THE NIGERIAN THINK TANK.

(AN INTER-DISCIPLINARY APPROACH TO PROBLEM-SOLVING)

M.SC (ARCH) THESIS

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DEDICATED TO MOTHER EARTH WHOM MODERN MAN IS RAVAGING.

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CHAPTER ONE

THEMES

THERME I

I believe .....

We of the Third World don't need all the technologies and artifacts of the advanced nations of the Western World. We ought to screen all the products and processes entering our poor countries so as to select the ones we really need and keep back the ones we don't need.

THEME II

I believe .....

a high-calibre inter-disciplinary approach to solving the hundreds of socio-economic problems facing the Nigerian society of today will go a long way to make life a little better for the common man.

THEME III

I believe .....

The myriad of made-in-Nigeria consumer products spewing out daily into the Nigerian Society ought to be clinically tested by an independent body before they could be allowed to reach the consumers.

CHAPTER TWO

THE STIMULUS

The generality of the inhabitants of the third world live in rural areas, under conditions of malnutrition, poor shelter, poor sanitation, poor clothing, and lack of basic social amenities such as schools, hospitals and clinics. They are aspiring to attain a living standard in which they can have a decent well-ventilated shelter, pipe-borne water, medical and health facilities and increased farm output through mechanisation and the use of fertilisers.

What do we see when we take a look at the average man in the developed countries? He has a good job, a decent home of his own, a family car, can educate his children, goes to North Africa, Spain, the Caribbean islands or elsewhere, in search of sun, sea and sand.

Things like TV, automobile, the kitchen range, which he takes for granted and regards as a basic necessity, are looked upon as luxurious status symbols in the underdeveloped countries.

Having succeeded in providing himself with what he needs to maintain a good and decent living, modern man, as a result of his increased purchasing power, and technological advances, has proceeded to satisfy his whims and boost his social status further by acquiring

the luxurious extras to life. These include the third or forth family care (usually of giant size), electric letter openers, revolving beds, water-beds, mirror-walled living rooms, $3000 wrist-watch, a thousand pair of shoes, automatic everything and disposable anything.

It is the resultant conflict between these whims and tendencies of man and his actual needs that is the theme of this thesis. I am not against wealth and modern technology in principle, but the way man uses them.

C.A. Doxiadis in his lecture to the 71st Annual Congress of American Industry in New York on 7th December, 1966, laid most of the blame for the urban chaos on the manufacturers:

> "Manufacturing has a very great responsibility for our way of life. Its main concern is to increase the production of better and cheaper goods. But they all fit together into a system, how they serve .. man is nobody's concern. Some produce the motorcars and others the roads, some the airplanes and others the buildings, and nobody is responsible for the inhuman city".

Under the super driving force of profit, the manufacturer spins out his products at a terrific rate and

at minimum cost and maximum profit, irrespective of whether or not his products are beneficial to the society as a whole. With the usual arsenal - the press, raido, TV, stickers, etc - his energetic salesman persuade, cajole, hoodwink, deceive and even force the gullible public to swallow them.

He does not want to install anti-pollution devices to his factory chimneys and drain pipes, since doing that will cut down his profits. The owner of the pharmaceutical caompany might know that his drugs will have harmful after-effects after 10 years. But who cares? After all by that time he must have made enough money and nobody might in the long run say for sure that his drugs were to blame.

The skin-bleach manufacturer convinces you that black is ugly and that it is high-time you started lightening your skin with his products.

The more products and processes you introduce into the society, the more complex it becomes and the more complex its problems become. Right now a dish-burning machine is in the making on the drawing boards of Europe. This gadget is supposed to burn dishes after each meal - instead of washing them! Who knows what the next invention will do - perhaps burn the whole kitchen!

Another interesting consumner product is the

electric tooth brush. The manufacturers claim they want to save the consumers the agony of having to spend their energy in using the conventional type. Why don't we use some of our God-given physical energy in doing little things like tooth brushing, thereby help to conserve our diminishing natural resources, and at the same time save our society from being overloaded with unneeded gadgets?

True, the manufacturers provide us with most of the necessities, conveniences and comforts of our life, but how do we guard against them supplying us with unnecessaries, inconveniences and discomforts?

