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**THE SCIENCE OF CREATIVITY:  
APPROPRIATING THE POWER OF THE  
IMAGE OF GOD**

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BY

**OLUMIDE OLUSANYA**



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# **THE SCIENCE OF CREATIVITY: Appropriating the power of the Image of God**

An Inaugural Lecture Delivered at the University of Lagos Main  
Auditorium on Wednesday, 10th November, 2004.

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## SYNOPSIS

In this lecture the words creativity and productivity are sometimes used interchangeably. Creativity is here defined as the capacity for value-added in the transformation of material. Material in this sense can be either abstract (as in notes of music transformed into melody) or physical (as in cotton transformed into fabric). The premise of this lecture is that man is the only creature to whom the power of transformation of material (i.e. creativity) has been imparted, and that this power is central to the Judeo – Christian doctrine that man was created in the image of God, the Creator of heaven and earth, and all things both visible and invisible.

The lecture seeks to demonstrate that the wealth of a nation has its basis not in the material resources available in the land but in the productive capacity of the people. Productive capacity is the power to create wealth through large scale addition of value to material resources even if the materials have to be brought from halfway around the world. That is, a land awash with gold – black or white – or diamonds, whose people lack the capacity to produce, must wallow in poverty and strife, and backwardness and debilitating corruption. And while corruption is often mistaken for the problem of a nation's underdevelopment, it is, invariably, merely a symptom; the disease itself is lack of productivity. From which it follows that those men who would appropriate the power of the image of God should create wealth and live in prosperity. As such, those men who shun productivity are, like beasts, governed by the law of the survival of the fittest, where the strong appropriate to themselves the available natural resources. Appropriating the power of the image of God is a principle that operates regardless of belief or unbelief or disbelief, and it is quite a different matter from the power of the sons of God, for which belief in the only begotten Son of God is both an imperative



as well as a pre-condition.

This lecture will then examine the principles that govern certain elements of creativity such as inspiration and transformation of knowledge into operational and performance skills. And that for the nation to get on the path of development, the Nigerian intelligentsia must undergo a change of paradigm where knowledge must of necessity translate into high value-added operational and problem solving skills and educational qualifications are perceived, not as ornaments, but as tools of production.

## PROLOGUE

- **A** comes to the market with world-class shirts. Cotton imported from a far country is transformed into fabric. More value is added in large scale conversion of fabric to garments and more value-added in labeling and packaging.
- **B** comes to the market with world-class shoes and foot wears. While some others would cook and eat the skin of their cattle, **B** converts hide to leather. More value is added in the design and production of a whole range of footwear.
- **A** and **B** exchange shirts and shoes and are quite happy with the bargain and the goods.
- **C** comes to the market with oranges and pineapples.
- **A** proposes an exchange rate of half a dozen shirts for 1,000 kilos of oranges. **C** is furious at the brazenly unfair offer, and indignant that he would be mistaken for an illiterate farmer when in fact he holds a B.Sc. Honours in Agric Economics and an MBA for good measure. **B** proposes an even more outrageous exchange. **C** declines to do business with either.
- After a week, 5% of **C**'s oranges are quite ripe another 5% have started to rot. **A** offers half a dozen shirts for 2,000 kilos of oranges, **C** curses his mother.

- After another week C disposes his entire consignment of 5,000 kilos of oranges for half a dozen shirts.
- C then recalls some of the biochemistry and food technology he had learnt at the college of agriculture and started to experiment with the preservation and packaging of fruit juice.
- After some time C starts to bring packaged fruit juice to the market and soon become both prosperous and respected in the market place.
- D comes to the market bringing nothing and wanting everything – shirts, shoes and fruit juice. And when asked what does he have in exchange for the shirts and shoes and fruit juice, he replies that he has been reliably informed that there is a spring flowing in the belly of the earth in his backyard which they require for the production of their goods, but that as he has neither the capacity to bring it to ground zero, nor the means to transport it to the market, they should arrange to come and get it.

## IN THE BEGINNING

Throughout the history of mankind, men have always believed in some creation legend or another that seeks to explain the origin of man and the universe. In the nineteenth century the theory of evolution was proposed which claims that man is the end product (at least for now) of continuous development of higher forms of life out of lower forms as a natural process of competition, natural selection and survival of the fittest. This theory in some form or another, has become almost universally accepted by the scientific establishment of the twentieth century and has been systematically applied in all aspects of natural and social sciences.

The Judeo-Christian doctrine of creation based on the book of Genesis in the Holy Bible has been around and widely held for centuries, in large part, due to the influence of the Abrahamic

religions – Judaism, Christianity and Islam. According to this doctrine, the universe was created and is sustained by an All-wise, All-knowing, Almighty, Omniscient God. The first chapter of the book of Genesis details the sequence of creation of plants and animal species. This sequence instructively approximates modern biological classifications in the sequence of groups of increasing complexity and levels of organization.

Significantly, it places emphasis on the principle that every species of plant and animal life were created separately and “according to their various kinds”.

I am not here interested in joining the universal debate on Creation versus Evolution since neither the doctrine nor the theory can be proved or disproved. Modern biological taxonomy holds man to be the highest form of organic life being the most advanced primate, which is the most complex form of animal life. My thesis is simply this: the creation - man - is infinitely greater than the sum of his parts. That is, while man might be biologically classified, based on his anatomy and physiology, as a mammal or primate, the reality of his consciousness, and the totality of body, mind and spirit, makes him, not merely a higher and more advanced form of organic life, but a unique and completely different form of life altogether.

## **FEARFULLY AND WONDERFULLY MADE**

*What is man that you are mindful of him*

*The son of man that you have regard for him*

*For you have made him but little less than yourself...*

**- Ps. 8:4-5**

Let us consider the hypothetical case of a man, living all by himself in the wilderness, who has never had contact with other men.



Such a man is to all practical purpose a beast. Because he is unable to develop his power of speech, his reasoning powers will be severely limited.

Every form of animal life is programmed (hardwired so to say) to exhibit certain characteristics of the specie. Therefore a puppy will trot and bark like a dog without ever having contact with other dogs but the human infant raised among dogs will bark exactly like a dog and go about on all four limbs. And unless it comes in contact with some other creature that walks on two legs, it will not walk. Raised among monkeys, it will learn to perform astonishing feats of acrobatics. Raised among crocodiles (in so far as it does not get eaten up), it will go in and out of water swimming and crawling merrily in the mud.

The commentary on "evolution of human being" in the *New College Encyclopedia* points out that "the human specie is distinguished from all other animal life by a remarkable nervous system and a unique form of social behavior termed Culture. No other animal is endowed with the capacity for such complex conditioning or learning. Because human cultural experience is cumulative through time, the necessity for repetitive trial and error is reduced. Virtually every human act, even glandular behavior is influenced directly or indirectly by culture."

The significance of "the remarkable nervous system" has to do with the brain and the mind of man. The brain as a biological organ is merely an astoundingly complex organic "*hardware*", which gives man his unique capacity for learning. Thus our hypothetical human infant might learn to bark, swim or perform acrobatic acts, but still, to all practical purposes - a beast. The moment you have two or more humans in fellowship, the mind "*as software*", with its unique capacity to create ideas and devices



outside of heredity, becomes activated. The cumulation of ideas and devices are then passed on to offspring and succeeding generations by social means – culture. What this means is that isolation, reduces a man to mere animal. Fellowship transforms and transports man to a different level of existence. In the last 6000 years, the chimpanzee or the gorilla has not acquired a single capacity that is not inherited. In the same time frame, man has learnt to build pyramids, coliseums and skyscrapers (and to blow them up), invented the aircraft, landed on the moon and sent spacecrafts to Mars.

The most compelling explanation that fits the facts and which best reflect the reality of human history in the past 6000 years is the biblical account in Genesis 1:26 in which man is a special creation impacted with the image of his Creator, instructed and empowered to have dominion and to subdue the earth. And because he is created in the image of God, man apes God. The power of creativity separates men from every other form of life and there is no competing hypothesis that explains this phenomenon as persuasively, except of course, for those whose basic assumptions and core beliefs precludes, a-priori, the existence of God.

Now, someone might say to me, “*haba*, Professor! You mean a man of your education will disregard the hard scientific evidence for some 2 billion years of biological life preceded by 2.5 – 3 billion years of lifeless geological earth and believe that the universe was created in 6 days?”

My response to that is this: I am not interested in the debate among even creationists of whatever stripes or biblical commentators as to whether the six days must be taken literally or as representing periods of time, since to God one day is as a thousand years and a

thousand years as one day. A penetrating commentary is provided in "Summary of Genesis" in the Annotated Reference Bible by F.J. Dake. It holds that, the "*In the beginning*" of Genesis 1:1 where God is recorded to have created the heaven and the earth, refers not to the beginning of the present age, but to a pre-Adamite or ageless past which God destroyed in the first universal flood called Lucifer's flood (described in Genesis 1:2 – "the earth was formless and desolate. The raging ocean that covered everything was engulfed in total darkness" – representing the fall of Lucifer, distinct from the second universal flood called Noah's flood). This destruction necessitated the remaking or reconstruction or restoration of the earth to a second habitable state (the present Adamite world) in the six days of about 6000 years ago detailed in Gen. 1:3- 2:25.

I personally find this exposition both compelling and extremely persuasive, especially in reconciling the scriptures and the discoveries of science (as distinct from the theories of science) in its assertion that it is to the pre-Adamite Universe called Ante-chaotic Age, (which might well have lasted for billions of years) to which all fossils and pre-historic remains belong.

But for me, all these are secondary issues, for what I have found is that if one would plough through the details of the scriptures with the object of getting hold of principles, the Holy Bible would be found to be amazingly coherent and consistent; having the power to illuminate every branch of knowledge; an infallible compass for navigation through the wilderness of existence; an invaluable and inexhaustible resource in providing both meaning and purpose to this confusion of living and dying.

Reduced to first principles, the significance of the first chapter of Genesis for me is this: That at some point in the creation or

restoration or regularization of the earth, God created man and imparted him with creative powers and instructed him to be fruitful, i.e. to be productive. And that subsequently God rested from His works. Which means that, for good or ill, the process of creation on earth has ever since been continued only through the agency of man, and that when you see a behemoth Boeing 747 gliding down like a feather, it is the creative power of God being exercised through man. Whenever your soul is transported by music, timeless in its beauty, the brass and string sections soaring and weaving in and out of one another in majestic splendor; it is but a reflection of a pattern existing in the divine mind; and both the composer and musicians are but the instruments, "so to speak", in the actualization of the music. This is what I call, *The Power of the Image of God*.

