

EDITORIAL

The Nigerian Anatomist in the New Millennium

In this advent of the New Millennium, the discipline of anatomy has been said to face a crisis of identity and purpose (Pollard 2000). Traditionally, the Medical School Anatomy Departments have been defined principally by the teaching expertise expected principally from the faculty. Thus anatomy has been viewed principally from the expertise of the anatomy teacher in the medical school. Very little emphasis is laid on research especially in the developing world where the complexities of modern anatomic research seem to operate at the basal level. Hence the emphasis on the teaching of anatomy in the medical school seem to define "who is the anatomist".

It must be realised that what is done in the laboratories has drifted far away from our teaching mission. Thus as pollard (2000) puts it, "our specific teaching mission is rapidly being redefined and reduced by course integration, computer-based virtual reality alternatives and loss of teaching hours"

It has further been posited that during the past century, important insights have been gained by reductionist approaches to biological problems (Markwald 1998). The emphasis has been on unitary events in biology such as single genes, disease genes, oncogenes etc. This unitary approach is ebbing and scientists are turning insights into the biology of systems. The new century approach seem to have began the journey of bringing the systems-based biologists to a common table.

The new approach portends well for anatomists since anatomists have the intrinsic understanding of biological systems. The range of subjects of interest to anatomists are so diversified and may include such areas as exocytosis, fertilization and cell division, gastrulation, development of heart from a single tube, brain embryo genesis, circadian rythms, aging, structural evolution, behaviour and a myriad of complex problems. It therefore seems logical to portend that anatomy research occupies a vital position in the development of pure and applied biology. The anatomical sciences should be poised to serve as the intellectual spring board for profound changes in our fundamental understanding of biology.

Although the new approach places anatomists in a favourable position of a bedrock in the systems-based biological research, the truth however is that it has made the definition of the anatomist some how confusing within the

"ancient" understanding of the subject of anatomy. Hence the views of anatomists of the developing world like Nigeria seem to be opaque when perceived through the lens of our post-genomic world. Markwald (1998) thinks that anatomists must begin to think more biologically diverse in other to underpin the biology of systems which are the systems of genes. This relationship is called "systems genomics" or anatomic genomics". Thus an advancement of anatomy (both teaching and research) must be seen from the holistic view of the subject being a scion of its biology parentage.

In anticipation of exciting new inventions in the new millennium, the Nigerian anatomists must be poised to discard completely the old distinctions between pure and applied anatomy in one hand and structure and functional relationships on the other. They must brace up to become the principal researchers and teachers of the new biology. This will situate the Nigerian anatomist within the realms of his contemporaries in the world. Thus clearly underpinning the increasing parallel relationships between the systems of genes on chromosomes and structures defined by these genes.

Already the world over, the advent of the post genomic era is carrying out a redefinition of biology. Thus all the systems-based field of biology which includes virtually all the pre-clinical subjects have begun to take a holistic approach to the organisation and mechanistic mirror of systems of genes in the genome. As pollard (2000) portends, it is highly likely that in the end all the systems based biologies (including the pre-clinical subjects) will converge on a common genomics-based theme which he referred to as "molecular medicine".

Then as the prime mission of the anatomist in the preclinical school, it is likely that the future mission will encompass the teaching of the biology of systems from a genomic perspective.

REFERENCES

- Markwald RR (1998) The "new" Anatomical Record Anat. Rec. 251:1
Pollard HB (2000) Anatomic Genomics: Systems of genes supporting the Biology of systems. Anat. Rec. 259: v-ix.
White KP, Rifkin SA, Hurban P, Hogness DS (1999) Micro array analysis of Drosophila development during metamorphosis. Science 286:2179-2184.

C. I. P. Anibeze PhD.

Department of Anatomy, College of Medicine and Health Sciences,
Abia State University, Uturu, Nigeria.