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CHANGES IN ANATOMICAL TERMINOLOGY.

L. H. WELLES.

Some years ago the Anatomical Society of Great Britain and Ireland appointed a Committee to consider proposals for the modification of Anatomical terminology. In 1933 this Committee presented a report, containing a revised terminology, which has been adopted by the Society.

At a casual glance these facts appear to the medical student to be of little moment. It is however a matter of practical significance that a number of text books written or revised within the past twelve months employ the new terminology. First to follow the new fashion was the “Pocket Grey,” and it seems that the movement is destined to be widespread.

To the student the meaning of this will be clear. Already harassed by the struggle between “O.T.” and “B.N.A.,” he now has suddenly thrust upon him yet a third system of nomenclature. This article is an attempt to reduce the confusion arising from this change, by indicating the chief points in which the new nomenclature differs from its predecessors.

The development of terminology from the beginnings of anatomical study has been well surveyed by Eycleshymer in the introduction to his volume on “Anatomical Names,” published in 1917. With the earlier stages of this growth we are not here concerned. By the middle of the last century the language of Anatomy had been partially standardised in each of the European countries. In English it took the form which we know as the “Old Terminology.” This was not a system laid down by some controlling authority. It represented the consensus of opinion of leading anatomists upon that part of anatomical knowledge which was firmly established. Outside of this firm ground there was much debating and clashing of rival names.

Even the generally accepted terminology was by no means the same in every country. Moreover, there was no accepted system according to which new names were to be formed. The result was chaos, in which unoffending anatomical structures were smothered under a mass of unnecessary and confusing names. A single structure might have a dozen alternative names in each of three languages. Such a plethora of synonyms created a barrier to research and was a source of confusion in teaching.

After several abortive attempts had been made to remedy this state of affairs, an International Commission, appointed at the instance of the German Anatomical Society at its Leipzig meeting in 1887, undertook the task in earnest. The Commission, under the chairmanship of Prof. W. Krause, spent six years on this work. Its final product was the system of terminology adopted by the Congress at Basle in 1895, and hence known as the “Basle Nomina Anatomica” (B.N.A.).

This Commission determined to confine its attention to descriptive human anatomy, and to find names only for structures which could be seen with the naked eye, or at least with a hand lens. Further it furnished itself with a series of very sound general rules. All names were to be in Latin as a universally understood language, and they must be in proper grammatical form, a proviso notoriously neglected in former times. Every structure, as far as was feasible, should have only one name, which was to be as short and simple as possible. Names were to be merely labels, they need not be explanations of the structures to which they were attached. Related terms were, as far as possible, to be similar and adjectives were to be arranged with their antonyms, e.g. if a structure was designated as “anterior,” it must have a counterpart designated as “posterior.”

Finally, the aim of the Commission was not to create new names, but to select the most suitable terms out of those which had previously been in use. On the whole, the work of the Commission was well done. Out of a mass of synonyms, variously estimated to have numbered from 30,000 to 45,000, a standardised list of about 4,500 names was produced, besides about 150 synonyms, whose use was provisionally legalised.

The majority of these synonyms owed their persistence to an insuperable division of opinion on the value of associating a structure with the name of some distinguished anatomist. The supporters of such eponymous names lauded them as being readily remembered, stimulating to the student, and a concrete link with the history of the subject. The opposition pointed out that such names often commemorated not the original discoverer of the part named, but some later interloper, that in different countries different names were associated with the same structure (e.g. the stria of Gennari, also called of Vicq d’Azyr), and that the incidence of such names was a
very imperfect reproduction of the development of anatomy. Eustachius and Sylvius, it was argued were no doubt worthy persons, but why should they be so liberally commemorated when Vesalius depended for his remembrance on two abnormal structures, and Harvey was not commemorated at all.

This problem the Commission was compelled to leave unsolved. We shall see in a few moments the direction in which modern ideas have moved.

Since 1895 the B.M.A. has been officially predominant in Anatomy. It has been exposed to attack from two sides, however. On the one hand clinical teaching, in England at least has remained obstinately attached to the Old Terminology. On the other hand, the B.N.A. has had many candid critics among the anatomists themselves. On this side the most severe pressure has come from the extremists who desired a thorough assimilation of the terminology of human and comparative anatomy.

Despite this the B.N.A. has maintained itself as the official language of pure Anatomy until the present day. For the last few years, however, there have been signs of imminent change. In 1928 the Anatomical Society of Great Britain and Ireland appointed a committee “to consider proposals to the Society for the revision of the B.N.A., with the view of bringing the matter before the next meeting of an International Congress of Anatomists.” The final report of this Committee appeared in April, 1933, and was adopted by the Society. Since then, as has already been noted, this new terminology has been incorporated into a number of textbooks.