## THE POWER OF THE IMAGE OF GOD

Creativity is here defined as the power to add value in the transformation of material. Material in this sense is anything at all, abstract or physical, having defining characteristics or properties. There is a difference between value and price. The price of a material is simply a matter of demand and supply in a given place in time. Value is that which only man is given the power to add to material. For example a cubic meter of mahogany can be had in Sapele for a song. In London you pay premium for it. Now in the hands of a bad craftsman, that which is produced from the piece of mahogany is worth less than the price of its weight in timber i.e. "worthless". In the hands of a great sculptor transforming it into a masterpiece however, the piece becomes "priceless" – "Then the Lord formed man from the dust of the ground and breathed into his nostrils the breath of life and the man became a living being". This is the ultimate addition of value in the transformation of material.



*The power of the image of God* is not to be confused with *the power of the sons of God*. The power of the image of God was imparted at the creation of man and is still operative regardless of the fall of man; hence, it can be put to any use for good or ill. The power of the sons of God is as the result of the redemption of fallen mankind by the only *begotten Son* of God. John 1:12 says that *to those who believe in His name, to them He gave power* (i.e. authority) *to become the sons of God*. The difference is simply this: A scientist might invent a computerized robot; the invention would be in both his mental and physical *image*. *The son the scientist begets is according to his kind* – Mankind.

A composer transforms notes of music to melody. An arranger scores the melody for a range of instrumental sections. A conductor conducts a 100-man symphony orchestra in the performance of the music. A producer produces a high quality recording of the music for CDs; a distributor markets the CDs to the ends of the earth. At every level value is added to materials. The cumulative addition of value on a large scale and marketable quality, results in the creation of wealth. The basic material - notes of music - are free. Creation of wealth has to do with the power to add value and the levels of value added. It is instructive that the greatest wealth that is being created in the world presently is in the Silicon Valley, Richmond/Seattle axis along the Pacific coast of the United States. Silicon (i.e. sand) is being transformed into digital hardware; and 0s and 1s of the binary code are being transformed into digital software on a scale that dominates the computer market worldwide. The richest man in the world creates more wealth adding value to 0s and 1s than Nigeria does selling crude oil. This is because Bill Gates' wealth is based on the produce of the mind; Nigeria's wealth is based on the produce of the ground, with little or no local value-added, upstream or downstream. The image of God has to do with the mind and not



the ground. **In the creation of wealth the mind is our greatest resource.**

In an article titled "The Rentier State and National Development" Segun Ayobolu describes Nigeria as a classic example of that specie of post-colonial state known as the rentier state which receives substantial amounts of external rents on a regular basis paid by foreign governments, institutions, and agencies.

"The essential feature of the rentier state in the world market is that it *severs the link between production and distribution. State revenue accrues from taxes or rent on production rather than from productive activity.* Production depends however on techniques, expertise, investments and capitals generated outside the territory controlled by the state. For this reason, practically all aspects of exploration, production and marketing are dominated by international capital, typically in the form of transnational corporations.

A major characteristic of the rentier state is that the excessive dependency of the economy as a satellite in the international capitalist economy and *the abnormal development of petroleum as an enclave sector with little or no forward or backward linkages with the rest of the economy.*

He went on to argue that, "the transition from dependence on the export of a few agricultural cash crops to dependence on the export of oil does not lead to any fundamental transformation of the economy. The emphasis is still on earning foreign exchange to finance massive import, award inflated contracts and enrich the few at the expense of the majority." (Ayobolu 1995)

Now, if the wealth of the country is as the result of taxes or rents

paid by foreign governments and agencies and not by the productive activities of the people, it is naïve in the extreme to expect or imagine that it can be shared out equitably. Where you have money that no one has worked for it is inevitable that the strong would corner it and “enrich the few at the expense of the majority”. This is the natural law. It is the new economic order brought about by the industrial revolution when scientific and technological progress resulted in the succession of inventions that made possible large scale production which resulted in the creation of wealth. Men who have not learnt to create wealth are controlled by the old economic order, where men simply went to war in order to enrich themselves by plundering other men’s goods or by enslaving or colonizing them. Historically a king required no justification in order to attack his neighbors. You defended yourself if you could, but it was meaningless to call him evil.

Where men live by the produce of the ground rather than the produce of the mind, they are, like beasts, subject to the law of the jungle – “*the survival of the fittest.*” It is this law that translates into backwardness and poverty, corruption, civil and ethnic strife, and the desperate struggle for power shift...

However, for an underdeveloped country, Nigeria has a relatively large educated class but the education is not being used to transform the economy. Everybody wants a share of the national cake; why toil for something that others are having for free?

The national budget of Nigeria at about 10 billion US dollars is the annual budget of the University of California system of universities consisting of 10 top universities. It can surely not be considered a lot of money for a nation of 120 million. What is required here is a change of paradigm. Education must translate into a tool of production rather than a badge or garment of

distinction.

The relationship between education and productivity is what I call "*The Science of Creativity*." This I shall expound in three sections:

1. Creativity and the Education of the Heart.
2. Creativity and Acquisition of Skill.
3. The Culture Co-efficient of Creativity.

## CREATIVITY AND THE EDUCATION OF THE HEART

*"The universe reveals a-priori interconnected principles of order available to human understanding. The ground of this order is an anticipatory intellectual wisdom that Fuller regards as God. Man discovers these universal principles, gives them direct theoretical formulation in science then recreates them in technology. The important point is that all technical progress is discovery: man never invents but only discovers because everything is pre-formed in nature."*

**-C. W. Condist**

*(paraphrasing Buckminster Fuller, American philosopher and Inventor).*

Creativity generally involves both analysis and synthesis; man discovers universal principles, recreates them in technology. This is clear enough as regards technical invention, but is artistic invention not simply a matter of self expression?

Bruce Allsopp in "*The Architect and His Ego*" argues that "Truly the artist who would achieve greatness has to forget about himself and become the vehicle for the creation of something which comes from all the stimuli which actuate his work." In the case of a work of architecture, site, environment, significance, client,



community, cost, structure, function and many other actors are focused in the mind of the architect, when the design is created through a process of challenge and response between the mind and what is externalized as the evolving design on the drawing board. The architect is the medium but he is capable of intervening and imposing his will as one of the stimuli, even as the main stimulus.

“Behind this lies the little understood phenomenon of artistic originality...Being different in order to appear original is merely fraudulent...if there is to be real originality in any degree, the best thing is to forget about it, strive for quality and give the tender plant of originality a chance to grow and blossom on its own” (*Allsop 1994*).

This means that the extent to which the architect, as a medium or instrument, imposes his will as one of the stimuli is in direct proportion to the distortion that is introduced into the work. This is like the way a piano, which is out of tune, distorts music performed on it. A well tuned piano is, “so to speak”, dead to itself and therefore, reproduces the music with fidelity. On a tuned piano moreover, the tonal character of the instrument is revealed in all its glory. Similarly where the artist would die to self, the artistic character of the artist is revealed in the work and this is invariably a beautiful thing, quite unlike the affected originality that goes by the name, self-expression.

All these might seem paradoxical, but creativity always involves what is called the equilibrium or reconciliation between opposites: the heart and the mind, the science and the art, analysis and synthesis, dying to self in pursuit of fullness of life, discipline as a condition for liberty, knowledge and know-how as pre-condition for inspiration. Many years ago, I wrote a one-line poem on



creativity, which says:

*"Real creative insight will invariably be bought at the cost of rigorous intellectual enquiry, for the heart will not be inspired to possibilities the mind does not understand."*

I later found something of a scientific analysis of the poem in a discourse on *Peak Experiences and the Creative Act* by George Nelson: "In all the experiences I have been describing, what we get is an invariable pattern.... First you collect and analyze information, then apparently, the non-rational part of the brain goes through a mysterious search for bits of information that have no meaning to the logical part of the brain, and then something happens. For the process to work, for the creative act, the logical analytical part of the brain has to be put out of action. This goes against normal behavior. (Nelson 1979)

He went on to say "We're beginning to learn some of the reasons why these things happen and how. Research into the structure and behavior of the brain indicates that its hemispheres or lobes are specialized. The left lobe seems to work very well with linear problems like language and analysis: the right hemisphere deals primarily with visual matters, synthesizing activities, and non-linear situations generally. What we call inspiration seems to stem from the right lobe's phenomenal ability to go switching through memory banks to pick up seemingly irrelevant items that come together and make sense, which the left lobe cannot do. May be the excited, enormously satisfied feeling of a great event occurring is the happy surprise of finding that for once in your life both lobes are actually cooperating. In a direct, practical sense, this means that inspiration doesn't just happen to anyone. It is not like getting struck by lightning. The left lobe must do its homework, [*for the heart will not be inspired to possibilities the mind does not understand*] collecting the data and taking the

problem as far as it can, [*the cost of rigorous intellectual enquiry*] and then the right lobe has to get into its own act, which is this mysterious searching for things that can be fitted together. [*real creative insight*].

## CREATIVITY AND ACQUISITION OF SKILL

*Master a good technique and then leave yourself at the mercy of inspiration*

- Old Chinese Proverb

Some of my most important work have been in the study of the theory and practice of skill acquisition and capacity building. The relationship between knowledge and skill can be demonstrated in the following model for the acquisition of skill that cuts across, and is applicable to, all disciplines ranging from the fine and performing arts (painting, music, etc.); applied arts and sciences (architecture, technology and medicine); to include sports and recreation. The process can be described in four progressive steps. (Olusanya, 1993)

The first step in *Science* as the body of organized knowledge in a particular discipline.

The second step is *Technique*, which is the application of knowledge: applied science.

The third step is *Craftsmanship*, which has to do with the mastery or perfection of technique.

The fourth step is *Art* as in '*the state of the art*'; which means the creative heights of an idea, or performance at the cutting edge.

As a discipline develops, *art* is by a corollary process, distilled

into *craft*, which becomes reduced to *technique*, which in turn is distilled into *science*. The whole process can be thus explained: theory is the basis of practice; practice in turn is the basis for theory. This model will be illustrated with two specific examples.

