when the first vintage of students have graduated, will thus develop along lines which minister to national needs. Since the challenge of national needs commonly dictates the most abundant opportunities for fruitful enquiry, research with the orientation we envisage will have a more than otherwise cogent claim to support from the great Foundations which finance advancing scientific knowledge.

The words last cited, though written more than two centuries earlier, might well have come from Marx on Feuerbach. Even more in advance of his own time, and *en rapport* with what is now both authentically Marxist doctrine and curricular policy in the Massachusetts Institute of Technology, Bacon pleaded for a humanistic reorientation *en rapport* with a programme of civic education geared to the needs of the nuclear era. Thus he writes :

It is well to observe the force and virtue and consequence of discoveries, and these are to be seen nowhere more conspicuously than in those three which were unknown to the ancients ..... namely printing, gunpowder and the magnet. For these have changed the whole face and state of things throughout the world, the first in literature, the second in warfare and the third in navigation. Whence have followed innumerable changes in so much that no empire, no sect, no star seems to have exerted greater power and influence in human affairs than these mechanical discoveries.

During the early part of Bacon's professional life, there were in Britain two attempts to provide higher education having no links with the catholic past. Ten years after promoting the establishment of the Royal Exchange in London, Sir Thomas Gresham also memorable as the author of Gresham's Law persuaded (1575) the City Corporation and Mercers' Company to found a college financed by shop rents in the Exchange Building. The initial endowment provided for the emoluments of seven professors to lecture respectively in astronomy, geometry, physics, law, divinity, rhetoric and music. From 1575 to 1768 Gresham House was its premises, and there the Royal Society held its inaugural meeting. Its professors included Barrow, Hooke and Christopher Wren

in the latter half of the seventeenth and Karl Pearson in the last decade of the nineteenth century. Its lecturers were at all times open to the public; but Gresham College is a misnomer. Though one may suspect that Sir Thomas had other intentions, it never had a corporate student body, at no time held examinations, it never conferred degrees or diplomas and remained aloof after the coalescence of other institutions when London University took shape in the nineteenth century\*

In 1582, seven years after Gresham's proposal and ten years after the death of John Knox, a Royal Charter established the "College" of Edinburgh, and from 1587, it granted degrees, though first referred to as a university in municipal records as late as 1685. In the latter half of the eighteenth century its teachers contributed conspicuously to the theoretical background of the chemical and mechanical innovations of the period. Nowhere else in Britain did universities without roots in mediaeval catholicism appear before the second decade of the nineteenth century.

Though its impact on the English Royal Society and its continental correspondents indirectly influenced the curriculum of the British seats of higher learning, and it may be elsewhere, in the latter half of the seventeenth century, the direct effect of Bacon's teaching on the practice of the universities of Britain or elsewhere was negligible during the century and a half after his death. The stranglehold of a long tradition of ecclesiastical and legal scholarship in the British Universities of mediaeval origin was to elevate the status of the so-called classics and to divert the study of natural science from utilitarian preoccupations. In one way, the Platonic cult which Protestant scholarship espoused was indeed at least as hostile as Aristotle's doctrine to the claims of research with useful applications. For three centuries after the breach with Rome, the outcome in Oxford and in Cambridge was the stagnation incident to man's inveterate habit of dwelling on abstractions.

In the universities of Western Europe there had been no provision for instruction in Greek till printing made possible the distribution of Byzantine texts. In the ensuing generation which preceded the great schism, Linacre, Erasmus and More had revived in England an interest once lively in the Celtic monasteries of Britain but stifled by a Norman hierarchy subservient to the Papacy. The new fashion was favourable to the temper of doctrinal reform. It provided fresh textual material for translations of the Bible into the vernacular, in Britain first by Tynedale and Coverdale. It also opened the door to deeper study of the early fathers whence evidence of innovations with no sanction from early Church teaching or practice. Moreover, the inclusion of Greek in the curriculum of Protestant universities served the interests of an influential body of opulent townsmen and *nouveaux riches* by its nostalgic exaltation of Greek political thought. The so-called democracy of the Greek city state was indeed all too near to the outlook of the Hampdens of the British Revolution. It dispensed with the inevitability of kingship while it endorsed the maintenance of chattel slavery at a time when

\* None the less, it clearly exerted a salutary influence on Gresham's own university, Cambridge which in his time had neither a chair of geometry nor one for astronomy.