And what of the consumers themselves? Hear what one of them said in TIME MAGAZINE recently:

> "Like the virtuous woman who is seduced and then blamed for her weakness, I, the consumer, am being blamed for the energy crisis because I drive a big car that guzzles too much gas, and uses too many energy-consuming conveniences that I have been subtly conned into buying. Being blamed by my government, which is charged with planning ahead, averting crisis and regulating the economy."

Come to think of it, the consumer is also to blame. He keeps gobbling, gorging and gormandizing goods and services as if the world is ending tomorrow.

Developed industrial societies have a built-in requirement for high mobility and the car is still the best way of satisfying it - and also, unless the monster is controlled, of smothering them. Trouble is that, everybody, in man's acquisitive propensity, wants to own not only a car but three or four cars at the same time (there are 500 cars per thousand people in the U. S.,A.) so as to gain oneupmanship on his neighbour.

The result is highways and streets choked to a standstill and the original purpose of the car - that of high mobility - is being defeated. The commuter finds it increasingly difficult to get to work in time, and the mental strain of urban life is getting intolerable. The accusation is no longer of

"conspicuous consuption of valuable goods",

but more significantly, of

conspicuous wastefulness".

In the present century, consumption and waste seems wedded, the nuptials attended by such as Thomas Edison and Henry Ford, whose profligate inventions spurred cheap consumption. Merrchandise is deliberately given a short life; the whole range of goods and services, from autos to zinc, is considered disposable.

The ancient adage,

"use it up, make it do, wear it out"

has long been replaced by the modern American credo:

"There's plenty where that came from,

spend and damn the consequences".

Waste, profligacy, squandering of everything is the order of the day.

And after all the cranked consumption, the end product is of course trash and garbage.

Americans alone generate 5000 million tons of them annually.

".....And Man created the plastic bag and the tin and aluminuim can and the cellophane wrapper, and the paper plate, and this was good because Man could then take his automobile and buy all his food in one place and he could then save that which was good to eat a in the refrigerator and throw away that which had no further use. And soon the earth was covered with plastic bags and aluminium cans and paper plates and disposable bottles and there was nowhere to sit down or walk, and Man shook his head and cried".

(by Art Buchwald, 1970)

It is perhaps the most pervasive effluent of

affluence, scarring urban centres and pastoral country-sides, choking roads and seashores assaulting human sensibilities in every corner of the U.S .A. and other industrial nations. The head of the American Environmental Protection Agency summed it up this way:

"What we throw away doesn't
really go away at all"

It is not only trash and garbage. What of air and water pollution wrought by the millions of motorcars on the streets and highways and the thousands of factories and industrial plants that dot the city- and country-scapes ?

There was once a time when the automobile was seen as the perfect answer to urban pollution, That was back at the turn of the century, whenhorses provided virtually all the motive power for the industrial societies - and daily deposited 2½ million pounds of manure and 60,000 gallons of urine on the streets of New York City alone. Small wonder that turn-of the century scientists hailed the development of the auto as a clean, quiet and efficient means of transportation. But no one foresaw that the auto would someday create pollution problems much more severe than did the horse it replaced.

Across the major industrial cities of the world

smog from autos and industrial plants hangs in the air like a dirty muslin curtain, and often gets so thick that it filters up to a quarter of the sun's light. N ot infrequently, School children have trouble breathing and people get treated in hospitals for smarting eyes and sore throats.

In Sydney, Australia, the residents are often outraged by an enveloping stink of hydrogen sulphide spewing out from chemical plants. The famous umbrella pines along the Appian Way leading out of Rome are being reduced to skeleton by soot. Dirty air is rotting the ancient bronze statues in Venice's St. Mark's Square, and eating away the stone sculptures of W. Germany's Cologne Cathedral.

Families are moving out of Johannesburg to escape a gray soot that blots out the South African sun, and in Santiago, Chuile, a pall of smoke from autos, industries and incinerators often obscures the snowy peaks of the towering Andes Mountains.

Highly toxic industrial waste, and hot water from nucler plants, flow into rivers, lakes and seas, killing marine life and upsetting the delicate ecological balance. At the F.A.O. conference on sea Pollution, held in Rome in 1970, the scientists dis-closed that the "self-cleansing power of the sea itself can

no longer cope with the volume of untreated excrement and industrial waste now pouring into it".