## THE SCIENCE AND ART OF SURGERY

The *science* of surgery would necessarily have its basis in basic health sciences as regards anatomy, physiology, pathology and pharmacology. Once the need for surgery has been confirmed there are established procedures for the removal of an inflamed appendix for instance. This would include anesthesia; sterilization; certain procedures as to dissection of different kinds of tissues (skins, tendons, muscles etc.); blocking or bypassing of blood vessels, etc. These constitute the theory. Theoretical knowledge of the basic steps in removing an inflamed appendix is one thing; opening up a living person to actually remove it is another.

The training of a surgeon then consists in acquiring the skills and techniques of different surgical procedures. The surgeon as a *technician* is one who can perform operations under guidance according to established procedures. The surgeon as a craftsman is one who, seasoned by long experience, can respond confidently to the range of contingencies and even emergencies – blood suddenly spurting up unexpectedly for instance – including a capacity to respond to the range of possible variations in the human anatomy and physiology.

The surgeon as an *artist* is one who is extending the frontiers in a particular field of medicine by taking leaps of imagination from the springboard of educated judgment. For instance, the pioneers working in the area of transplant of organs were making educated guesses concerning procedure. In that sense they were *artists*



using scientific knowledge to work the unknown. After a series of gradual advancement transplant surgery in many fields can now be performed by competent specialists of *craftsmen*. As the procedure becomes better refined and understood it becomes reduced to technique that can be performed by just about any trained specialist or *technician*. Thus, what was once intuitive – by a complex process of perfection and experimentation – becomes scientific.

It should be noted that pioneering work in a field like transplant surgery was made possible by advances in knowledge as to the structure and biochemistry of cells and tissues; parallel advancement in medical support technology which in turn derived from advancements in other technologies and sciences. Sometimes breakthroughs in one field do lead to new insight in a seemingly unrelated field by some complex process of abstraction and sublimation of ideas. (Olusanya 1993)

## THE SCIENCE AND ART OF RUNNING

In my study of acquisition of skills, I have found *track and field athletics* especially useful because more than any other skill its performance lends itself to precise, scientific measurement under real life rather than laboratory conditions. Such measurements provide invaluable data from which general principles can be formulated and then extrapolated in the understanding of skills whose evaluation is more nuanced. The specific analysis of running examined here is the sprints over short distances up to 200 meters. In the sprints, speed is achieved by the combination of length of stride and rapidity of movement. Very rapid movement and very short strides can result in much wasted effort as one might well be running on the same spot. There is such a thing as good sprinting technique and this is based on scientific principles and correct application of knowledge. There is a difference

between *knowledge* and *notion*. For instance, a commonly held notion is that a good sprinting stride is achieved by stretching the legs forward. It seems self-evident as well as commonsensical, except that it is incorrect. A good sprinting stride is produced by raising the knees up (what is called high knee action) on the same principle as a javelin is thrown, not forward but, upward at  $45^{\circ}$ . The  $45^{\circ}$  angle gives the projectile maximum distance for a given effort because the upward force counters, the effect of gravity trying to bring it down.

Likewise, it would seem that rapidity of movement in sprinting is achieved by moving the legs rapidly. Not so. Because the limbs are synchronized, the pumping action of the arms is the most efficient method of transmitting rapid movements to the legs. A good sprinter is propelled by the power in the muscles of the upper body (the chest and, the arms) which constitute the engine; the legs act as the wheels for transmitting movement into speed.

Technique should be based on knowledge and not notion. Technique based on notion produces waste and inefficiency. A good technique, is by definition, that which gives optimal value for effort, the resulting economy produces an aesthetic response; i.e. effortlessness, gracefulness. The principle here is that gracefulness and beauty are founded upon scientific laws.

"A body remains in a state of rest or motion unless a force is applied to it." The first law of motion requires that the sprinter explodes out of the starting blocks with "*short powerful strides*", the equivalent of the *low powerful gear* an automobile requires for acceleration at take off. The sprinter progresses from short powerful strides necessary for acceleration to long easy strides by which constant velocity is maintained once full speed is attained. It is the same way that the automobile goes from the

first gear through second and third to the fourth gear for cruising speed.

Sports cars and other high performance automobiles are equipped with the fifth gear called *overdrive*. The function of the fifth gear is that once the car has achieved cruising speed it allows the engine to supply less energy to sustain high speed, which is indicated on the tachometer by a sharp drop in the revolutions per minute produced by the engine.

Similarly, a high performance sprinter is able to shift to overdrive over the long sprint, coasting at top speed with minimal effort without loss of momentum. The general principle gained from this is that, whenever you observe spectacular dexterity; be it in a pianist with the fingers flying over the keys or a typist processing words at the rate of 100 words per minute; what you have is a performer riding upon the wings of the "*spirit*" of the law having digested the "*letters*" of the law governing the performance of the skill.

### **THE CULTURE CO-EFFICIENT OF CREATIVITY**

*"It is meaningless to debate whether Leonardo was more talented than Raphael, both were talented ... but the followers have bad luck. They came late when the feast was over through no fault of their own."*

**- George Kobler**

Virtually every human act is influenced directly or indirectly by culture. It is therefore the most important factor influencing human capacity for learning and cultivation of skills. In this country, culture seems to be understood and promoted largely in terms of masquerades and young girls presented to dance barefooted before visiting foreign dignitaries. *Webster's Third New International*



Dictionary defines culture in its all embracing sense as *"The total pattern of human behavior and its products embodied in thought, speech, action and artifacts and dependent upon man's capacity for learning and transmitting knowledge to succeeding generation; culture in the sense of steady improvement in a special line; culture in the sense of the act of developing by education, discipline and social experience"*. Culture in this sense constitutes the greatest and most powerful tool of learning and creativity given to man. In fact here lies the essence of man's creative powers and root of all great human achievements.

While technique involves the application of knowledge or applied science, craftsmanship as mastery of technique involves latent knowledge, i.e. knowledge and know-how or rules of performance which are not all consciously known or completely specifiable. They cannot be taught; they are passed on and perfected by subliminal social process – culture.

Judging by the performance in the World Cup football championships, the four great football nations in the world are, Brazil, Argentina, Italy and Germany, and the greatest of them is Brazil. By the same objective measure, the greatest footballer in the history of the game is the Brazilian called Pele. Pele participated in four World Cup Championships, 1958, 1962, 1966 and 1970. He led Brazil to win the World Cup in all but one, 1966. As football is a team sport he must have been in quite formidable company to achieve this feat. In fact many of his teammates are some of the greatest stars of 20th century football, Garrincha, Didi, Tostao, Rivelino...

The same pattern can be observed in an individual sport like track and field athletics. World records in every track and field event are generally dominated by one or two or at most three nations.

World records are generally extended by small increments (hundredths of a second in the sprints) “*usually*” by an athlete from one of the dominant nations. **A landmark world record.**— i.e. one extended by a wide margin — is “*always*” by an athlete from the number one nation in the particular event.

Three typical examples are analyzed in the following tables:

### 100 Meters Men World Records

Type	Time(sec)	Name	Year
High Altitude	9.95	Jim Hines (USA)	1968
	9.94	-	-
High Altitude	9.93	Calvin Smith (USA)	1983
	9.93	Carl Lewis (USA)	1987
	9.93	Carl Lewis (USA)	1988
	9.92	Carl Lewis (USA)	1988
	9.91	-	-
	9.90	Leroy Burrell (USA)	1991
Landmark	9.89	-	-
	9.88	-	-
	9.87	-	-
	9.86	Carl Lewis (USA)	1991
	9.85	Leroy Burrell (USA)	1994
	9.84	Donovan Bailey (Canada)	1996
	9.83	-	-
	9.82	-	-
	9.81	-	-
	9.80	-	-
Landmark	9.79	Maurice Green (USA)	1999
	9.78	Tim Montgomery (USA)	2002

# 100 Meters Hurdles (Men) World Records

Type	Time(sec)	Name	Year
	13.24	Rod Milburn (USA)	1972
	13.23	-	
	13.22	-	
	13.21	Alejandro Casanas (Cuba)	1977
	13.20	-	
Landmark	13.19	-	
	13.18	-	
	13.17	-	
	13.16	Renaldo Nehemiah (USA)	1979
	13.15	-	
	13.15	-	
	13.14	-	
	13.13	-	
	13.12	-	
	13.11	-	
	13.10	-	
Landmark	13.09	-	
	13.08	-	
	13.07	-	
	13.06	-	
	13.05	-	
	13.04	-	
	13.03	-	
	13.02	-	
	13.01	-	
	13.00	Renaldo Nehemiah (USA)	1979
Landmark	12.99	-	
	12.98	-	
	12.97	-	
	12.96	-	
	12.95	-	
	12.94	-	
	12.93	Renaldo Nehemiah (USA)	1981
	12.92	Roger Kingdom (USA)	1994
	12.91	Colin Jackson (GB)	1998



## 200 Meters Men World Record

Type	Time(sec)	Name	Year
	20.3	Henry Carr (USA)	1963
	20.2	Henry Carr (USA)	1964
	20.1	-	
	20.0	Tommie Smith (USA)	1966
High Altitude	19.83	Tommie Smith (USA)	1968
	19.82	-	
	19.81	-	
	19.80	-	
	19.79	-	
	19.78	-	
	19.77	-	
	19.76	-	
	19.75	-	
	19.74	-	
	19.73	-	
High Altitude	19.72	Pietro Menna (Italy)	1979
	19.71	-	
	19.70	-	
	19.69	-	
	19.68	-	
	19.67	-	
Landmark	19.66	Michael Johnson (USA)	1996
	19.65	-	
	19.64	-	
	19.63	-	
	19.62	-	
	19.61	-	
	19.60	-	
	19.59	-	

19.58	-		
19.57	-		
19.56	-		
19.55	-		
19.54	-		
19.53	-		
19.52	-		
19.51	-		
19.50	-		
19.49	-		
19.48	-		
19.47	-		
19.46	-		
19.45	-		
19.44	-		
19.43	-		
19.42	-		
19.41	-		
19.40	-		
19.39	-		
19.38	-		
19.37	-		
19.36	-		
19.35	-		
19.34	-		
19.33	-		
<b>Landmark</b>	19.32	Michael Johnson (USA)	1996

Out of the 64 world records in the 100m since 1912, all but 12 of them have been by Americans.

Out of the 37 world records in the 110m high hurdles since 1908

all but 10 of them have been by Americans.

Out of the 23 world records in the 200m since 1951 all but 4 have been by Americans.