Britain was about to emerge as the leading slave dealer of the western world.

However, it would be wrong to imply that the installation of Greek as the handmaid of theological controversy and of the art of government, or that the secularisation of astronomy were aspects of any unitary conception of the function of the university in Protestant states on the threshold of the nineteenth century. At that time, chemical manufacture, steam power, new methods of making lenses and the discovery of the electric current foreshadowed the need for instruction in many naturalistic disciplines for which the Protestant universities of Europe, other than Edinburgh and Glasgow, had hitherto made scant, if any, provision. When they got round more or less tardily, to the satisfaction of new needs, there was no curricular dogma to impede the process of learning more and more about less and less. sgress....

Nowhere did the trend to extreme specialisation find a more fertile soil than in England. In the two surviving mediaeval foundations, a widening breach between the so-called humanities on the one hand, and the naturalistic and manufacturing sciences on the other, made provision for the training of only two sorts of experts other than the theologian and the physician or surgeon. In the first two decades of this century, Britain recruited the higher ranks of its Civil Service from graduates who had specialised in Greco-Latin linguistics and political philosophy with or (more often) without a study of modern European history. Its trained technologists and practitioners of pure research in the natural and engineering sciences pursued no course of study in the history of civilisation or of social institutions. Meanwhile, those destined to become teachers in secondary schools were (and still are) specialists of one or other type. Aside from the fact that school education for intending university students is more protracted and less specialised than in England, the state of affairs in Protestant Europe is elsewhere very much as implied in the foregoing remarks.

From the thirties onwards in the United States of America, there has, however, been a vigorous reaction against over-specialisation and a widespread assertion of the claims of so-called Liberal Arts. In practice, this prescribes for each undergraduate a range of courses much wider than the curriculum of a British university, and may entail some obligation to combine some so-called arts and some so-called science courses in any single programme of studies. One may suspect that an impetus to this retreat from lopsided specialisation arises from the circumstance that higher education for women and early marriage have long been articles of American faith. Be that as it may, it betokens no underlying conception of the relation of higher education to any social order, being therefore neither in aim nor in content comparable with a Liberal Arts curriculum as one uses the term in the milieu of the mediaeval universities. In short, it is education tailored to the pattern of transatlantic feminine clubmanship.

In stating my own view of the scope of civic education, let me say at the outset that the production of an *elite* for government, administration and research does not circumscribe my own approach to a contemporary civic curriculum in a University geared to the needs of a

society on the threshold of what may be a Golden Age of Nuclear Power or a brief episode of Nuclear Annihilation. In this situation, it is more than ever true that no society is safe in the hands of a few clever people. Since we need more than ever an enlightened electorate, let us bear in mind a considerable task which our universities undertake. They train teachers for pupils whose secondary education will cease before they themselves can hope to benefit from university education; and they train those who will train teachers for children whose education will take them no further than the primary level. As regards children of either category, we may say: what education the school can give them for intelligent citizenship is the only education they will receive.

If their school can contribute to civic education in a useful and hopeful way, it follows that the University must directly or indirectly undertake the task of preparing teachers for a task supplementary to *expertise* in particular disciplines; and cannot do so if early specialisation produces, as in Britain, graduates exclusively of two sorts. Of these, one sort acquire knowledge of human institutions and their history unfortified by understanding of either the response of human ingenuity to the challenge of material needs or of the alternative good and evil possibilities generated by the exercise of man's inventiveness. The other sort learn the necessary theoretical basis for the exercise of our uniquely human capacity for invention with no concern for the vastly evil consequences of the misuse of human ingenuity.

More than ever before, such a dichotomy is perilous. For good or for evil, scientific achievements of Man, the most unique product of the evolutionary process, were collectively more spectacular during the century and a half between the storming of the Bastille and the start of World War 2 than was the totality of invention since *Homo Sapiens* emerged on this planet about 25,000 years ago as a species with several interfertile varieties well represented in this our nation. In curricular terms and *en rapport* with the Baconian recipe, a course of university instruction designed to correct both errors of over-specialisation last mentioned in terms as relevant to the changing society of today as was the *quadrivium* of the Liberal Arts curriculum to mediaeval Christendom in the west must therefore insure that every student should receive instruction about how advancing scientific knowledge responds to the needs of human society, about how its pursuit reacts upon the character of human society, and about how its truly humane use in the service of good government can advance the welfare of mankind.