The horror is not only Man's uncontrolled mass production, consumption and waste of goods and natural resources from which these goods are made. Big business, with the apparent motto:

"Prosperity without Responsibility"

is raping and plundering the bowels of Mother Earth as if she has no limitations.

The expansion - oriented economics of the Western World are based on the assumption that the earth's natural resources are inexhaustible. It has now become clear that this is not so.

The world is running into a serious shortage of Newsprint because the forests of the world are being denuded of pulp-producing timber, and only feeble efforts are being made at replanting. It is an eye-opener to read what Mechael Glenny said in a recently published symposium:

> In approximately 30 years' time .....
> there will be no more gold, silver,
> platinum, copper, zinc and perhaps no
> manganese, tungsten, molybdenum, left
> in the world at all, and in 70 years
> there will be no more fossil fuels:no

more coal, no more oil, no more natural gas".

The U.S. has already run out of its own chromium and manganese, which is vital to the manufacture of steel, and although it is the largest producer of oil in the world, its proven oil reserves (36 million tons, as against 150 million for S audi Arabia) are estimated to last only 5 years at the present rate of consumption. What is more, at least one - third of the energy which Man uses now is wasted.

The A rab oil crunch, grave as it looks, seems to have its possible blessings too - particularly on the industrial nations. It has jolted the consumer societies of America, Japan and Europe to do something unprecedented - to consider tomorrow. It is a feat that past generations found impossible. It is

"a shock treatment"

It has jolted them into acknowledging that

"the forgotten virtue of thrift, as Ben Franklin once preached to the Americans, is not against the American grain, but deep within it"

(TIME MAGAZINE)

The consumers have been forced to realise that their voracious appetite for electricity for extra heat and light and air conditioning has to be scaled down to reality. The now know that automobiles with petrol -

guzzling engines can no longer continue to be built and that

> "the whole chain of commodities, products and energies cannot continue to be treated as happyily disposable".

In short, the energy squeeze has struck a blow at the very heart of Western life - style and values. The crisis may have been artificially imposed but

> "its implications stretch far beyond petropolitics" .

One may easily agrue that the industrial nations have got the managerial flexibility and the technological capacity to deal with any emergency. But NEWSWEEK has a reply to that:

> "But America cannot retain that capacity without a more realistic society of consumers - a society that accepts its new responsibility to curb it habits; recognising that the good life is not based on quantity. Doubtless the American faith in technology is valid. Alternate sources of energy will be found. But science cannot do the job by technology alone; it needs all the help from the people it can get"

Today science has merged with technology to form a single composite discipline. As a result, every new idea evolved by scientists is automatically put into effect. The mind beggles when one surveys the possibilities that lie in store for Man in the next 30 years. Many of the great scientific advances today are made not so much to solve existing problems as simply to create an innovation which invariable alters the lives of millions of people.

We already hear of experimental CLONING, which is a technique for producing an exact genetic copy of an adult animal by using a nucleus of a cell from a model animal to replace the nucleus of a fertilized egg, and subsequent replacement in the womb.

The implications of the discovery are vast, one of which, if applied to human beings, is that a woman, in future, may decide that she likes her future child to be Isaac Newton or a Winston Churchill, and employ the cloning technique to achieve her objective!

Current experiments on such projects as artificial insemination, the rearing of test-tube babies and secondary implantations indicate a future - not very far off - when a woman could beget all the children she likes without the necessity of having sexual intercourse with a man! These are great scientific achievements no doubt.

But the coin has a reverse face:

To be fair, let us spare a word of tribute for some of the Governments of the developed nations who recently have started making some efforts - though not extensive yet - at reappraising technology and how man uses it.

In 1972, the U.S. Congress voted to create the office of Technolgy Assessment, which is a kind of early - warnig system to evaluate every aspect of the various new technologies it is regularly asked to fund, with special emphasis on their social, economic and environmental impact.

One case in point was the decision by the same Congress to cancel the production of the Supersonic Transport (SST), because of its cost and environmental implications. The questions at issue are : Who actually wants to travel at that dizzy speed of 1500 mph? Who wants to travel faster than the present jumbo jets? Did the protagonists of the SST merely want to counter the Anglo-Frech Concorde (which no airline now wants to buy), and the ill-fated Russian TU - 144 (which burst into flames over Paris last year) ? Or was Boeing Aircraft Corporation (the manufacturers of the SST) trying to push its technological baby through the Congress in order to make money?