In my extensive study of this phenomenon, I have come to the conclusion that whenever you see a man towering over his peers or a group of men towering over their contemporaries, it is because they are - as Isaac Newton famously put – “standing on the shoulders of giants.” Therefore, Pele had to be a mid 20th century Brazilian; Maurice Green; Michael Johnson and Carl Lewis have to be African Americans; Isaac Newton had to be a 17th - 18th century Englishman; Leonardo, Raphael and Michelangelo had to be 16th century Italians; Plato, Socrates and Aristotle had to be 7th century B.C. Athenians. The men listed here are only the tips of the iceberg, representing the glories of their respective cultures: the glory of Brazilian football culture; the glory of the African American athletic culture, the glory of English scientific culture; the glory of High Renaissance culture, and the glory of Greek intellectual culture.

Now, someone challenged me on this theory requiring me to explain Wole Soyinka, Nigeria's Nobel Laureate in Literature. My explanation is this: Professor Wole Soyinka is the product of Government College Ibadan (GCI), University College Ibadan (UCI) axis. A clear preponderance of the Nigerian literary elite went to GCI: T.M. Aluko, Wole Soyinka, Cyprian Ekwensi, Femi Oshofisan, Bode Showande etc. The U.I. roll call includes most of the GCI writers in addition to J.P. Clark, Chinua Achebe, Christopher Okigbo, Kole Omotosho etc. The towering stature of Wole Soyinka can thus be explained as standing astride the shoulders of the giants of the GCI, UCI axis. To every man it is given a measure of the power of the image of God. The pooling of this power is (for good or ill), what culture is all about. This



principle is illustrated with compelling vividness in Gen. 11: 1-9.

“Now the whole world had one language and a few words. And as men migrated from the east, they found a plain in the land of Shinar and settled there and they said to one another”  
“Come let us make bricks and burn them thoroughly ... let us build ourselves a city and a tower with its tops into the heavens....” And the Lord came down to see the city and the tower which the sons of men had built and the Lord said: “Behold they are one people and have all one language: and this is only the beginning of what they will do; and nothing that they propose to do will now be impossible for them...”

*“Let us make bricks and burn them thoroughly”* denotes a commitment to productivity; *“One language and a few words”* denotes common purpose, and *“come let us build”* is the key to appropriating the fullness of the power of God’s image. And where men would appropriate His power even God will not come against them. If He must oppose them, He will first disarm them” – *“Come, let us go down and confuse their language, that they may not understand one another’s speech” So the Lord scattered them abroad from over all the earth and they left off the building of the city.”* Gen. 11.9

In pursuit of a culture of excellence, *oneness of purpose* does not have to include everyone; what matters is a *critical mass* buying into and committed to the vision. Those who will not, or cannot, must be left behind.

Come let us build ourselves a world-class university. Come let us build ourselves a department of architecture second to none. Come let us build ourselves housing estates with world class architecture that gives value for our money. Come let us build ourselves an industrial and prosperous nation.

“And they say to one another “Come let us build ourselves a city and a tower with its top into the heavens...” And the Lord God said, “Behold they are one...and nothing that they purpose to do shall be impossible for them.” Amen.

## **THE NIGERIAN PROJECT: Which Way Forward?**

*It is in the nature of every problem that it contains and suggests its own solution*

*- Louis Sullivan (19th Century American Architect)*

- Workman at a well with only his bare hands lacks capacity to produce (Water 3 meters down in a well has little value).
- Workman empowered with rope and bucket has capacity to produce (Value is added to water brought to ground zero. More value is added to water at altitude 30 meters, which can then be distributed over a wide area by gravity).
- Five workmen work the well in relay. Empowered with plastic bucket and rope, two of the workmen are skilled at flipping the bucket such that it hits the surface of the water with an open edge, sinks immediately and is filled with water. The two skilled workmen thus achieve a fairly good man-hour output for their efforts. Three unskilled workmen achieve much smaller output because of the tendency of the plastic bucket to float rather than sink into the water.

The overall production is thus inefficient and inconsistent (i.e. low productivity) because it is dependent on the varying skills of the workmen. This is “craft-mode” production.

- A small weight is fixed to the side of the bucket making it to sink as it hits the water. The five workmen deliver a high and consistent output.

*Craft-mode is transformed into "Technique-mode" by a method that ensures consistency in production. Technique-mode production enhances capacity and productivity of workmen. Even with the same hardware greater efficiency in productive capacity can be achieved by improvement in methods.*

- A "mallam" down the street mends the rope when as it needs mending and a "dikedi" goes around the neighborhood mending plastic buckets and utensils.

The production at the well is thus "sustained" by the complement of specialties and interdependent capacities.

- A new management takes over and is appalled at the use of bucket and rope in the 21st century. Directs the replacement of bucket with electric pump.
- incessant power failure results in considerable disruption of production. Thus the electric pump is grossly underutilized (i.e. low productivity due to low capacity utilization) Management responds by installing a gasoline-powered generator.
- Complete power outage, resulting from a blown transformer in the neighborhood, went on for weeks on end thereby overstressing the capacity of the generator, resulting in frequent breakdowns and repairs, resulting in high maintenance costs (in addition to the high capital outlay) resulting in more disruption of production, resulting in less and less productivity.
- A citywide fuel shortage soon escalated into a nationwide fuel crisis. Production sputtered along with black market fuel.



- Adulterated gasoline knocked the engine of the generator, production grounded to a halt.

This illustration approximates real life situations in most industries in Nigeria (including the building and construction industries about which I will elaborate later). In the particular example, the performance of the pump is not sustainable because the power supply on which it depends is not sustained. The electric power supply – either through the national grid or the gasoline generator – is not sustained because the complex of industries upon which it is dependent is outside of the economy.

The German economist E.F Schumacher in his discourse on *“Development”* describes the problem as follows: *“Development and evolution would seem to be virtually synonymous. Whatever may be the merit of the theory of evolution in specific cases it certainly reflects our experience of economic and technological development. Let us imagine a visit to a modern industrial establishment, say, a great refinery, as we walk around its vastness through its fantastic complexity, we might well wonder how it is possible for the human mind to conceive such a thing. What an immensity of knowledge, ingenuity and experience is here incarnated in equipment. How is it possible? The answer is that it did not spring ready-made out of any person’s mind - it came by a process of evolution. It started quite simply, then this was added and that was modified and so the whole thing became more and more complex. But.... The visitor sees only the tip of the iceberg: there is ten times as much somewhere else which he cannot see and without the “ten” the “one” is worthless. And if the “ten” is not supplied by the country or society on which the refinery has been erected, either the refinery simply does not work or it is in fact a foreign body depending for most of its life on some other society.*

“It is always possible to create small ultra modern islands in a pre-industrial society, such islands will then have to be ... provisioned as it were by helicopter from far away .... Whatever happens... they cannot be integrated into the surrounding society, and tend to destroy its cohesion.”

He went on to say that “It is often assumed that the achievement of western science, pure and applied, lies mainly in the apparatus and machinery that have been developed from it... the real achievement lies in the accumulation of precise knowledge and this knowledge can be applied in a great variety of ways of which the application in modern industry is only one.”

In concluding this topic, I will not indulge in the favorite Nigerian pastime of putting all the blame on “the Leadership” (whatever that means) or the colonial masters, or the Sokoto Caliphate, or politicians in general and Olusegun Obasanjo in particular; or indulge in the endless prescription of solutions and recommendations.

I will simply attempt to show how within my sphere of influence I have gone about applying my skill and training to solving some of the problems. This is to demonstrate by my work the validity of what I have been talking about.

## A BRIEF RESUME

### **Olumide Olusanya: Professor of Architecture**

*"The role of architecture is to improve the human condition through the development and application of the design skills that modify the physical environment."*

*-University of Washington Bulletin and General Catalogue*

The development and application of design skills is the essence of architecture, therefore the term Professor of Architecture should be understood as professorship in architecture design without the necessity of qualification. Every other professorship in architecture requires qualification e.g. Professor of Architectural Theory and History; Professor of Architectural Science etc.

In the US and Germany, the professors of architecture are generally the top practising architects in their countries ranking among the very best in the world. I came into academics because, from my experience in the US I was convinced that research and scholarship pursued to the advancement of design would add value to both my intellectual and design capabilities. I therefore resisted the pressure to pursue promotion by turning out so called 'academic publications' that have neither bearing on, nor contribution to architecture design. My *mantra* then was *'I will not waste a precious youth in pursuit of useless dreams'* and my *objective* was that *my work should impact my generation*. The following is the summary of my stewardship at the University of Lagos.

#### **Value-Added Education**

Over many years I have been responsible for the foundational courses in architecture design; the 2nd semester 100 level Principles of Architecture dovetailing into 1st semester 200 level



Architectural Design Studio. In this first studio in architecture design, the students are given a series of exercises to investigate the strength and properties of materials by simulating the tensile and compressive properties of actual building materials based on principles learnt in the 100 level theory courses. The process introduces the students to the importance of knowledge and insight gained through research and study as the basis of good architecture; and that architecture design is a problem-solving enterprise requiring constant dialogue between technical and artistic principles. The objective here is the education of the heart.

The students are then given as case studies, the plans and pictures of some world class buildings in which these principles have been applied. Analysis of the case studies are carried out as group projects by building scaled models of the buildings. Each group presents its findings to the whole class [the culture co-efficient]. The students are then given a project assignment to produce individual design solutions applying the principles from the case studies. This method involving analysis as prelude to synthesis, invariably results in some world class architecture design projects, produced in the very 1st semester of Architecture Design Studio.

### **Value-Added Architecture**

Originally, there was no separation between the architect and the engineer. Historically, the greatest architectural achievements have generally resulted from the marriage of architecture and engineering: the Greek Parthenon, the great Egyptian Temples, and magnificent Byzantine Churches and Mosques, the Gothic Cathedrals ..., these achievements are hymns to the glories and possibilities of stone in compression. New materials have made possible new architectural expressions. The suspension bridge for instance is the triumph of steel in tension.

The design of the City of David, a parish of the Redeemed Christian Church of God at Victoria Island, was approached primarily as a structural engineering problem requiring the spanning of a large uninterrupted space for the purpose of corporate worship as simply and elegantly as possible, while providing natural lighting to the innermost parts of the space and adequate natural ventilation for a large number of people. The solution is a space-frame roof structure designed to incorporate a system of high level windows in the roof for natural lighting and ventilation. The space-frame is a three dimensional triangulated truss where relatively light steel or timber sections are connected in a system of diagonals that allows efficient distribution of forces whereby a relatively light structure can span large spaces efficiently. The space-frame is normally considered high-tech because of the engineering challenge of connecting six or more members from different planes and angles at a single point. The most prominent example of the space-frame in Nigeria is the roof structure of the Chapel of Christ Our Light at the University of Lagos. The structure was imported wholly from Germany off-the-shelf (with little or no local value added) and had to be assembled by German expertise. The space-frame for the City of David was conceived and designed in Nigeria by Nigerians and fabricated in Nigeria with Nigerian know-how. It therefore represents Nigerian value added and technological advancement in real terms. If there should be a problem with the space-frame at the Chapel, we will have to refer back to the German manufacturers (assuming they are still in business) not so the City of David space-frame.