Nor is this all we should require of our experts and of our teachers on the threshold of what we may hopefully call the Atomic Era. Just as the advances of the century and a half before the beginning of World War 2 eclipse the millennia of the earlier achievements of our multi-racial inventiveness, those of the last twenty years have eclipsed both those of more than twenty thousand years before Newton and of the three and a half centuries more near to us. In the contemporary scene, scientific knowledge has released well nigh limitless sources of power which can

liberate all mankind from thankless toil to enjoy the prospect of an age expectation of three score years and ten with a hazard of infantile death one-twentieth of that in Britain in the year of my birth, and a hazard of death in childbirth one-tenth as great as thirty years ago. In several ways the potential of human welfare has thus increased vastly in our own generation. Meanwhile alas, the potential of human destruction has increased still more. In maybe forty-eight hours, scientific knowledge has given us the power to obliterate irrevocably all animal life, including ourselves, on this planet.

As members of this species of so many interfertile somatic varieties with such common potentialities for good and evil, we face the enticing possibility of a future well-being inconceivable to our grandfathers. The alternative is a doom no generation of the human species could hitherto and rightly have regarded as thinkable. We can choose the benefits to which scientific discovery invites us to share with the prospect of a hitherto inconceivably more abundant life for all. Alternatively, we can choose a common coffin of nuclear annihilation for men and women of every creed, country and colour. We have now to learn to live together unless we choose to die together. Accordingly, our civic responsibilities have assumed global dimensions.

If peoples of different territorial ancestry cannot live at peace here in British Guiana, how gloomy is the prospect for mankind! For this reason, my colleagues are of one mind. A contemporary curriculum of civic studies anywhere, but especially in our own multiracial community, should make its students aware of what successive peoples of different stocks and skin pigmentation have contributed to the world wide community of what we thanklessly call Western Science. It must also make all students aware of what circumstances have impeded the cultural progress of communities which are now as backward as my own forebears in the era referred to as the *Glory that was Greece\**.

\* Two items of such a programme suffice to justify the inclusion of *Social Biology* in our curriculum as an obligatory discipline for freshmen. The occurrence of the Tse-tse fly across the Equatorial belt of Africa entailed the following social consequences before roads built to exploit the uses of the internal combustion engine and harbours for import of canned milk foreshadowed a brighter future. Because domesticable ungulates are not viable in the Trypanosomiasis belt, there follow unescapably the following consequences in the native setting. Without horse transport, the African mothers for the wherewithal to feed their young could have no source of milk other than their own. For the same reason, African soil could not renew itself for crop production from the excrement of a non-existent livestock; and a protein deficiency disease is rife among young children.

If one turns to the corresponding latitudes of the western hemisphere, one may ask why the Conquistadors on horseback with muskets and canony so speedily settled this Continent. A rational answer has no need to invoke notions of racial inequality. The New World they vanquished and annexed had no indigenous fast moving ungulates; and the invaders owed their knowledge of gunpowder to the Chinese from whom the western world gained the techniques of paper making, of block printing, of coal utilisation and a protein deficiency disease is rife among young children.

Because we are, though small, a multi-racial community, it may be that we can make a unique contribution to civic education in what we may hope to be the Age of Plenty only if peoples of different colour, creed and country can coexist peacefully. One of my favourite English poets, William Blake, expressed it thus:

In my exchanges every land  
 Shall walk, and men in every land  
 Mutual shall build Jerusalem  
 Both heart in heart and hand in hand.

If I have conveyed anything to you in this our small beginning, there are two assertions which subsume my theme. One is that the now dominant pattern of higher education, which is the contemporary vehicle of a world wide culture, has roots more racially diverse than the ecclesiastical foundations of mediaeval Christendom. The other is that each society which has assimilated its tradition had its own unique constructive contribution to make. We started with a glance at the great multi-racial synthesis of Alexandrian civilisation. We then recalled the tragic circumstances of its eclipse; but should we bury it with a verdict of murder against the monks of St. Cyril? For my part, I regard such a conclusion as one of the comforting over-simplifications which help us to excrete our own guilt into the sanitary conveniences of history.