Also the British government is not sitting idle.

It has already set up the Ministry of Technology whose primary function it is to determine

> "the future technical advance which will yield benefits to society as a whole without turning us into robots. ..... people want technology - but technology with a human face".

From the day the first atom bomb was dropped, science has been running amock, and like a wild horse that has bolted from the stable, it taxes the ingenuity of all the king's men to put it back into harness.

As economic standards rise, there is an increasing fear of excessive mechanisation, that technology is being misused, that we are pursuing increased production of goods and services too singlemindedly and

> "without regard for the general quality of life".

People are becoming increasingly concerned that this general quality of life will be damaged because the wider effects of technological change are either not thought about or disregarded.

Science makes nations and individuals rich. But one thing about the accumulation of money is that it tends to snowball: money begets more money and invariably the process becomes continuous to the point

that the accumulation is no longer a means to any end, but an end in itself. That, as Professor Onabamiro said

" seems to be the immutable law
governing the mobilization of riches,
yet it has proved to be in ivarse proportion
to the degree of human happiness".

It is however to be noted that it is only by the application of technology that we can cope with the consequences of technological change that has already occurred. Richard Nixon in his 1970 Budject message to the American Congress summed it up this way:

"Where technology has polluted,
technology can purify".

While trying to run away from technology, we have to employ technology to help us run.

But we have to be careful in our attempts to solve these problems. For example, people have been toying with the idea of building twelve lanes, fifteen lanes to solve the traffic congestion in cities, But unless you tear down half the city for parking lots, you won't solve the problem, and themore you provide for automobiles, the more automobiles you induce into the streets, and highways.

It will be very wise if at this stage of Man's existence, we realise early enough that technology has

its limitations - that it is not omnipotent.

"Scientific progress is fast approaching
the point of diminishing returns,"

wrote Molecular Biologist Gunther Stent in his famed book

"The Coming of the Golden Age"

He continued:

"Man may never know how the universe
began or what is the most fundamental
of atomic particles, because such mysteries
remain hidden in an endless and ultimately
tiresome succession of Chinese boxes".

In the '60's there was the optimistic image of the American society as a system whose major problems are deemed altogether soluble, if only enough technical skills and financial resources are appropriated. But this long-held vision has begun to fade in the minds of many people.

"Now Man's confidence in his power
to control his world",

says TIME, "is at a low ebb. Technology is seen as a dangerous ally, and progress is suspect.

Scientists are beginning to realise that
they have fewer answers than they once believed" .

And Arthur Koestler in his recent book

"The Roots of Coincidence"

has something to say:

> astronomy alone seen to have turned
> scientists into peeping Toms at the
> keyhole of eternity".

In conclusion, one might ask:

Where do we go from here? We the developing countries of the third world have plenty of hard lessons to learn from the developed nations, if only we can be keen-minded enough to discern their ills, and farsighted enough to see what is ahead of us. It is all too easy to argue that liberalism and permissiveness should be allowed to pervail in the society. But those who claim to leave man "free" are merely abandoninghim to uncontrolled forces in his environment - an environment based largely on selfishness and rapacity.

Right now, we the third world are heading to the place the Europeans are running away from. We are guilty of unquestioning acceptance of whatever they give us - buying their cars, and their aspirin, duplicating their textile and cement factories, adopting their dress or religions, smoking their cigarettes and infact doing everything they do.

"We are in danger of having

"too much of science".

There is a crying need for constant self-reappraisal to see if we are marching along the right road to progress. We urgently need to forge strongly - directed national ideologies that will enable us to re-examine and re-orientate our warped values and socio-economic goals. I am not advocating less science, but carefully planned science.

Yes, we are late starters in the mad race for modern technology and we have a big gap to bridge. But the final point I would like to make is that that very late start may prove an enormous advantage to us because we can thereby learn from the mistakes of the early starters and avoid some terrible pitfalls in which they now find themselves.

Thank you.