The completed building (2,500 – 3,000 capacity) is the smaller of two auditoria. The main auditorium, still to be built is double the size of the completed one. The strategy is to transfer the experience and know-how gained on the smaller project in the actualization



of the larger more challenging structure.

### **Value-Added Housing Production**

The conventional wisdom concerning the astronomical cost of housing production in Nigeria, is that the problem lies with the national dependence on expensive imported building materials (e.g. cement) and that the solution lies in the use of abundant local raw and building materials e.g. fired-clay and stabilized earth bricks. The notion is that building materials produced from cheap and abundant raw materials would be cost-efficient. This notion is a fallacy and the tragedy is that it is being promoted by so called experts. The fact is that cheap and abundant raw materials do not necessarily result in cheap products. There is a principle in nature that, that which is in abundance is in *abundance* precisely because it is very highly stable and therefore resistant to change or conversion on large scales. For example natural air is 80% Nitrogen; it takes tremendous amount of energy (e.g. lightning) to convert small quantities of it to Nitrogen Dioxide. On the other hand electricity does not occur naturally but it is easy to produce from and convert to other forms of energy and very cheap to distribute. In the same way, cement blocks are by far easier and cheaper to produce and distribute than fired-clay bricks. *The ease of conversion and distribution are the key elements in value-added industrial production. The pervading ignorance of this principle stands in the way of our industrial development in general and the building and construction industry in particular.*

My work in the area of housing (as in other areas) has consistently challenged popular wisdom by the insistence on the application of knowledge and practicalisation of know-how.

Housing production in Nigeria falls between two extremes. On the one hand, production is by a few multinational construction



firms using capital intensive equipment which, because of low local value-added, operate at a fraction of installed capacity. On the other hand production by the majority of local construction firms is by inefficient and downright primitive manual methods that make wasteful use of man-power unassisted by appropriate tools or machinery. The result in both cases is waste and destruction of wealth.

A sustainable industrial housing system developed in the department of architecture in the past 15 years or so replaces traditional craft mode production, dependent on the vagaries of unskilled available labour pool, with technique mode production that ensures sustainable and consistent workmanship and high man-hour output. The key features are as follows:

1. The development of interlocking concrete blocks (laid dry like "Lego Blocks" without the use of cement mortar for bonding) improves worker output to about 400 blocks/day per laying crew instead of about 80 blocks/day by conventional methods.
2. The development of a composite light-weight suspended floor system (famously termed *decking*) consisting of simple reinforced concrete components, pre cast under workshop conditions for quality control and efficiency. A system of low capital handling and hoisting equipment ensure rapid site assembly.
3. Perhaps the most compelling evidence of the primitive state of the building industry in Nigeria is the spectacle of a battalion of labourers negotiating, a precarious form work 3-stories high, in order to deliver concrete mix for decking. The concrete and the head pan weighs about 25kg, the labourer weighs 75kg

for a total load of about 100kg. Which means a 100kg effort is used to transport 25kg material, 9 meters by negotiating a 45 meter distance up and down, all day long, and well into the night most of the time. This represents monstrous waste and wealth destruction.

*For the vertical transportation of building materials on construction sites, we have devised an elevator-crane operated by a bicycle.*

### **Value-Added Urban Housing Prototype**

My research into the problem of housing in Nigeria has placed equal importance on both the product and the process as mutually integrated. The challenge is the development of a housing form that retains the features and amenities of the family house at high densities for value added utilization of expensive urban land. The result is a housing prototype that lends itself to a whole range of housing requirements. Each family has a piece of private land (fore-court and garden space) providing enhanced identity to individual units through personalization. A unique feature of the housing prototype is the high level windows in the roof opening into a stairwell atrium for the provision of both natural lighting and cross-ventilation throughout the internal spaces.

The prototype house married with the building system is known in the industry as the Unilag Experiment after the demonstration project built on the Unilag campus from funds provided by the Federal Ministry of Works and Housing in 1989 when General Mamman Kotangora was Honourable Minister. I have lived in the house since 1992. This housing prototype has influenced much of the terraced houses being built in Nigeria in the last few years especially in Lagos and Abuja.

## **Value-Added Home Ownership Scheme: C.L.U.B.**

CLUB Housing Cooperative is a home ownership initiative I was instrumental in founding with Professor Bolaji Owasanoye of the Nigerian Institute of Advanced Legal Studies and Mrs. M. M. Ajaja, a permanent secretary with the Lagos State Government. CLUB is the acronym for Come Let Us Build... practicalising the principles of Genesis 11, whereby a group of people by coming together to develop housing jointly obtain much higher value out of all proportions to what could be obtained individually. In the pilot project, a group of 10 people are developing on a 2,500 m<sup>2</sup> of land in Victoria Island, 10 units of 4-bedroom terraces. The cost of the land at 20 million naira comes to 2 million naira per unit. The 4-bedroom house with BQ attached is estimated at 4.5 million naira for a total of 6.5 million naira using the building system described earlier. Whereas, 3-bedroom houses along the Victoria Island Lekki corridor starts from 20 million naira.

## **Value-Added Professorship**

The first thing I did when I was appointed professor was to go out and recruit another professor. The role of a professor in an academic unit is the provision of academic leadership. At the time I was appointed, I felt I needed high level assistance if the department is to be refocused for the challenges ahead. The professor I recruited is John Godwin *OBE, OFR*, easily the most influential and respected architect in the country. He and his wife have had a distinguished practice in Nigeria for the past 50 years. Together we were able to take the department to a higher level. After more than 30 years, the first post-professional post-graduate degree programme in advanced research and design (Master of Architecture) was started. Two of the three candidates graduated with distinction. A proper mentoring system is now in place to nurture the younger lecturers. Half of the lecturers in the department are now collaborating with me on the research projects



earlier described. Two of the new lecturers in the department, Mr. W.A. Ayinla and Mr. A.A. Jobi, assisted me in first semester 200 level Design Studio where those world class projects were produced.

What should be clear from this lecture is that in the more than twenty years I have been at the University of Lagos, I have had myself a truly wonderful time. Despite the challenges or perhaps because of them, upon the whole, I have had myself a feast.

There has been a special grace of the Lord God upon my life, in appropriating fully, within the resources and opportunities available to me, the power of the image of God, boosted by the power of the sons of God.

## RECOMMENDATION

I have only one recommendation to make and this is concerning the insistence of the Appointment and Promotions Board of the University of Lagos that lecturers in the Department of Architecture will now be required to hold PhDs like other disciplines in the University. Against strong opposition at the time, when I was the Dean of the faculty I had insisted that lecturers in architecture must be empowered for advanced research. While research is an integral part of doing good architecture as demonstrated in the 200 level design studio, premium is on translating knowledge into skill. "Skill, so far as it remains a skill and not a science, always involves what is called "latent knowledge" i.e. knowledge that cannot be completely specified and such knowledge include knowledge of facts and know-how. *Increased factual knowledge does not necessarily lead to advanced skill.... For this reason, the acquisition of skill demands methods of cultivation different from those which are taught with the object of improving a man's reasoning powers*

*for the extension of knowledge” (Osborne 1970). It is for this reason that there is no such thing as a PhD in Architecture Design, just as there is no PhD in Clinical Surgery.* As I pointed out in an earlier paper, as academic disciplines, Architecture and Medicine are 1st cousins. While the PhD is a requirement for academics in the Basic Medical Sciences, it is not in the Clinical Sciences. This is because in the Clinical Sciences empowerment for research and advanced studies is integrated with acquisition of advanced and specialized clinical skills. And just as an academic with clinical background (MBBS) might choose to pursue a career in the Basic Medical Sciences by obtaining a PhD, likewise an academic with a background in architecture design might pursue a career in one of the architectural sciences by obtaining a PhD in Architectural Technology for instance. But to insist that an academic pursuing a career in Architecture Design obtain a PhD regardless, is as misguided as insisting that a surgeon obtain a PhD in anatomy for the purpose of academic advancement.

If the mission and vision of the University of Lagos is to become a world class university, then we must look for inspiration and precedence at Princeton and at Berkeley not FUTA or ABU. **It cannot be important to us if all the lecturers in the Department of Architecture at ABU hold PhDs, if in comparison only six of the twenty-nine faculty members at the Department of Architecture at Harvard University Graduate School of Design hold PhDs;** where the PhDs are in history or theory or technology and two of the six are not architects. This pattern is typical in all the 1st class Universities in the US as anyone who cares to check on the internet can verify.

I had resisted the pressure to waste my youth playing at scholarship, and had empowered myself for productive work. I should be required to spend my prime mentoring and empowering



others in order to produce, and not in decorating them in colorful garments in order to conform. The stakes are simply too high, the department must be allowed to pursue its mission consistent with proving traditions of excellence.

My only recommendation concerns the Department of Architecture because that is my immediate sphere of influence. My appeal to all of us is this: let every educated Nigerian be selflessly committed to utilizing their education as a tool of development, **and let everyone be required to prove by their work the validity and value of their prescriptions. And when there shall arise a critical mass of transformation in diverse spheres of influences in the land, then and only then, will there be a change of direction in this nation. On this matter, let there be henceforth no more buck passing. The problem is with all of us, but the answer lies with a critical mass of us. Paradoxically, for those who are looking to “the leadership” “to solve their problems, these are terrible times. But for these who are impacting there generation by their work, these are the best of times.**

## ACKNOWLEDGEMENT

My appointment as professor at the University of Lagos took effect from 1995. Over the years many people have asked me when I will deliver my inaugural lecture. To those who are close to me I had confided that when the Lord shall provide me with a help meet, then I can prepare for my inaugural. On the 26th of January 2003, sometime after 6pm, I got talking to a young lady to whom I had given a publication of mine titled *“The Science and Miracle of the 2nd Birth”*. When I realized that I had in her a soul-mate I promised to send to her on the morrow everything I had ever written. Since the 2nd of Aug. 2003, Mrs. Olasunmbo Ayanfeoluwa Olusanya has been reading and



editing everything I have written. In the preparation of this inaugural lecture, as in everything else, Mrs Olusanya has proved a help, meet indeed.