As to the aims and results of this revision, the Committee may be permitted to speak for itself. In the preface to its final report the following observations are made:—“The Committee supports the claim that the general principles on which the B.N.A. was professedly drawn up are sound; it has tried to conform to these principles in its suggested alterations. Throughout its work the Committee has borne in mind the fact that Anatomical nomenclature has to be used by medical students, qualified practitioners and consultants, as well as by Anatomists and Morphologists, and that the former far outnumber the latter. On this account, terms with a purely morphological basis have been avoided as far as possible.”

This decision appears to be an admirable one. The extremist morphologists may complain, but it is to be hoped that the majority will show due gratitude for the Committee’s forebears.

“Some idea of the work completed by the Committee may be obtained from the following figures. The number of synonyms (reduced to nearly 150 by the B.N.A.) has been reduced to fourteen. Nearly 400 structures, either unknown or unrecognised and consequently left un-named by the B.N.A., have been included... The total number of terms in this report is approximately 4,820.”

“Of the 4,452 B.N.A. terms included, more than 1,400 have been subjected to alteration. In more than half of these (745) the changes made are relatively trivial (e.g. condylar for condyloid). In less than half, major alterations are effected.”

The vital part of the new system lies in the 400 hitherto unrecognised names now given a legal status, and in the 700 structures whose names have been radically altered from their B.N.A. form. A considerable number of these have had their Old Terminology names restored. It is of course impossible in this article to include all of these changes, but the most striking may be pointed out.

Under the head of “Parts of the Body” we find that “cervix” has been substituted for “collum” as the official translation of “neck.” This change involves alteration of the names of many structures, e.g. nervus cutaneus colli has become nervus cutaneus cervicis anterior. The last relics of “dorsal” as a synonym for “thoracic” have been expunged. Dorsal is now the antonym of ventral, and we are to speak of the “lumbar fascia” and M.longissimus thoracis.

There would not seem to be much scope for changes in Osteology. The reversion to “axis” for the second cervical vertebra, however, removes the traces of what was probably the worst blunder in the whole B.N.A. “Epistrophus” meaning “that which turns upon” was originally an alternative name for the atlas vertebra, but through some confusion it had also been applied to the axis, and the B.N.A., unfortunately perpetuated the error.

In the names of the carpal bones there have also been some changes. Both hand and foot have a bone termed “scaphoid” in the O.T. and “navicular” in the B.N.A. The new terminology uses “scaphoid” for the carpal bone, but
“navicular” for the tarsal, thus eliminating a possible source of confusion. The O.T. names of “trapezium” and “trapezoid” have been reverted to, in place of the B.N.A. “multangulum majus” and “multangulum minus.” So the makers of mnemonics will have to exercise their ingenuity on a fresh combination of initial letters!

The classification of joints has been simplified: they are now “fibrous, cartilaginous, or synovial joints” in place of “synarthrosis, synchondrosis and diarthrosis.” Intervertebral discs are now officially so named, while “semilunar cartilage” is preferred to “meniscus” as being more widely understood.

In the names of the muscles and fasciae there are many changes, but most are the regularization of current usage. One notes the substitution of linea arcuata for linea semicircularis (to avoid confusion with linea semilunaris); the inguinal rings are now described as superficial and deep; the urogenital diaphragm has been deleted, its inferior fascia being described as the perineal membrane, while the inferior fascia is not recognised. The “M. quadratus plantae” has reverted to its O.T. name of “M. flexor digitorum accessorius.” Finally, the terminology of the bands of deep fascia in relation to joints has been systematised; all these bands are now called “retinacula,” and named in accordance with their position.

The changes in the nervous system are mostly due to the formal adoption of simple explanatory names in place of more fanciful ones. The attempt to distinguish “fissures” from “sulci” has been abandoned, though one may feel that “lateral sulcus” is carrying the change a little too far. The old “middle temporal sulcus” is now “inferior,” the former “inferior temporal” having become “occipito-temporal.” This terminology should be more intelligible to students.

There are a large number of changes in the names of peripheral nerves, but the majority are of a fairly obvious nature. Among the branches of the brachial plexus we find that the long thoracic nerve has been renamed “nerve to serratus anterior”; most of the branches of muscular supply have been similarly treated. The B.N.A. “axillary nerve” has reverted to its O.T. name “circumflex.” In the lower extremity there have been a couple of sweeping changes. The terminal branches of the sciatic nerve have been labelled “medial and lateral popliteal.” At the lower border of the popliteus muscle, the medial popliteal nerve becomes the posterior tibial. Of the two branches of the lateral popliteal, the erstwhile “deep peroneal” is now the anterior tibial. This name seems eminently satisfactory, but that of “musculo-cutaneus” for the former “superficial peroneal” seems likely to lead to some confusion. The changes in the autonomic nervous system and in the organs of sense are of small moment.