CHAPTER THREE

THE RESPONSE (NEED FOR A THINK TANK FOR NIGERIA)

"The time is past when progress in itself seemed enough and when men, amazed at their staggering technological and scientific advances, luxuriated in absolute confidence in the future. Today every one questions where such progress, is leading, and what are man's chances and means of attaining greater happiness in a modern society".

B. F. Skinner

There is a strong need for us to start questioning where our progress is leading us to. We should not continue to swallow blindly all the various technologies that are daily flooding our developing societies from Europe, the U.S.A. and Japan, without thoroughly scrutinising them.

We can hardly lay claim to a rational and planned growth unless we start screening imported technology, bringing in the ones we need and rejecting the ones we don't need. This is the only way we can guard against running into the type of crises and difficulties now confronting the industrial nations.

This situation requires a high-quality, multi-disciplinary task force of ideasmen, a body of top intellectuals and

practical philosophers who solve problems from an inter-disciplinary approach. Their work falls into 4 main categories:

(a) They will be involved with ascertaining the social desirability and performance of all the products and processes entering our poor country, thereby deciding which ones are to be allowed in, or modified to suit our conditions, or completely rejected.

This censorship will be on two levels:

Technical - testing the performance - quality of consumer products

Sociological- e.g. does our society need a dish-burning machine?

(b) This censorship will concern not only imported consumer foods, but also products manufactured locally.

(c) The increasing complexity of modern man's society of today has given rise to equally complex problems which can be best tackled from multi-disciplinary vantage point. This brain bank will therefore also be involved with researching into and providing solutions to the multi-faced social problems plaguing us today. These include rural and urban poverty, environmental pollution, public health, mass transportation, alternative medical health systems, new towns, urban design, regional

planning, housing policy, improving the quality of education, nutrition, possible uses of garbage and other waste products, economic development plans etc.

(d) In addition the thinkers are to analyse foreign and domestic policies for the government and provide it with ideas and alternatives.

In short the Think Tank will provide the nation with a certain calibre and kind of thinking which it cannot buy elsewhere, It shall offer long-range thinking on a broad variety of matters not available in the regular halls and chambers of government, whose operatives ear their thinking to day-to-day needs and emergencies.

This Think Tank should be more convenient and manageable than a university centre, where such difficulties as maintaining security and bridging strongly maintained departmental lines to put together large teams of inter- disciplinary researchers will present too many problems.

The Think Tank is to act as a bridge between knowledge and power and between science/technology and policy-making in areas of broad interest. They are something like middlemen who find, assemble, and interprete knowledge for its ultimate consumers who are both the society and goverment.

It contrasts to traditional research outfits which

normally produce scientific knowledge for other scientists and researchers.

Given its role as a censor, problem-solver, innovator and planner, in a complex, troubled, and problem-saturated era, this TT is clearly worth thinking about.

CHAPTER FOUR

MODUS OPERANDI, PERSONNEL - STRUCTURE

"M. I. T. holds that exciting things can and do happen when a mind from one discipline encounters a mind from another"

ARCHTL FORUM, JUNE 1964

Because of the nature of the problems it faces, and the techniques it employs, the TT is not limited to professionals from one field while working on any given project and uses a team of experts from a number of fields on large, long-range projects. It needs to have a large degree of freedom in both defining the problem it is attacking and in making formulations and recommendations.

The ideasmen are to be grouped in Departments which cover all the major academic disciplines.

There are no rigid departmental lines separating departments as obtains in a University. Easy inter-interdisciplinary contact is essential to its proper functioning.

When a thinker is assigned to lead a case (ie. a project or research problem), he is free to move through the staff of any department to line up the team that he needs to get his work done. It is possible for a man to

be working on more than one case at a time, so it can happen for the case A team to include the leader of the case B team, on which the case A leader is also working.

The structure of the TT is to be particularly flexible or "organic". That is, one which resists permanent operating structure and possesses a minimum of hierarchical authority. Communication between individuals needs to be direct and there's no need to see somebody else's boss before involving him in a case. Nobody is "assigned" to do anything, rather people are asked if they want to lead a case or if they will participate in one.

The thinkers are to be made not only of experts but also accomplished generalists, those with rich but mixed credentials. Some of these generalists can actually be specialists to begin with, but can roam through cases of great diversity within that specialty.