Much earlier there had been another woman in my life. I had wanted to become a mechanical engineer because I loved taking things apart to see how they worked. I also had a passion for drawing. It was this other woman in my life who suggested that my technical and artistic abilities would find fuller actualization in architecture. This was an inspired insight on the part of my mother who I lost when I was only 16 years of age. Still she had the most significant impact on my early development. I bless the Lord for my late parents, Mrs Christiana Olufolake and Mr Emmanuel Olusanya Okunsanya.

I grew up in a close family with three siblings: Dr. (Mrs.) Bunmi Binitie, Mrs Olufunke Talabi and Mr Olugbenga Okunsanya, to whom I owe the advantages of a wonderful childhood.

Mrs. Idowu Solarin a.k.a. “granma”, the youngest of my mothers sisters, has over the years been there for us, has been a mother to us.

Dr. Dele and Dr. (Mrs) Winifred Makanjuola and their children: Moyo, Tosin, Eniola, and Mayokun have been the closest family to me at the University of Lagos. Their support in the years before I had my own family and ever since I did, has been invaluable to me.

Mrs Femi Taire, Secretary to the Lagos State Government during the Col. Rasaki administration, was my Biology teacher at Government College Ibadan. Our set had its best school certificate result in Biology and I understand we had the best Biology result

in the whole of West Africa that year. She was a no-nonsense teacher and we were a troublesome class which made for a memorable combination. But because she had no pettiness in her whatsoever, the match was in her favour and we came to esteem her highly. Those of us who have kept in touch with her appreciate her greatly.

My very first semester at the University of Oregon, I took a course in Philosophy of Ethics and I have never been the same. Professor Arnulf Zweig was an atheist then, but did not require the student to share his views. His object was in developing in the student the ability to construct internally self-consistent arguments upon a given premise, and the ability to reduce complex matters to first principles.

My spiritual mentor was a Cambridge University professor by the name C.S. Lewis. He is a Christian writers' writer. It is from his books that I first began to appreciate the remarkable coherence of the Holy Bible and from which I gained profound understanding of the fundamental scriptural principles and doctrines.

Professor Robert Ferrens has been an avuncular figure to many generations of Nigerian students both at the University of Oregon in Eugene, Oregon, and at Ahmadu Bello University, Zaria where he was visiting professor and Dean of Environmental Design.

I have had the good fortune of having worked with some of the finest engineering minds in the country. Professor T.A.I. Akeju has been both a mentor and collaborator in the development of the system building, the Unilag Experiment. Engr. Bayo Adeola and I used the house he has lived in for the past 15 years or so as our first experiment in System Housing. It is upon this foundation that all the subsequent R&D work has been built. Engrs. Rotimi

Antonio and Shola Sanni worked with me on the development of the space-frame for the City of David. Engr. Sanni is presently collaborating with me in the most advanced building systems we have yet developed.

Mr Samuel Adedayo a.k.a. Sam-Ade is the finest fabricator I have met. He has a humble workshop in Bariga from whence have come forth some of the most important R&D breakthroughs in the building and construction industry in this country – the interlocking block making machine and the bicycle operated crane elevator.

I have had the good fortune of working with former students who have gone on to successful careers. Tunde Sanni, Shade Huges and Dimeji Ajasin of the architectural firm, Design Group Nig. Ltd, collaborated with me on the City of David. I have had a special relationship with Sola Oyelade of Sola Oyelade Architects, ever since he was a student in the department. We are presently collaborating on the CLUB pilot scheme at Victoria Island.

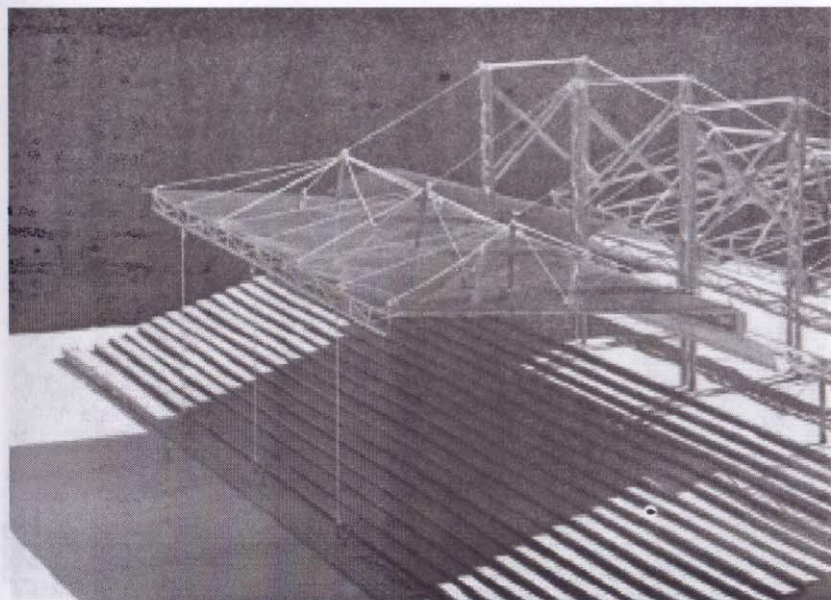
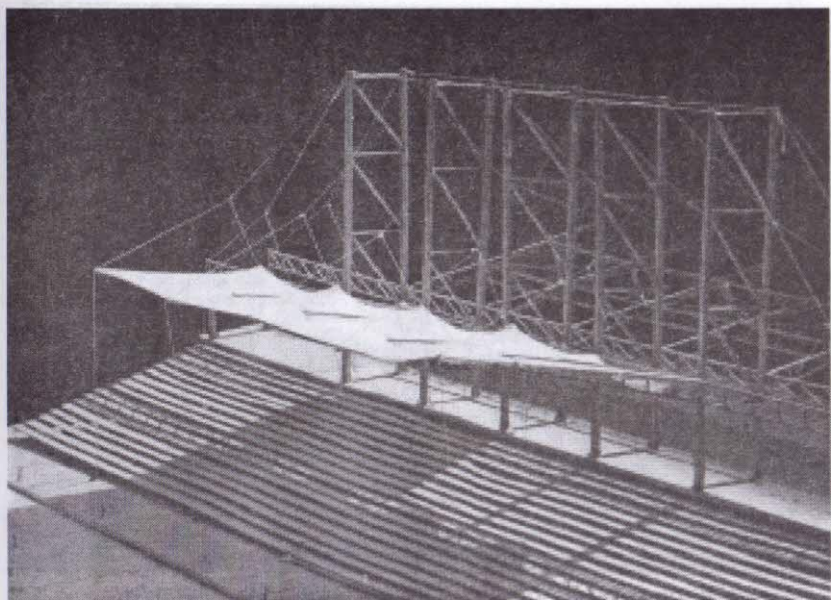
Professor John Godwin I already mentioned. His four years with us has impacted on the department of architecture profoundly. I use this opportunity to thank Mrs. Jillian Godwin for the sacrifice which his time with us has been to her.

I also wish to thank all my colleagues in the Department of Architecture and Faculty of Environmental Science, who have contributed to, or in one way or another, made my work easier.

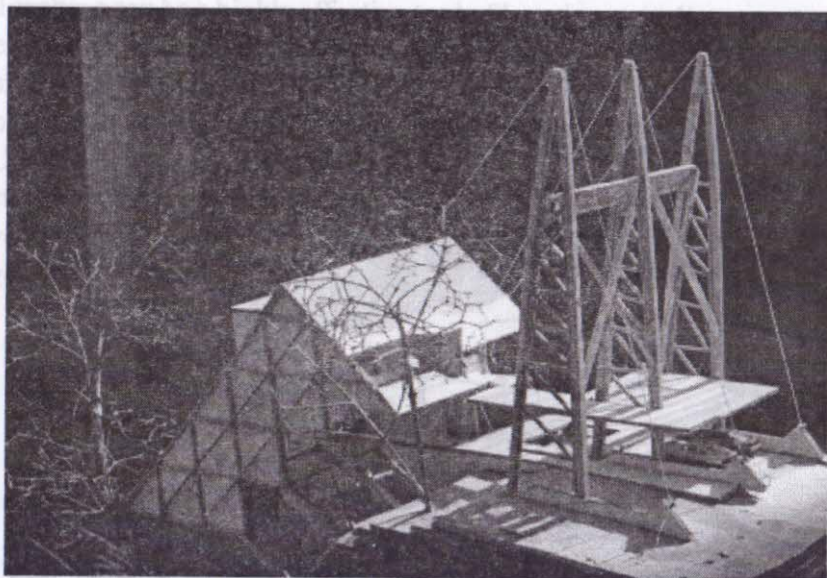
I must acknowledge the contribution of the following people in the editing of text, photographs and graphics, in the preparation of this lecture: Dr. (Mrs.) Karen King-Aribizala, Mr. Cephas Adelore and Mr. Akinwale Ekundayo.



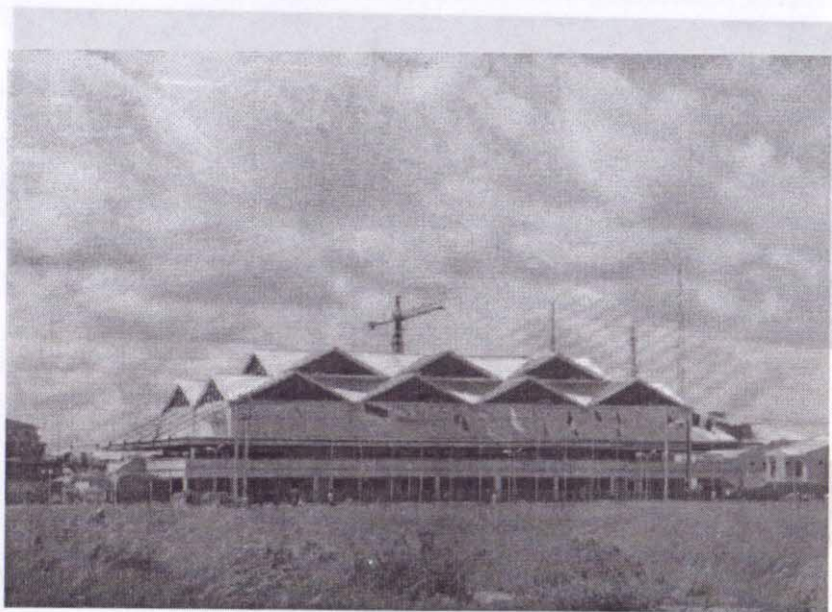
Teaching can be a highly effective tool of learning as well as greatly enriching and fulfilling enterprise, depending upon the quality and attitude of the students. I therefore want to acknowledge the profound impact that teaching in the Department of Architecture, University of Lagos has had on my person and my career. To my students in the department past and present, I thank you, I want you to know that I truly appreciate you, I love you, I pray the good Lord blesses you.