When Hypatia died, Alexandrian civilisation had reached a level at which no further progress in mathematics was realisable till a less sophisticated culture could contribute the convenience of our Hindu-Arabic numeral notation, at which further progress in mechanics was possible only when mining technology had to rely on free men and only when the advancing prosperity of northern climates had made cheap glass equally available for gracious living and unexplored fields of scientific research, when also an emergent new reverence for human life gave a new impetus to the study of human anatomy and of plant life.

If we are here a small society, let us therefore take courage from the circumstances that the tradition of our world wide culture of so-called western science has preserved its continuity by the perennial rebirth which signalises the emergence of the novel impact of a hitherto less sophisticated culture in a hitherto unlikely geographical setting. In that assurance, let us hopefully go forward to adapt what is worthy from the past to local needs which may contribute new benefits to the future. I quote from my friend Eric Ashby, formerly Vice Chancellor of Belfast University, now Master of Clare College, Cambridge:

“..... Nearly a century ago C. W. Eliot, in the year in which he became President of Harvard, wrote:  
 ‘.....a university, in any worthy sense of the term, must grow from seed. It cannot be transplanted from England or Germany in full leaf and bearing. It cannot be run up, like a cotton mill, in six months, to meet a quick demand..... When the American university appears, it will not be a copy of foreign institutions.....but the slow and natural outgrowth of American social and political habits.”

I invite my hearers to anticipate hopefully the usefulness of a University of Guyana in this spirit.

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## ACADEMIC STAFF

## Professors

HORACE BANCROFT DAVIS, A.B. (Harvard), Ph.D. (Columbia)  
Professor of Economics

HAROLD A. DRAYTON, B.Sc., Ph.D. (Edin.) Professor of Biology

LYTTLETON ESTIL RAMSAHOYE, B.Sc., Ph.D., D.I.C. (Lond.)  
Professor of Physics

MORRISON SHARP, A.B., Ph.D. (Harvard) Professor of History

## Associate Professors

NEVILLE A. DAWES\*, M.A. (Oxon) Assoc. Professor of English

ALAN M. MAC EWAN, B.A., Ph.D. (Missouri)  
Assoc. Professor of Biology

\* On secondment from the University of Ghana.

## Assistant Professors

PETER SIMMS, M.A. (Cambridge) Assistant Professor of English

JOYCE SPARER, M.A. (Brooklyn) Assistant Professor of English

## Instructors

STUART BOWES, B.Sc. Econ. Instructor in Economics  
(Lond.)

DANIEL MAC GILVRAY, B.S., Instructor in History and Poli-  
M.A. (Clark) tical Science

ULRIC O'D. TROTZ, B.Sc. Instructor in Chemistry  
(Edin.) (Part-time)

CLARENCE DRAYTON	Instructor in Physics (Part-time)
GURADATA, B.Sc. (St. Andrews)	Instructor in Chemistry (Part-time)
S. R. R. INSANALLY, B.A. Hons. (Lond.,	Instructor in Spanish (Part-time)
AUDLEY MORGAN, B.A. Hons. (Lond.)	Instructor in Spanish (Part-time)

#### Deans of Faculties

Faculty of Arts	Professor Dawes
Faculty of Natural Science	Professor MacEwan
Faculty of Social Sciences	Professor Davis

#### Honorary Research Professors

Forestry, Geological, Veterinary Science — *to be nominated.*

*Edwards*



**CHAIRMAN:** Edgar Mortimer Duke, C.B.E., LL.B.  
Chancellor of the University.

1. Introductory remarks: ..... Chairman

2. Guest speakers: His Excellency the Governor, Sir Ralph Grey,  
K.C.M.G., K.C.V.O., O.B.E., LL.B. (N.Z.)

Dr. the Hon. Cheddi B. Jagan, Premier (or  
his Deputy).

L. F. S. Burnham, B.A., LL.B., Leader of the  
Opposition.

3. Inaugural address by the Vice Chancellor and Principal,  
Lancelot Hogben, M.A., D.Sc., LL.D., F.R.S.

“A University in a Changing Society”.

4. Closing remarks ..... Chairman.