The people to run the place are to be principally concerned with fostering an environment in which teams can be easily formed and in which meaningful and creative tasks can be performed. Their style is to offer ideas in this big place and then tell them to get involved. This calls for looking for a certain type of person who is innovative, brilliant, has integrity and is genuinely curious.

The principal clients of the TT are the Federal and

State governments, though later, private bodies may be allowed. A lot of cooperation between the TT and the universities is envisaged in the form of exchange of information, personnel etc.

The ideasmen are to number about 250 initially and may continue to grow and expand to a maximum of about 400 thinkers. This initial number is broken up as follows:

Economics 32,	Sociology 20
Psychology 10	Political Science 16
Philosophy 10,	Geography 6
Education 7	Medical Science 27
Law 6	Organisational Science 8
Systems Engineering 10	Chemistry 11
Maths 5	Biological Sciences 6
Agricultural Sciences 17	Physics 4
Linguistics 2	Electrical Engineering 9
Mechanical Engineering 9,	Civil Engineering 8
Environmental Sciences10,	History 8

As custodians of a rare and precious national commodity - briains - the TT has a serious responsibility to see that this commodity is used wisely and productively in coping with some of the most important problems of our nation and society.

The thinkers are to be drawn from within the country but in areas where Nigerians are not available, foreigners can be enlisted.

CHAPTER FIVE

THE PRESENT PROBLEM -S OLVING SITUATION IN NIGERIA

Inter-disciplinary approach to problem-solving is not yet practised here in Nigeria ost of our problems are tackled simply by hurriedly forming ad hoc bodies to handle them or by giving them to our all-purpose permanent Secretaries who are already overloaded with their normal duties.

The research institutes we have in this country are concerned with producing scientific knowledge in their specific fields. Some of these are the International Institute for Tropical Agriculture (IITA), which is concerned with improving tropical crops, the Cocoa Research Institute, the West African Institute for Oil Palm Research (WAIFOR) etc.

Two Institutes are outstanding because of the nature of their involvements. These are the Nigerian Institue for Social and Economic Research, Ibadan (NISER), and the Industrial Research Centre, Oshodi, Lagos.

NISER is attached to the University of Ibadan, is Federal Government-financed and consists mainly of Socio-Economists. It is the Research Insitute closest to the Federal Government. Its work is primarily

(a) to provide consultancy services to the Governments such as helping to work out Econonic Development

Plans,

(b) making feasibility studies on proposed industrial and agricultureal projects both for governments and Privato industry.

(c) conducting independent research into socio-economic problems.

NISER'S work is not inter-disciplinary and is basically technical. That is to say, it may conduct a feasibility study on the establishment of an industry, but it does not make a study on its social desirability.

Another outstanding institute is the Industrial Reaserch Centre, Oshodi, Lagos, which is under the Federal Ministry of Industries. It provides private industry with technological information and help, as well as resaerching into ways of making use of our local natural resources.

I intend to copt NISER into the TT while all the other research institutes continue functioning as they are, but with plenty of cooperation between them and the TT.

CHAPTER SIX

THE SOCIAL FORMAT FOR ITS SUCCESSFUL OPERATION

".....The time is upon us for a reordering of our national priorities".

It takes a dedicated, far-sighted, philosophic and discerning leader to decide that a Third World Nation such as ours should start screening imported technology instead of swallowing whatever is given to us.

It takes a contry with a very strong direction and national purpose to do this - a country whose overriding goal is the betterment of the lot of man and his posterity.

For the purpose of this thesis, I am assuming that this atmosphere is already existing in Nigeria. Without this format, the TT can hardly function efficiently.

Opinion is increasing among learned circles in Europe and the U.S.A. that the Western Industrial Civilization is heading towards a collapse (NEWS WEEK, Feb. 15, 1975). The question is what shall the third World do if it finds this Industrial Systen truly crumbling? There are 3 options open to it:

(a) Continue marching to where the West is coming from and then collapse later.

(b) Start to evolve a modified form of industrialisation.

(c) Rush back to the villages and resume farming life.

This last option is still possible because we are not yet fully dependent on t a man-made system (the industrial economy) - a system born principally out of man's quest for affluences - a quest that is closely related to the vice in man.