In the vascular system there have been no changes of importance. Among the organs also there have been only a few alterations worthy of remark. The chief of these is the substitution of “submandibular” for “sub-maxillary” as the name of the gland and duct known in the O.T. by the name of Wharton. This has involved a similar change in the names of all the structures related to this gland.

This change appears a reasonable one. It is in fact the logical sequel to the B.N.A. choice of “mandible” in preference to “inferior maxilla” as the name of the lower jaw. The compilers of the B.N.A., however, deemed the name “submaxillary gland” too firmly rooted for modification. So this illogical terminology has been allowed to persist until the new revision took place.

The definition of the subdivisions of the large intestine may be noted. The term “iliac colon” has been discarded; the descending colon is defined as ending at the pelvic brim, the pelvic colon extending from thence to the third piece of the sacrum, where the rectum commences. Among lesser changes mention may be made of “pelvis of ureter” instead of “pelvis of kidney.” “Greater sac” and “lesser sac” have been legalised, and “opening into the lesser sac” replaces the B.N.A. “foramen epiploicum.”

Finally, in discarding the few synonyms, remaining in the B.N.A., the Committee responsible for the new terminology has decided to eliminate eponymous nomenclature. This decision will doubtless be regretted by many. Certainly the change will rob second year examination answers in future of such flashes of unconscious humour as the “nerve of Belle.” On the other hand, it will at least defeat that type of narrow but pertinacious student mind which grasps and retains an eponymous title,
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while completely failing to register any facts concerning the structure to which the name is attached. In the face of this all too common occurrence one doubts the wisdom of the B.N.A. principle that a name need not be explanatory. The distinct bias towards explanatory names revealed by the new terminology is very welcome.

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THE AMERICAN ZULU HOSPITAL,
DURBAN.

Each year two of our students are sent to the American Zulu Hospital, Durban, for obstetrical experience. Under the new Government scheme for the training of Native Medical-Aids there is the probability that these native students will complete their course by spending their final year at this hospital. Dr. May, who is one of our external examiners, is a consultant physician to the hospital, while several of our professors and teachers have shown considerable interest in the American Zulu hospital. Finally, the inauguration of the Association for the Study of Medical conditions among the Bantu is evidence that our medical students are taking an active interest in this aspect of South African Medicine. These are some of the considerations which lead me to think that a short description of this privately organised hospital for natives, its patients, its staff, the type of work which is done and the manner in which it is done, might be of general interest and value.

The hospital has been aptly called "The House that Jim built." "Jim" is short for Dr. James B. McCord, doctor among the Zulus, and founder of the American Zulu Hospital, located in Durban on top of the Berea Hill, overlooking the town and the Bay. He started building his house 31 years ago. In those days it was a four-roomed cottage where the patients brought their own food and blankets and slept on the floor, being nursed by their own friends and relatives. From this humble beginning, gradually evolved the present well-equipped and efficiently conducted hospital, with its 90 beds, its operating theatre and X-ray plant.

It is a somewhat rambling three-storied building. On the ground floor is the general office, the outpatients' department, with the dispensary on the one side, and a small laboratory on the other. Further back is the kitchen and extending backwards on either side are two male wards, one for the more serious cases, the other for less serious and convalescent patients. Upstairs are the female wards, consisting of a small surgical, a larger medical and a still larger obstetrical ward with its adjacent labour ward. Centrally situated is the operating theatre and an X-ray plant is conveniently located across the corridor. The wide verandahs are utilised for the pulmonary tuberculosis cases. On the third floor is a small children's ward while the remaining space is taken up by the native nurses' sleeping quarters, bath rooms, common room and lecture room.

The doctor's house is on the same grounds, while the house in which the matron and sisters live is just across the road.

The staff consists of the matron and three white sisters; one in charge of the obstetrical ward, another in charge of the general wards, while the third is a full-time lecturer to the nurses.

There are about a score of native nurses, at different stages in the four-year course of training in general nursing or a year's course of maternity work. A few are qualified midwives, quietly proud of themselves as they go pedalling off on their bicycles to attend a district case, sometimes six miles from the hospital.

These young native women are rightly proud of themselves, and proud of their work. They are in fact the pioneer women of their race. They are respectful to their European teachers, quiet and extremely efficient at their work.

When their course is completed they will come up before the examining board, along with the white nurses of Natal to write the same examination.

They come from all parts of South Africa; the majority from Natal, some from the Transkei and a few from Rhodesia, the Transvaal and Cape Province. When they are qualified, most of them will return to work among their own people.

The training of these nurses is in many respects one of the most important functions of the hospital. It has been made possible by a Provincial Council grant which also enables the hospital to pay them salaries varying from one to four pounds per month,