*ARC 201 Project: Grand Stand for O.A.U. Sport's Centre 018*

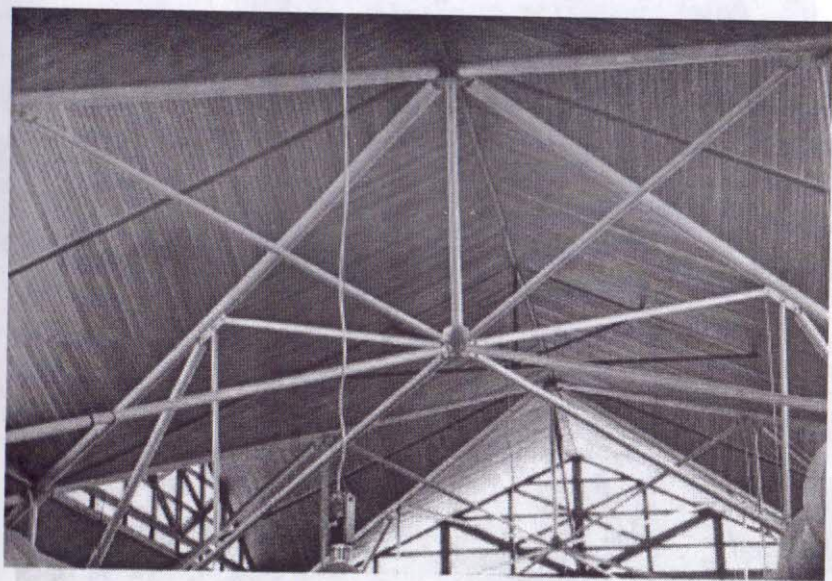
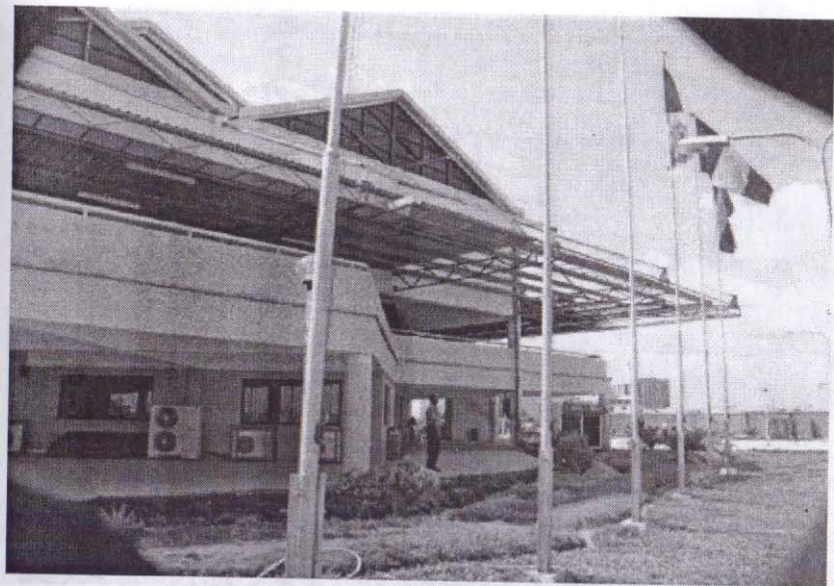


*"Dream House" on a Hill - (Prof. Olusanya - architect)*

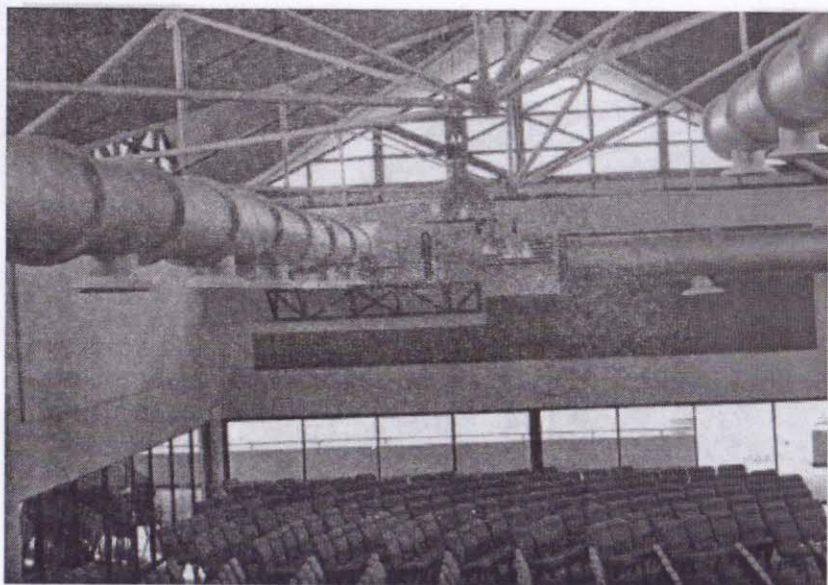


*City of David - R.C.C.G. Victorial Island  
(Prof. Olusanya in collaboration with Design Group)*





*City of David (Interior)*



*Dream House - (Prof. Oluwole - architect)*



*System Housing Demonstration Project (University of Lagos)*  
*(Prof. Oluwole in collaboration with Design Group)*





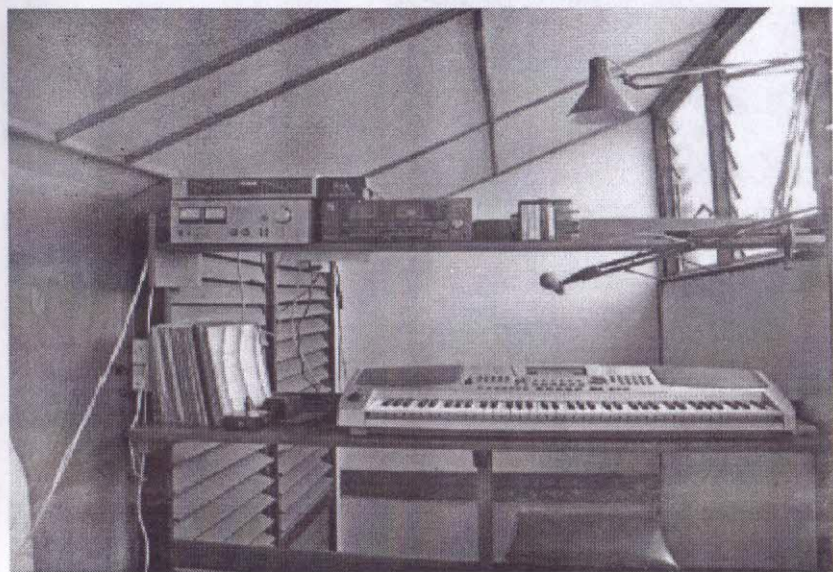
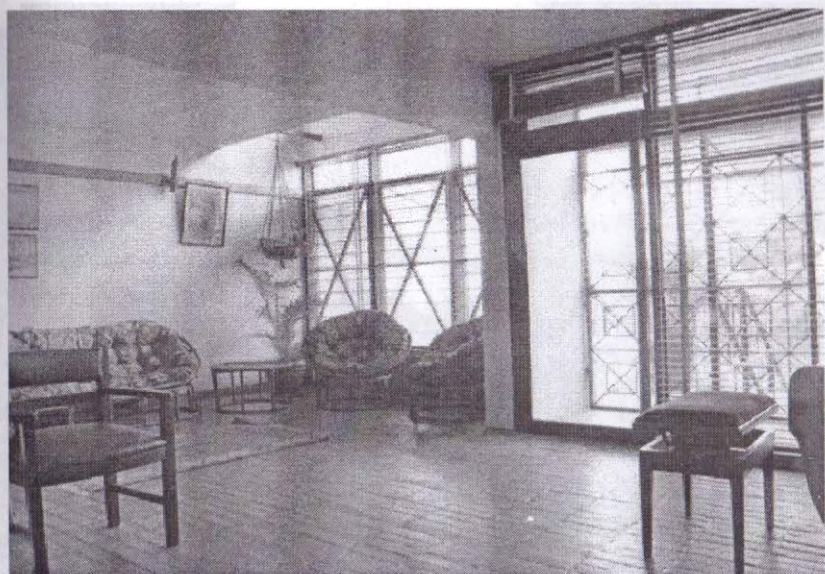
*Residence of Prof. & Mrs Olumide Olusanya*