This thesis is urging the Third World to accept the 2nd option and start <u>now</u> to develop along that line. The earlier we start the better for us. We can't afford to wait.

CHAPTER SEVEN

WORLD TRENDS

"There is a place outside of time and place, although its influence on peoples' lives is very great. The name of that place is expertland, the residents are called experts, and they speak a language called expertise. The inhabitants are multiplying rapidly and spreading far beyond their original boarders. It appears possible that they may eventaually occupy all the world".

From Robert Sommer, "EXPERTLAND"

Multi-disciplinary "brain banks" exist in the U.S.A. and one or two other countries. This is actually a new approach to problem-solving. The most outstanding "brain supermarkets" in the U.S.A. are the RAND Corporation and Arthur Do Little (ADL). They contain some of the finest brains in the U.S.A. and "can research virtually anything researchable".

A famous Professor of Futurology at the Berlin Technical Institute, Dr. Robert Jungk says:

"There is a new movement in the Third World which considers such of Western Technology inappropriate for the developing countries. This movement supported mainly by young scientists want a technology of their own, which would be

geared to the Third World climate, resources and the skills and life-style of the population - a technology which would put people to work rather than robbing them of their living. They want to develope the kind of Industry which has man- and environment - oriented production units designed for the long range rather than quick profitability"

CHAPTER EIGHT

ARCHITECTURAL IMPLICATIONS

" ..... It (M.I.T.) has no compunction about shifting departments around as one discipline flourishes and another begins to wither. The physical corollaries of these ideas are maximum linkage between buildings and maximum flexibility within them.

ARCHTL FORUM JUNE 1964

Since the Think Tank is arranged in academic departments, it is to contain mainly offices, laboratories and workshops, apart from support facilities such as a central information centre, a colloqium for all the thinkers, administrative department etc.

This place can be likened to a university without students, and so the architectural challenge is something resembling campus planning. But maximum linkage between buildings and maximum flexibility within them is of paramount importance. This is the only way to make easy inter-disciplinary contacts practicable.

Apart from the departments, there is the "CONTACT POINT" which is more or less a physical link between the society and the TT. The contact point is where people could come and get involved with the thinkers, seeing some of their work, hearing them and exchanging ideas with them. It consists of:

An Industrial Expo pavilion

- 4800 sq.metres

A Science pavilion (for exhibitions of the

"unwanted babies of modern technology"

- 900 sq. metres

A colloquim - 800 sq. metres

A scientific Information Centre

- 500 sq. metres

as mentioned earlier, the TT proper is to consist of:

Laboratories and Workshops

- 12,900 sq.metres

Offices (for 250 thinkers)

- 6930 sq. metres

Thinkers Information Centre

- 3400 sq. metres

Administrative Department

- 800 sq. metres

Thinkers Colloquim - 800 sq. metres

Maintenance Department

- 5000 sq.. metres

The laboratories and Workshops are divided into five broad

categories

CIVIL-ORIENTED - 2200 sq. metres

MECHANICS - ORIENTED - 3000 sq. metros

ELECTRICAL- ORIENTED - 2600 sq. metros

CHEMICALLY- ORIENTED - 2700 sq. . metros

HEALTH -ORIENTED - 2400 sq. metros

E.g. Civil-oriented laboratories and workshops may be involved with things like air, water and land pollution transportation, etc.

Health-oriented labs could be doing work concerning nutrition, medical sciences, public health, etc.

HOUSING

Housing for the thinkers will be of low-medium density of 100 persons per hectare. Total land area of about 14 hectares is needed. Located near the precinct. Made up of 1,2, or 3 storey houses, with community facilities.

CHAPTER NINE

LOCATION

Since the TT is closely related to the Federal Goverment, its location ought to be very close to the seat of the Federal Goverment. Hence Lagos was chosen. Moreover, most of our imported technology is through Lagos. Naturally it should be screened at the point of entry into the country.

SITING

My TT is essentially a populist concept, not an elitist concept. I want people to get involved and be closely associated with it, rather than an ivory tower standing aloof from the masses. Hence I have sited it along one of the main streams of movement in Lagos, See site map.

REFERENCE

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THE COMING OF THE GOLDEN AGE	GUNTHER SLENT
THE ROOTS OF COINCIDENCE	ARTHER KOESTLER
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