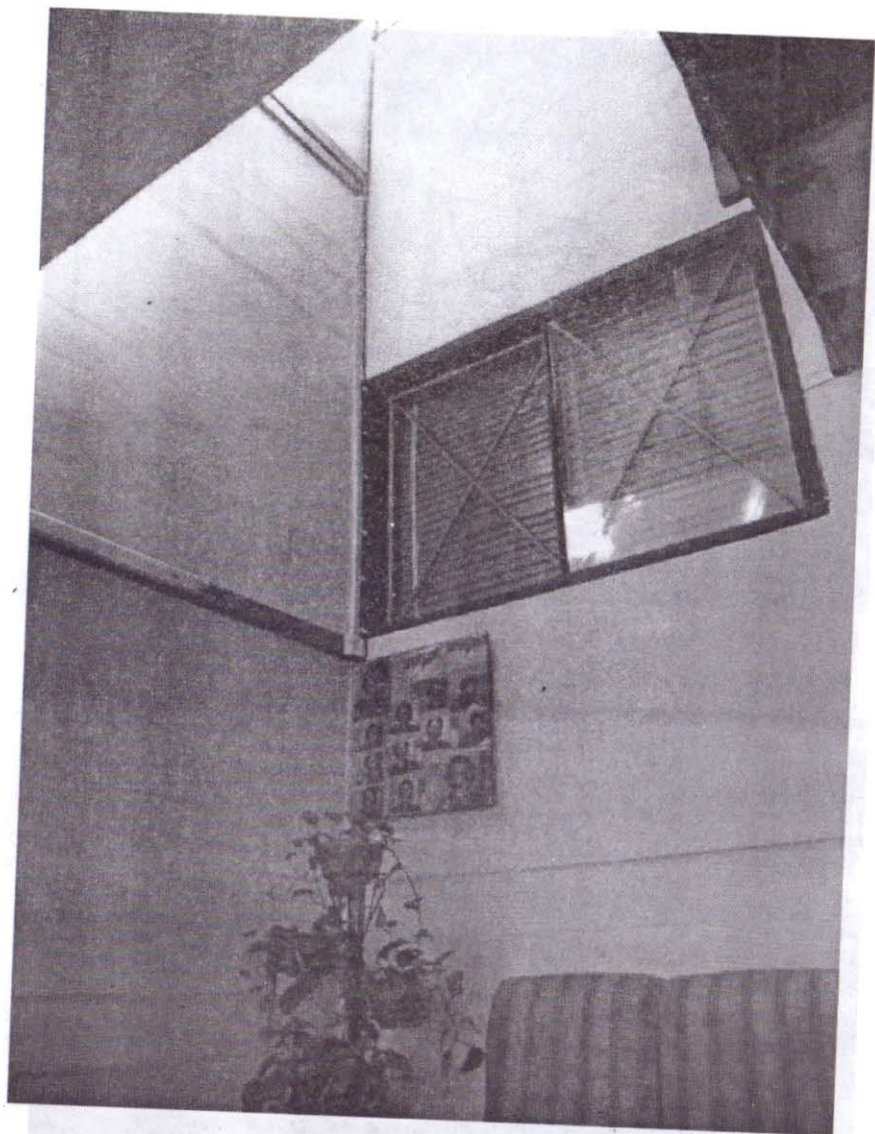


Residential Project at the University of Lagos

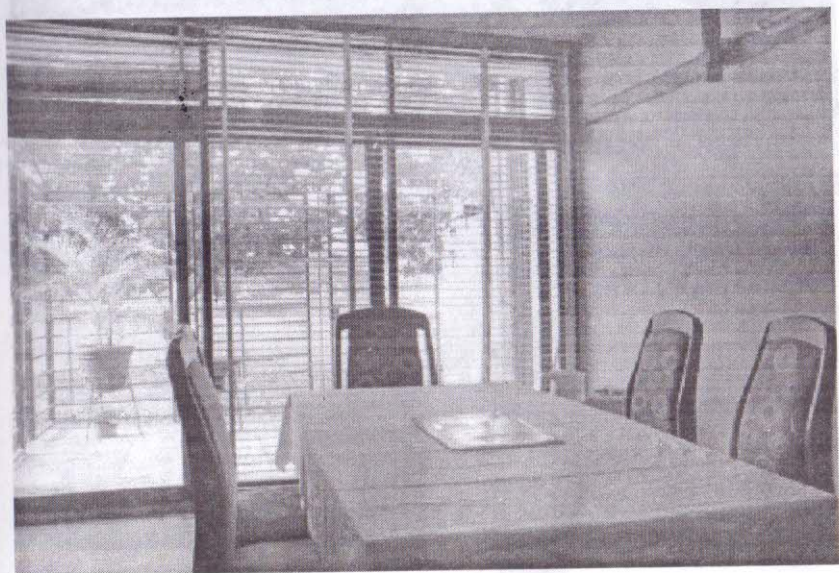
Look to the right: Discussion on Project University of Lagos

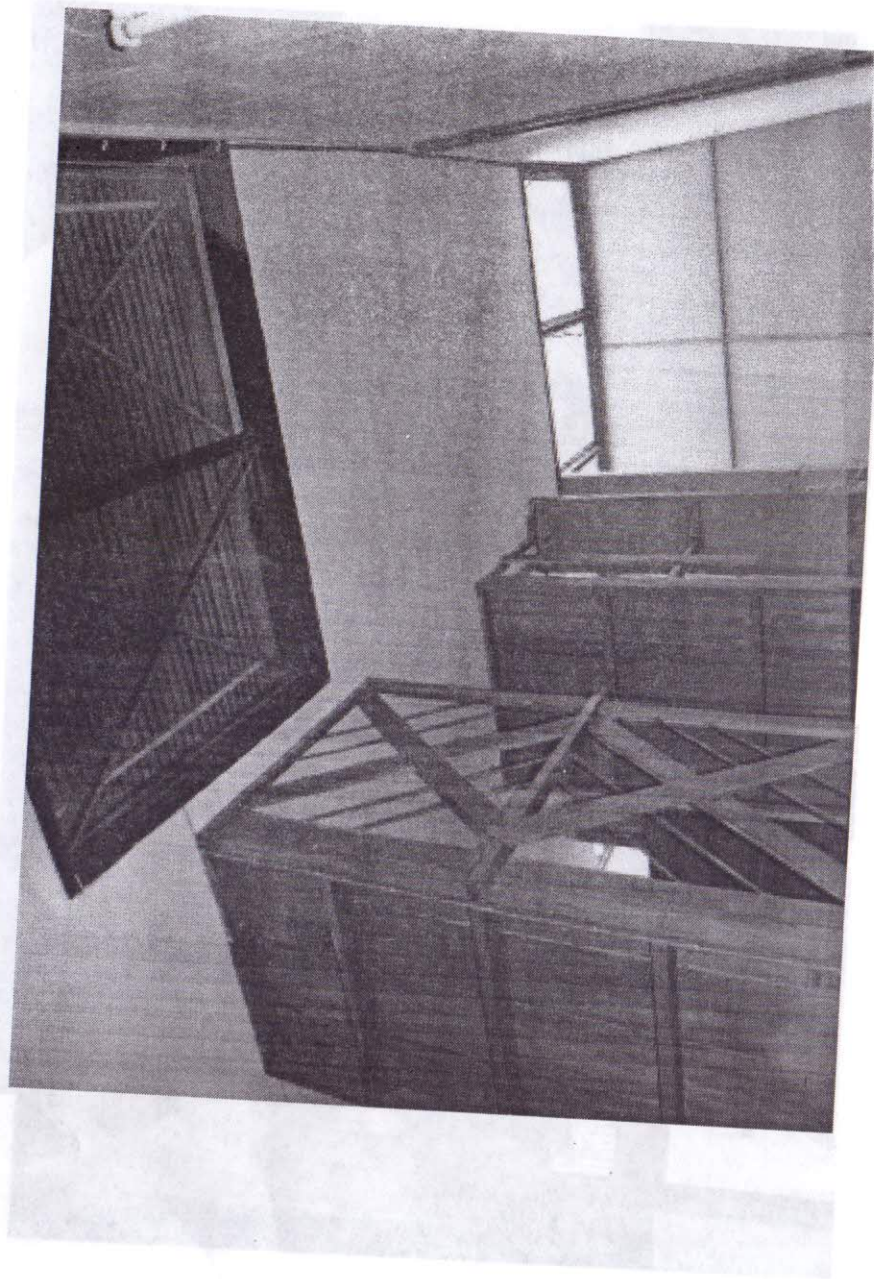




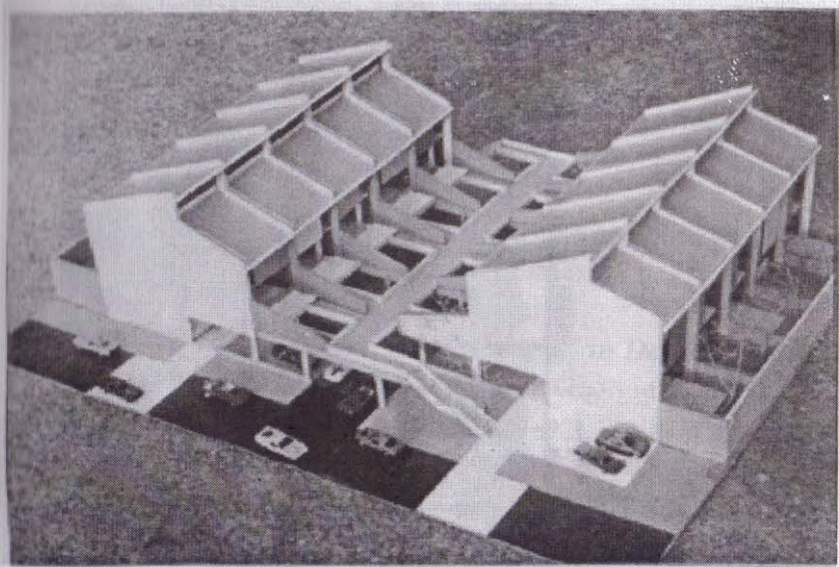




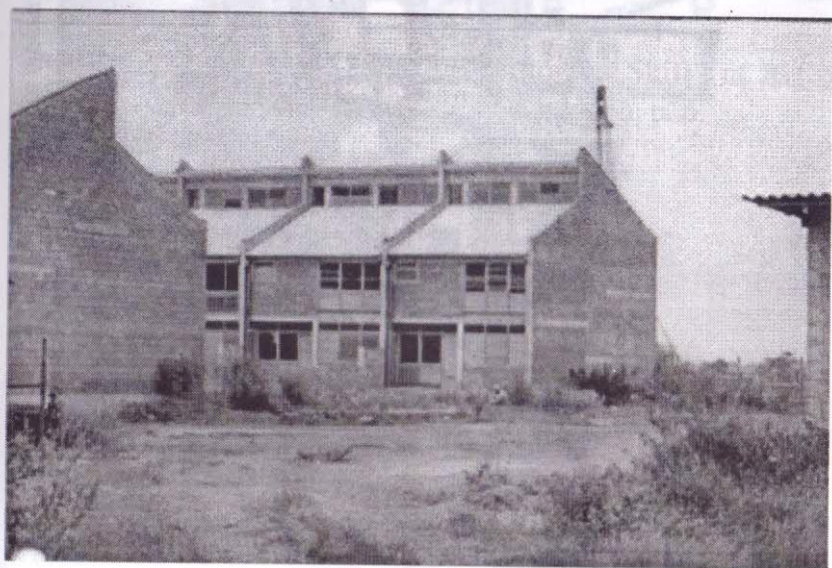








*Terrace Housing Prototype with Elevated Walkway over Parking and Shopping Arcade*



*Town-Houses at Alausa*





*Bicycle Operated Construction Crane-Elevator*

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THE SCIENCE OF CREATIVITY  
WITH A CHAPTER ON THE POWER OF THE  
IMAGE OF GOD

ATLAS